Enphase Energy, Inc.
Form 10-K
April 02, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)
x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2017

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File Number: 001-35480

Enphase Energy, Inc.
(Exact name of registrant as specified in its charter)

Delaware	20-4645388
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1420 N. McDowell Blvd
Petaluma, CA 94954
(Address of principal executive offices) (Zip Code)
(707) 774-7000
(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class:	Name of each exchange on which registered
Common Stock, par value $0.00001 per share	The Nasdaq Stock Market LLC

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ¨ No x
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No x
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements

incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	¨	Accelerated filer	¨
Non-accelerated filer	¨ (Do not check if a smaller reporting company)	Smaller reporting company	x
Emerging growth company	¨		

If an emerging growth company, indicate by checkmark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ¨
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x
The aggregate market value of the voting stock held by non-affiliates of the registrant on June 30, 2017, based upon the closing price of $0.85 of the registrant’s common stock as reported on the Nasdaq Global Market, was approximately $49.9 million.
As of March 23, 2018, there were 95,829,245 shares of the registrant’s common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information called for by Part III of this Form 10-K is incorporated by reference to the Proxy Statement for the registrant’s 2018 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission not later than 120 days after December 31, 2017.

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PART I

This Annual Report on Form 10-K contains “forward-looking statements” as defined under securities laws. Forward-looking statements include statements that are not historical facts and can be identified by terms such as “anticipates,” “believes,” “could,” “seeks,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “predicts, “projects,” “would” or similar expressions and the negatives of those terms. These forward-looking statements are contained principally in Item 1, Business; Item 1A, Risk Factors; Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations; and other sections of this Annual Report on Form 10-K. Our actual results or experience could differ significantly from the forward-looking statements. Factors that could cause or contribute to these differences include those discussed in Item 1A, Risk Factors, as well as those discussed elsewhere in this Annual Report on Form 10-K.

Forward-looking statements are inherently uncertain and you should not place undue reliance on these statements, which speak only as of the date that they were made. These cautionary statements should be considered in connection with any written or oral forward-looking statements that we may issue in the future. We do not undertake any obligation to release publicly any revisions to these forward-looking statements after completion of the filing of this Annual Report on Form 10-K to reflect later events or circumstances or to reflect the occurrence of unanticipated events.

In this report, unless otherwise indicated or the context otherwise requires, “Enphase Energy,” “Enphase,” “the Company,” “we,” “us,” and “our” refer to Enphase Energy, Inc., a Delaware corporation, and its subsidiaries.

Item 1. Business

Our Company

We deliver simple, innovative and reliable energy management solutions that advance the worldwide potential of renewable energy. Our semiconductor-based microinverter system converts direct current (DC) electricity to alternating current (AC) electricity at the individual solar module level, and brings a system-based, high technology approach to solar energy generation leveraging our design expertise across power electronics, semiconductors, networking, and cloud-based software technologies. Our technology was designed to increase energy production, simplify design and installation, improve system uptime and reliability, reduce fire risk, and provide a platform for intelligent energy management. Since inception, we have shipped more than 16 million microinverters, representing over 3 gigawatts of solar photovoltaic (PV) generating capacity, and more than 739,000 Enphase residential and commercial systems have been deployed in over 110 countries.

We were incorporated as PVI Solutions, Inc. in March 2006 in the State of Delaware and changed our name to Enphase Energy, Inc. in July 2007.

Industry Background

Historically, traditional central inverters were the only inverter technology used for solar photovoltaic, or PV installations. In an installation consisting of a traditional central inverter, the solar PV modules are connected in series strings. In a large installation, there are multiple series strings connected in parallel. The aggregated voltage from each of these strings is then fed into a large central inverter. As compared to microinverter systems, we believe that traditional central inverters have a number of design and performance challenges limiting innovation and their ability to reduce the cost of solar systems, including the following:

- Productivity limits. If solar modules are wired using a traditional central inverter—group or “string” of modules are wired in series—an entire string’s output is limited by the output of the lowest-performing module. Because of its string design, there is a single point of failure risk with the traditional central inverter approach.
- Reliability issues. Traditional central inverters are the single most common component of solar installations to fail, resulting in system downtime and adversely impacting total energy output. As a result, central inverters typically carry warranties of only 5 to 10 years.
- Complex design and installation requirements. The central inverter-based solar PV installation requires greater effort on the part of the installer, both in terms of design and on-site labor. Central inverter installations require string design and calculations for safe and reliable operation, as well as

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specialized equipment such as DC combiners, conduits and disconnects. In addition, the use of high-voltage DC requires specialized knowledge and training and safety precautions to install central inverter technology.

- Lack of monitoring. The majority of solar installations with central inverter technology offer limited monitoring capabilities. A failure of the central inverter will often go unnoticed for days or even weeks. If a module fails or is not performing to specification, the resulting loss of energy can go unnoticed for an extended period of time.
- Safety issues. Central inverter solar PV installations have a wide distribution of high-voltage (600 volts to 1,000 volts) DC wiring. If damaged, DC wires can generate sustained electrical arcs, reaching temperatures of more than 5,000 °F. This creates the risk of fire for solar PV installation owners and injury for installers and maintenance personnel.

These challenges of traditional central inverters have a direct impact on the cost and expected return on investment of solar installations to both installers and system owners:

- Installer. Solar PV installers aim for simple installation design, fast installation times and maximum system performance and predictability. The installation of high-voltage DC central inverter technology, however, requires significant preparation, precautionary safety measures, time-consuming string calculations, extensive design expertise and specialized installation equipment, training and knowledge. Together, these factors significantly increase complexity and cost of installation and limit overall productivity for the installer.
- System owner. Solar system owners aim for high energy production, low cost, high reliability, and low maintenance requirements, as well as reduced fire risks. With traditional central inverters, owners often are unable to optimize the size or shape of their solar PV installations due to string design limitations. As such, they experience performance loss from shading and other obstructions, can face frequent system failures and lack the ability to effectively monitor the performance of their solar PV installation. In addition, central inverter installations operate at high-voltage DC which bears significant fire risks. Further, due to their large size, central inverter installations can affect architectural aesthetics of the house or commercial building.

Our Products

We design, develop, manufacture and sell home energy solutions that connect energy generation, energy storage and control and communications management on one intelligent platform. We have revolutionized the solar industry by bringing a systems approach to solar technology and by pioneering a semiconductor-based microinverter that converts energy at the individual solar module level and, combined with our proprietary networking and software technologies, provides advanced energy monitoring and control. This is vastly different than the string inverter approach that only converts energy of the entire array of solar modules from a single high voltage electrical unit, and lacks intelligence about the energy producing capacity of the solar array. In 2017 we expanded our product offerings by launching the Enphase Home Energy Solution with IQ™, our next-generation integrated solar, storage and energy management offering. The IQ platform enables self-consumption and delivers our core value proposition of yielding more energy, simplifying design and installation, and improving system uptime and reliability. The IQ family of microinverters, like all previous Enphase microinverters, is fully compliant with NEC 2014 and 2017 rapid shutdown requirements. Unlike string inverters, this capability is built-in, with no additional equipment necessary.

The Enphase Home Energy Solution with IQ brings a high technology, networked approach to solar generation plus energy storage, by leveraging our design expertise across power electronics, semiconductors and cloud-based software technologies. Our integrated approach to energy solutions maximizes a home's energy potential while providing advanced monitoring and remote maintenance capabilities. The Enphase Home Energy Solution with IQ uses a single technology platform for seamless management of the whole solution, enabling rapid commissioning of the Installer Toolkit; consumption monitoring with a metered Envoy and a consumption tracker; and energy insights from the the Enphase Enlighten Software™ platform's easy-to-use interface. Unlike our core competitors, who utilize a single-point or traditional inverter, or offer separate components of solutions, we have built-in system redundancy in both PV generation and energy storage, eliminating the risk that comes with a single-point of failure. Further, the nature of our cloud-based, monitored system allows for remote firmware and software updates, enabling cost-effective remote maintenance and ongoing utility compliance.

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The Enphase Home Energy Solution with IQ consists of four key components -- Enphase microinverters, the AC Battery, an Envoy gateway, and Enlighten cloud-based software:

- Enphase microinverters provide highly reliable power conversion at the individual solar module level by introducing a digital architecture that incorporates custom application specific integrated circuits, or ASICs, specialized power electronics devices, and an embedded software subsystem that maximizes energy production from each module. The Enphase IQ microinverters provide a path to substantially lower unit cost, a simplified installation process, and higher performance and enhanced features. In addition, they offer advanced grid functions that are capable of meeting worldwide regulatory requirements. The IQ microinverters also enable AC Module products, further simplifying the installation process, reducing installation time and streamlining logistics. We have several manufacturer partnerships that integrate our IQ microinverter into a PV module to create an AC Module.

IQ 6 and IQ 6+ microinverters deliver more power and efficiency, while further reducing the balance of system cost due to their simplified wiring, reduced size and weight. They integrate with AC modules and offer installers faster and simpler installations, saving on soft costs. IQ 6 microinverters support high-powered 60- and 72-cell solar modules up to 330 W DC, and the IQ 6+ pairs with modules up to 400 W DC. The IQ 7, introduced in the first quarter of 2018, is segmented into 3 variants - the 250W AC IQ 7 for 60-cell modules, the 295W AC IQ 7+ for both 60-cell and 72-cell modules and the 320W AC IQ 7X for 96-cell modules. IQ 6 was not compatible with 96-cell modules; IQ 7X fills that gap and will offer even more power and a smaller, lighter and easier-to-install product. IQ 7 is a single worldwide SKU, achieved as a result of our software-defined architecture.

While we believe our IQ 7 products provide us with a good platform for growth worldwide starting in 2018, our IQ 8 system, which is expected to be introduced in 2019, is based on our grid-agnostic “always on” Ensemble™ technology, which will allow a solar system to operate independently of the power grid.

One of solar’s biggest challenges is that it is tied to the power grid. If the grid fails and the sun is still shining, there will be no production out of a user’s solar system. To address this limitation, we have invented a microinverter technology that is completely independent of the power grid. The Enphase system’s capability is further enhanced when the Ensemble technology is incorporated into our AC Battery storage solution. With IQ 8, a user can have a system that will continuously provide energy, regardless of the presence or absence of the grid, utilizing solar power during the day and storage at night. We refer to this as “always on.”

The IQ 8 ASIC, as of the end of 2017, is fully functional, demonstrating the feasibility of Ensemble technology. This ASIC has 5 million gates and is made in 55nm technology at TSMC, enabling very high speed digital signal processing. We are continuing to productize IQ 8 and expect to introduce it in 2019.

- The Enphase AC Battery, a key part of the Enphase Home Energy Solution, applies the modular architecture developed for our microinverter to energy storage. Solar-plus-storage, which includes our AC Battery product, is central to our product strategy. Our approach delivers low up-front costs resulting from the AC Battery’s system design and the ease and speed of installation. The AC battery balances safety and performance and is warranted for 10 years.
- The Envoy bi-directional communications gateway is installed at the system location and serves as a hub providing three critical roles: collecting and sending data to Enlighten software, receiving and distributing microinverter firmware or software updates, and managing the use of energy within the system. Homeowners can maximize the value of their solar PV system, taking advantage of self-consumption and time-of-use tariff management opportunities with an expandable platform for evolving uses of energy storage, such as residential peak shaving and grid services. One Envoy is typically sold with each solar installation and can support up to 600 Enphase microinverters, making it compatible for both residential and commercial applications.
- Our Enlighten cloud-based software provides the capabilities to remotely monitor, manage, and maintain an individual system or a fleet of systems. The software collects and analyzes system performance information to enable owners and operators to realize the highest performance of their

solar PV system. Two versions of the monitoring software are available: MyEnlighten, designed for consumers, which provides performance assurance and Enlighten Manager, available for the solar professional, which provides detailed diagnostic capabilities, as well as fleet management tools.

Key benefits of our Home Energy Solution with IQ include:

Truly Integrated. The Enphase Home Energy Solution with IQ is a fully integrated solar generation plus storage offering from one provider. Designed and manufactured to work together, the Home Energy Solution with IQ is a truly integrated home energy solution.

Higher Performance. Our microinverter system delivers higher performance by maximizing the energy production of each module. A microinverter at each module overcomes issues such as module- mismatch and soiling or shading which can have a significant impact on string inverter systems. Enphase microinverters also provide greater system availability with no single-point of failure. An independent analysis from PV Evolution Labs has concluded an Enphase microinverter system yields higher performance over systems with string inverters or traditional inverters. We believe that our microinverter systems achieve higher energy production and can generate superior returns on investment relative to competitive solutions for system owners.

Simplified Design and Installation. Our all-AC infrastructure simplifies the design process and eliminates the typical costs of a complicated DC voltage system for PV or Storage. In addition, our microinverters are installed on the roof and hidden from view, with minimal impact to the aesthetics of a home or building. We also offer additional tools, such as the Enphase Installer Toolkit mobile app or the Enphase IQ Combiner+™ with Enphase IQ Envoy™, which offer unmatched simplicity, reliability and ease of installation for solar installers.

Enhanced Safety. Microinverters and AC Batteries are safer because they process low voltage DC and are isolated to the module level, leading to an all-AC architecture. Our microinverter system does not contain any of the high voltages common to string inverter systems. High voltage arc faults associated with string or traditional inverters are the leading cause of fires of solar PV installations. Microinverter technology mitigates this safety risk.

Reduced Operations and Maintenance Costs. Our microinverter system is highly reliable with one million power-on hours of testing incorporated into our microinverter design. This high reliability, plus a distributed architecture means ongoing operations and maintenance do not require emergency truck rolls, unlike string inverter or traditional inverters which have a 100% probability of failure leading to full replacement within 10 to 12 years. In addition, with module-level monitoring capabilities, remote maintenance can pinpoint issues, thus reducing any time on site. Finally, the networked-nature of our system enables us to remotely update the firmware and software of the microinverters, reducing ongoing utility compliance costs.

Our Strategy

Our objective is to be the leading provider of energy management solutions for the solar industry worldwide. Key elements of our strategy include:

- Grow market share in our core markets. We intend to capitalize on our market leadership in the microinverter category and our momentum with installers and owners to expand our market share position in our core markets.
- Enter new geographic markets. We intend to further increase our market share in Europe, the Asia Pacific region and Latin America. In addition, we intend to expand into new markets with new and existing products and local go-to-market capabilities.
- Expand our product offerings. We continue to make R&D investments to develop all components of our energy management solution and remain committed to providing our partners with best-in-class power electronics, storage solutions, communications, and load control all managed by a cloud-based energy management system.
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Increase power and efficiency and reduce cost per Watt. Our engineering team is focused on continuing to increase average power conversion efficiency above 97% and AC output power beyond

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280 watts. We intend to continue to leverage our semiconductor integration, power electronics expertise and manufacturing economies of scale to further reduce cost per watt.

- Extend our technological innovation. We distinguish ourselves from other inverter companies with our systems-based and high technology approach, and the ability to leverage strong research and development capabilities.

Customers and Sales

We currently offer microinverter systems targeting the residential and commercial markets in the United States, Canada, Mexico and certain Central American markets, the United Kingdom, France, the Benelux region, certain other European markets, Australia, New Zealand, India and certain other Asian markets. We sell our microinverter systems primarily to solar distributors who resell to installers and integrators, who in turn integrate our products into complete solar PV installations for residential and commercial system owners. We work with many of the leading solar and electrical distributors. In addition to our distributors, we sell directly to large installers, original equipment manufacturers (OEMs) and strategic partners. Our OEM customers include solar module manufacturers who bundle our products and solutions with their solar module products and resell to both distributors and installers. Strategic partners include a variety of companies including industrial equipment suppliers and providers of solar financing solutions. In 2017, two customers accounted for approximately 15% and 11% of total net revenues. Historically, revenues generated from the U.S. market have represented 70%-80% of our total revenue.

Manufacturing, Quality Control and Key Suppliers

We outsource the manufacturing of our products to manufacturing partners. Flextronics International Ltd. assembles and tests our microinverter, AC Battery and Envoy products. Prices for such services are mutually agreed to by the parties on a quarterly basis, and we are obligated to purchase manufactured products and raw materials that cannot be resold upon the termination of the agreement. Flextronics also provides receiving, kitting, storage, transportation, inventory visibility and other value-added logistics services at locations managed by Flextronics. Hong Kong Sinbon Industrial Limited manufactures our custom AC cables. In addition, we rely on several unaffiliated companies to supply certain components used in the fabrication of our microinverter system.

Customer Service

We maintain high levels of customer engagement through our customer support group and the Enlighten cloud-based software portal, and have cultivated an organizational focus on customer satisfaction. Our dedicated customer support group focuses on responding to inbound inquiries regarding any of our products and services.

Research and Development

We devote substantial resources to research and development with the objective of developing new products and systems, adding new features to existing products and systems and reducing unit costs. Our development strategy is to identify features, products and systems for both software and hardware that reduce the cost and optimize the effectiveness of our energy management solutions for our customers. We measure the effectiveness of our research and development against metrics, including product unit cost, efficiency, reliability, power output and ease-of-use. Our research and development expenses were $33.2 million, $50.7 million and $50.8 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Intellectual Property

Our success depends, in part, on our ability to maintain and protect our proprietary technologies. We rely primarily on patent, trademark, copyright and trade secrets laws in the United States and similar laws in other countries, confidentiality agreements and procedures and other contractual arrangements to protect our technology. As of December 31, 2017, we had 105 issued U.S. patents, 47 issued foreign patents, 65 pending U.S. patent applications and 27 pending foreign counterpart patent applications. Our issued patents are scheduled to expire between years 2027 and 2033.

We license certain power line communications technology and software for integration into our ASICs pursuant to a fully-paid, royalty-free license, which includes the right for us to source directly from the licensor’s suppliers or manufacture certain ASIC hardware should the licensor fail, under certain conditions, to deliver such technology in the future. This license includes a limited exclusivity period during which the licensor has agreed not to license the licensed technology to any third party manufacturer of electronic components or systems for use in

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the solar energy market. The license carries a seventy-five year term, subject to earlier termination upon mutual agreement of the parties, or by us in connection with the insolvency of the licensor.

We also license digital intellectual property cores, or IP blocks, for integration into and distribution with certain electronic components built into our products, including our ASICs, complex programmable logic devices, or CPLDs, and field-programmable gate arrays, or FPGAs. This is a fully-paid, non-exclusive, non-transferable, royalty-free license providing for the integration of such digital IP blocks in an unlimited number of electronic component designs and the distribution of such electronic components with our products. Other than in connection with the distribution of our products, our use of such digital IP blocks is limited to certain of our business sites. The license is perpetual, subject to earlier termination by either party upon the termination, suspension or insolvency of the other party's business, or by the licensor upon a breach of the license agreement by us. In addition, we license open source software from third parties for integration into our Envoy products. Such open source software is licensed under open source licenses. These licenses are perpetual and require us to attribute the source of the software to the original software developer, which we provide via our website.

We continually assess the need for patent protection for those aspects of our technology, designs and methodologies and processes that we believe provide significant competitive advantages. A majority of our patents relate to DC to AC power conversion for alternative energy power systems, as well as power system monitoring, control and management systems.

With respect to, among other things, proprietary know-how that is not patentable and processes for which patents are difficult to enforce, we rely on trade secret protection and confidentiality agreements to safeguard our interests. We believe that many elements of our microinverter manufacturing process 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 have entered 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. We also require our customers and business partners to enter into confidentiality agreements before we disclose any sensitive aspects of our microinverter, technology or business plans.

Seasonality

Historically, sales of our products in the second, third and, to a lesser extent, fourth quarters have been positively affected by seasonal customer demand trends, including solar economic incentives, weather patterns and construction cycles, followed by a seasonally softer first quarter. Although these seasonal factors are common in the solar sector, historical patterns should not be considered a reliable indicator of our future sales activity or performance.

Competition

The markets for our products are highly competitive, and we compete with traditional inverter manufacturers and new technology start-ups. The principal areas in which we compete with other companies include:

- Product performance and features;
- Total cost of ownership;
- Breadth of product line;
- Local sales and distribution capabilities;
- Module compatibility and interoperability;
- Reliability and duration of product warranty;
- Technological expertise;
- Brand recognition and customer service and support;
- Compliance with industry standards and certifications;
- Compliance with current and planned local electrical codes;
- Integration with storage offerings;

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- Size and financial stability of operations;
- Size of installed base; and
- Local manufacturing and product content.

Competitors in the inverter market are, amongst others, SMA Solar Technology AG, Fronius International GmbH, ABB Ltd. and SolarEdge Technologies, Inc., and other emerging companies offering alternative microinverter, DC to DC optimizer and other power electronic solutions. We principally compete with the large, incumbent solar inverter companies because traditional central inverter solutions can be used as alternatives to our microinverter solution. We believe, however, that our microinverter solutions offer significant advantages and competitive differentiation relative to traditional central or string inverter technology, even when traditional central or string inverter technology is supplemented by DC-to-DC optimizers. Competitors in the storage market are currently emerging and may include producers of battery cells and other integrated storage systems.

Employees

As of December 31, 2017, we had 336 full-time employees. Of the full-time employees, 146 were engaged in research and development, 115 in sales and marketing, 36 in a general and administrative capacity and 39 in manufacturing and operations. Of these employees, 251 were in the United States, 19 in Europe, 33 in New Zealand, 15 in Australia, 16 in India and two employees in Canada.

None of our U.S., New Zealand, U.K., and Australia employees are represented by a labor union with respect to his or her employment with us; however, our employees in France are represented by a collective bargaining agreement. We have not experienced any employment-related work stoppages, and we consider our relations with our employees to be good.

Available Information

We file electronically with the U.S. Securities and Exchange Commission, or SEC, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act. We make available on our website at www.enphase.com (under “Investors-Financial Information-SEC Filings”), free of charge, copies of these reports as soon as reasonably practicable after filing these reports with, or furnishing them to, the SEC. The contents of our websites are not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

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Item 1A. Risk Factors

We have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. The risks described below are not the only ones we face. Additional risks not presently known to us or that we currently believe are not material may also significantly impair our business operations. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and related notes.

We have a history of losses which may continue in the future, and we cannot be certain that we will achieve or sustain profitability.

In connection with the issuance of our consolidated financial statements for the year ended December 31, 2016, we concluded that there was substantial doubt regarding our ability to continue as a going concern. We have taken and continue to take steps to improve our financial position, including raising additional capital, and we have concluded as of December 31, 2017 that substantial doubt in our ability to continue as a going concern no longer exists. However, we have incurred substantial net losses since our inception, and we may continue to incur additional losses in the future. For the years ended December 31, 2017, 2016 and 2015, we incurred net losses of $45.2 million, $67.5 million and $22.1 million, respectively. At December 31, 2017, we had an accumulated deficit of $295.7 million. Our revenue growth may slow or revenue may decline for a number of reasons, many of which are outside our control, including a decline in demand for our offerings, increased competition, a decrease in the growth of the solar industry or our market share, the impact of the January 2018 trade tariffs established by President Trump, or our failure to capitalize on growth opportunities. If we fail to generate sufficient revenue to support our operations, we may not be able to achieve or sustain profitability.

We may not be able to raise additional capital to execute on our current or future business opportunities on favorable terms, if at all, or without dilution to our stockholders.

We believe that our existing cash and cash equivalents, available credit facilities and cash flows from our operating activities, will be sufficient to meet our anticipated cash needs for at least the next 12 months. However, we may need to raise additional capital to execute on our current or future business strategies, including to:

- provide additional cash reserves to support our operations;
- invest in our research and development efforts;
- expand our operations into new product markets and new geographies;
- acquire complementary businesses, products, services or technologies; or
- otherwise pursue our strategic plans and respond to competitive pressures.

We do not know what forms of financing, if any, will be available to us. If financing is not available on acceptable terms, if and when needed, our ability to fund our operations, enhance our research and development and sales and marketing functions, develop and enhance our products, respond to unanticipated events, including unanticipated opportunities, or otherwise respond to competitive pressures would be significantly limited. In any such event, our business, financial condition and results of operations could be materially harmed, and we may be unable to continue our operations. Moreover, if we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders.

The rapidly changing solar industry makes it difficult to evaluate our current business and future prospects.

The rapidly changing solar industry makes it difficult to evaluate our current business and future prospects. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries, including increased expenses as we continue to grow our business. If we do not manage these risks and overcome these difficulties successfully, our business will suffer.

Since we began commercial shipments of our products, our revenue, gross profit and results of operations have varied and are likely to continue to vary from quarter to quarter due to a number of factors, many of which

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are not within our control. It is difficult for us to accurately forecast our future revenue and gross profit and plan expenses accordingly and, therefore, it is difficult for us to predict our future results of operations.

If demand for solar energy solutions does not grow or grows at a slower rate than we anticipate, our business will suffer.

Our microinverter and AC Battery storage systems are utilized in solar photovoltaic, or PV, installations, which provide on-site distributed power generation. As a result, our future success depends on continued demand for solar energy solutions and the ability of solar equipment 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 and businesses will adopt solar PV systems as an alternative energy source at levels sufficient to continue to grow our business. Traditional electricity distribution is based on the regulated industry model whereby businesses and consumers obtain their electricity from a government regulated utility. For alternative methods of distributed power to succeed, businesses and consumers must adopt new purchasing practices. The viability and continued growth in demand for solar energy solutions, and in turn, our products, may be impacted by many factors outside of our control, including:

- market acceptance of solar PV systems based on our product platform;
- cost competitiveness, reliability and performance of solar PV systems compared to conventional and non-solar renewable energy sources and products;
- availability and amount of government subsidies and incentives to support the development and deployment of solar energy solutions;
- the extent to which the electric power industry and broader energy industries are deregulated to permit broader adoption of solar electricity generation;
- the cost and availability of key raw materials and components used in the production of solar PV systems;
- prices of traditional utility-provided 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 grow, demand for our customers' products as well as demand for our products will decrease, which would have an adverse impact on our ability to increase our revenue and grow our business.

Short-term demand and supply imbalances, especially for solar module technology, have recently caused prices for solar technology solutions to decline rapidly. Furthermore, competition in the solar industry has increased due to the emergence of lower-cost manufacturers along the entire solar value chain causing further price declines, excess inventory and oversupply. These market disruptions may continue to occur and may increase pressure to reduce prices, which could adversely affect our business and financial results.

The loss of, or events affecting, one of our major customers could reduce our sales and have a material adverse effect on our business, financial condition and results of operations.

In 2017, two customers accounted for approximately 15% and 11% of total net revenues. Our customers’ decisions to purchase our products are influenced by a number of factors outside of our control, including retail energy prices and government regulation and incentives, among others. Although we have agreements with some of our largest customers, these agreements generally do not have long-term purchase commitments and are generally terminable by either party after a relatively short notice period. In addition, these customers may decide to no longer use, or to reduce the use of, our products and services for other reasons that may be out of our control. The loss of, or events affecting, one or more of our large customers have had, could have and could continue to have a material adverse effect on our business, financial condition and results of operations.

Our gross profit may fluctuate over time, which could impair our ability to achieve or maintain profitability.

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Our gross profit has varied in the past and is likely to continue to vary significantly from period to period. Our gross profit may be adversely affected by numerous factors, some of which are beyond our control, including:

- changes in customer, geographic or product mix;
- increased price competition, including the impact of customer and competitor discounts and rebates;
- our ability to reduce and control product costs, including our ability to make product cost reductions in a timely manner to offset declines in our product prices;
- warranty costs and reserves, including changes resulting from changes in estimates related to the long-term performance of our products, product replacement costs and warranty claim rates;
- loss of cost savings due to changes in component or raw material pricing or charges incurred due to inventory holding periods if product demand is not correctly anticipated;
- introduction of new products;
- ordering patterns from our distributors;
- price reductions on older products to sell remaining inventory;
- our ability to reduce production costs, such as through technology innovations, in order to offset price declines in our products over time;
- changes in shipment volume;
- changes in distribution channels;
- excess and obsolete inventory and inventory holding charges;
- expediting costs incurred to meet customer delivery requirements; and
- fluctuations in foreign currency exchange rates.

Fluctuations in gross profit may adversely affect our ability to manage our business or achieve or maintain profitability.

We are under continuous pressure to reduce the prices of our products, which has adversely affected, and may continue to adversely affect, our gross margins.

The solar power industry has been characterized by declining product prices over time. We have reduced the prices of our products in the past, and we expect to continue to experience pricing pressure for our products in the future, including from our major customers. In addition, we have reduced our prices ahead of planned cost reductions of our products, which has adversely affected our gross margins. When seeking to maintain or increase their market share, our competitors may also reduce the prices of their products. In addition, our customers may have the ability or seek to internally develop and manufacture competing products at a lower cost than we would otherwise charge, which would add additional pressure on us to lower our selling prices. 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 gross margins would continue to be adversely affected.

Given the general downward pressure on prices for our products driven by competitive pressure and technological change, a principal component of our business strategy is reducing the costs to manufacture our products to remain competitive. If our competitors are able to drive down their manufacturing costs faster than we can or increase the efficiency of their products, our products may become less competitive even when adjusted for efficiency, and we may be forced to sell our products at a price lower than our cost. Further, if raw materials costs and other third-party component costs were to increase, we may not meet our cost reduction targets. If we cannot effectively execute our cost reduction roadmap, we may not be able to remain price competitive, which would result in lost market share and lower gross margins.

The inverter industry is highly competitive and we expect to face increased competition as new and existing competitors introduce products, which could negatively impact our results of operations and market share.

The market for PV inverter solutions is highly competitive. To date, we have competed primarily against central and string inverter manufacturers, but as the solar industry rapidly grows, new solutions and technologies are emerging that will directly compete with our business. We believe that a number of companies have

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developed or are developing microinverters and other products that will compete directly with our microinverter systems in the module-level power electronics market. Competitors in the inverter market include, amongst others, SolarEdge Technologies, Inc., SMA Solar Technology AG, Fronius International GmbH and ABB Ltd.. Other existing or emerging companies, such as Huawei Technologies Co. Ltd., may also begin offering alternative microinverter, DC to DC optimizer and other power electronic solutions.

Several of our existing and potential competitors are significantly larger than we are and may have greater financial, marketing, distribution, and customer support resources, and may have significantly broader brand recognition, especially in certain markets. In addition, some of our competitors have more resources and experience in developing or acquiring new products and technologies and creating market awareness for these offerings. Further, certain competitors may be able to develop new products more quickly than we can and may be able to develop products that are more reliable or that provide more functionality than ours. In addition, some of our 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 of our products in order to compete effectively. Suppliers of solar products, particularly solar modules, have experienced eroding prices over the last several years and as a result many have faced margin compression and declining revenues. If we have to reduce our prices by more than we anticipate, 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.

We also may face competition from some of our customers or potential customers who evaluate our capabilities against the merits of manufacturing products internally. For instance, SunPower Corporation has its own microinverter technology, which it incorporates into its AC module products. Other solar module manufacturers could also develop or acquire competing inverter technology or attempt to develop components that directly perform DC to AC conversion in the module itself. Due to the fact that such customers may not seek to make a profit directly from the manufacture of these inverter products, they may have the ability to manufacture competitive products at a lower cost than we would charge such customers. As a result, these customers or potential customers may purchase fewer of our microinverter systems or sell products that compete with our microinverter systems, which would negatively impact our revenue and gross profit.

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.

Our PV systems, including our AC Battery storage solution, integrated AC Module and recently announced seventh-generation IQ microinverters, may not achieve broader market acceptance, which would prevent us from increasing our revenue and market share.

If we fail to achieve broader market acceptance of our products, including international acceptance of our seventh-generation IQ microinverters, there would be an adverse impact on our ability to increase our revenue, gain market share and achieve and sustain profitability. Our ability to achieve broader market acceptance for our products will be impacted by a number of factors, including:

- our ability to produce PV systems that compete favorably against other solutions on the basis of price, quality, reliability and performance;
- our ability to timely introduce and complete new designs and timely qualify and certify our products;
- whether installers, system owners and solar financing providers will continue to adopt our systems, which have a relatively limited history with respect to reliability and performance;
- whether installers, system owners and solar financing providers will adopt our AC Battery storage solution, which is a relatively new technology with a limited history with respect to reliability and performance;

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- the ability of prospective system owners to obtain long-term financing for solar PV installations based on our product platform on acceptable terms or at all;
- our ability to develop products that comply with local standards and regulatory requirements, as well as potential in-country manufacturing requirements; and
- our ability to develop and maintain successful relationships with our customers and suppliers.

In addition, our ability to achieve increased market share will depend on our ability to increase sales to established solar installers, who have traditionally sold central or string inverters, or who currently sell DC-to-DC optimizers. These installers often have made substantial investments in design, installation resources and training in traditional central or string inverter systems or DC optimizers, which may create challenges for us to achieve their adoption of our microinverter systems.

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.

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, depends in large part on the availability and size of government and economic incentives that vary by geographic market. Because our customers' sales are typically into the on-grid market, the reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity may negatively affect the competitiveness of solar electricity relative to conventional and non-solar renewable sources of electricity, and could harm or halt the growth of the solar electricity industry and our business.

In general, the cost of solar power currently exceeds retail electricity rates, and we believe this tendency will continue in the near term. As a result, national, state and local government bodies in many countries, including the United States, have provided incentives in the form of feed-in tariffs, or FiTs, rebates, tax credits and other incentives to system owners, distributors, system integrators and manufacturers of solar PV systems to promote the use of solar electricity in on-grid applications and to reduce dependency on other forms of energy. Many of these government incentives expire, phase out over time, terminate upon the exhaustion of the allocated funding, require renewal by the applicable authority or are being changed by governments due to changing market circumstances or changes to national, state or local energy policy.

Electric utility companies or generators of electricity from other non-solar renewable sources of electricity may successfully lobby for changes in the relevant legislation in their markets that are harmful to the solar industry. Reductions in, or eliminations or expirations of, governmental incentives in regions that we focus our sales efforts could result in decreased demand for and lower revenue from solar PV systems there, which would adversely affect sales of our products. In addition, our ability to successfully penetrate new geographic markets may depend on new countries adopting and maintaining incentives to promote solar electricity, to the extent such incentives are not currently in place. Additionally, electric utility companies may establish pricing structures or interconnection requirements that could adversely affect our sales and be harmful to the solar and distributed rooftop solar generation industry.

U.S. government actions with regard to the solar energy sector or international trade could materially harm our business, financial condition and results of operations.

The current U.S. presidential administration may continue to create regulatory uncertainty in the clean energy sector generally and the solar energy sector in particular. If the administration or the U.S. Congress take action to eliminate or reduce legislation, regulations and incentives supporting solar energy, such actions may result in a decrease in demand for solar energy in the United States and other geographical markets, which could materially harm our business, financial condition and results of operations.

On January 23, 2018, President Donald Trump signed a proclamation establishing tariffs on certain solar equipment manufactured outside of the U.S. Such tariffs could have a negative impact on the overall demand for solar products in the U.S. It remains unclear how such tariffs may apply to AC module products incorporating our microinverters. If the tariffs are applied specifically to products that we or our commercial partners import, such remedies could hurt the demand for these products and materially harm our business, financial condition and results of operations.

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Furthermore, a significant portion of our business activities are conducted in foreign countries, including Mexico, Canada and China. During the 2016 election campaign, then-candidate Trump made comments suggesting that he was not supportive of certain existing international trade agreements, including the North American Free Trade Agreement ("NAFTA"). At this time, it remains unclear what the administration or the U.S. Congress may or may not do with respect to these international trade agreements. If the administration takes action to impose any border tariff or to withdraw from or materially modify NAFTA or certain other international trade agreements, our business, financial condition and results of operations could be adversely affected.

If we do not forecast demand for our products accurately, we may experience product shortages, delays in product shipment, excess product inventory, difficulties in planning expenses or disputes with suppliers, any of which will adversely affect our business and financial condition.

We manufacture our products according to our estimates of customer demand. This process requires us to make multiple forecasts and assumptions relating to the demand of our distributors, their end customers and general market conditions. Because we sell most of our products to distributors, who in turn sell to their end customers, we have limited visibility as to end-customer demand. We depend significantly on our distributors to provide us visibility into their end-customer demand, and we use these forecasts to make our own forecasts and planning decisions. If the information from our distributors turns out to be incorrect, then our own forecasts may also be inaccurate. Furthermore, we do not have long-term purchase commitments from our distributors or end customers, and our sales are generally made by purchase orders that may be canceled, changed or deferred without notice to us or penalty. As a result, it is difficult to forecast future customer demand to plan our operations.

If we overestimate demand for our products, or if purchase orders are canceled or shipments are delayed, we may have excess inventory that we cannot sell. We may have to make significant provisions for inventory write-downs based on events that are currently not known, and such provisions or any adjustments to such provisions could be material. We may also become involved in disputes with our suppliers who may claim that we failed to fulfill forecast or minimum purchase requirements. Conversely, if we underestimate demand, we may not have sufficient inventory to meet end-customer demand, and we may lose market share, damage relationships with our distributors and end customers and forgo potential revenue opportunities. Obtaining additional supply in the face of product shortages may be costly or impossible, particularly in the short term and in light of our outsourced manufacturing processes, which could prevent us from fulfilling orders in a timely and cost efficient manner or at all. In addition, if we overestimate our production requirements, our contract manufacturers may purchase excess components and build excess inventory. If our contract manufacturers, at our request, purchase excess components that are unique to our products and are unable to recoup the costs of such excess through resale or return or build excess products, we could be required to pay for these excess parts or products and recognize related inventory write-downs.

In addition, we plan our operating expenses, including research and development expenses, hiring needs and inventory investments, in part on our estimates of customer demand and future revenue. If customer demand or revenue for a particular period is lower than we expect, we may not be able to proportionately reduce our fixed operating expenses for that period, which would harm our operating results for that period.

We are currently involved in a dispute with one of our suppliers regarding whether we were obligated to purchase a minimum amount of product under a supply agreement. Our efforts to reach a business resolution to the matter have not been successful to date. We believe believe that the supplier's claims are without merit and that we have a legally defensible position in this matter. We intend to vigorously defend against any claims that may be brought by our supplier. However, if a legal action is brought and that matter is determined adversely to us, we may be required to pay damages in an amount that would have a material adverse effect on our business, financial position, results of operations or cash flows.

Our focus on a limited number of specific markets increases risks associated with the modification, elimination or expiration of governmental subsidies and economic incentives for on-grid solar electricity applications.

To date, we have generated the majority of our revenues from North America and expect to continue to generate a substantial amount of our revenues from North America in the future. There are a number of important incentives that are expected to phase-out or terminate in the future, which could adversely affect sales of our products. A substantial majority of our revenues come from the United States, which has both federal and state incentives. For instance, the

Renewable Energy and Job Creation Act of 2008 currently provides a 30% federal

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tax credit for residential and commercial solar installations through December 31, 2019 and reduced tax credits of 26% and 22% through December 31, 2020 and 2021 respectively, before being reduced to 10% for commercial installations and 0% for residential installations beginning in 2022. These tax credits could be reduced or eliminated as part of tax code changes or regulatory reform initiatives by the current Congress and presidential administration.
In addition, net energy metering tariffs are being evaluated and in some instances modified which may have a negative impact on future inverter sales. We derive a significant portion of our revenues from California's residential solar market and the existing California net energy metering tariff has been very successful in incentivizing the installation of residential solar systems. California, however, is re-evaluating existing incentives, tariffs and rates for residential systems in order to accommodate a sustainable growth trajectory for residential solar and to also encourage the adoption of other distributed energy resources, such as energy storage, that provide additional benefits to the consumer and the electricity grid. There is a risk that future regulatory changes will not adequately stimulate future growth in the residential solar market.

We also sell our products in Europe. A number of European countries, including Germany, Belgium, Italy and the United Kingdom have adopted reductions or concluded their FiT programs. Certain countries have proposed or enacted taxes levied on renewable energy. These and related developments have significantly impacted the solar industry in Europe and may adversely affect the future demand for the solar energy solutions in Europe.

We also sell our products in Australia. In 2012 Australia enacted a Renewable Energy Target (RET) that is intended to ensure that 33,000 Gigawatt-hours of Australia's electricity comes from renewable sources by 2020. In 2016, Australia re-elected its conservative national government, which revised national energy policy in October of 2017 with the introduction of the National Energy Guarantee. The National Energy Guarantee imposes a reliability obligation and an emissions reduction expectation on energy retailers and a small number of large electricity users. Energy retailers will have to have a mix in their portfolio: generation from dispatchable sources and from low-emissions sources, to meet their regulatory obligations. The Direct Action Plan previously put into place remains and has been renamed the Emissions Reduction Fund. This plan primarily provides funding to corporations to reduce emissions. The Emissions Reduction Fund is the central component in the Australian government's policy suite to reduce emissions and operates alongside existing programs such as the Renewable Energy Target, the National Carbon Offset Standard and energy efficiency standards on appliances, equipment and buildings. The objective of the Emissions Reduction Fund is to help achieve Australia's 2020 emissions reduction target of 5% below 2000 levels by 2020 and 26-28% below 2005 emissions by 2030. The Australian government has provided $2.55 billion of funding toward the Emissions Reduction Fund, with further funding to be considered in future budgets. States and territories in Australia have different FiTs, and the gradual reduction of FiTs in some states may reduce the incentive for homeowners to export unused solar energy produced back to the grid.

We also sell our products in Ontario, Canada. The government of Ontario has the authority to modify, suspend, or discontinue the FiT program at any time and has currently suspended it. Suspension of the FiT program in Ontario directly impacted and could continue to impact our business. Furthermore, any future suspension or modification of the program could negatively affect our business, financial condition and results of operations.

We believe the Federal and State tax credits, applicable federal and state grants, applicable tariffs and other incentive programs have had a positive effect on our sales since inception. However, unless these programs are further extended or modified to allow for continued growth in the residential solar market, the phase-out of such programs could adversely affect sales of our products in the future. The reductions in incentives and uncertainty around future energy policy, including local content requirements, have negatively affected and may continue to negatively affect our business, financial condition, and results of operations as we seek to increase our business domestically and abroad. Additionally, as we further expand to other countries, changes in incentive programs or electricity policies could negatively affect returns on our investments in those countries as well as our business, financial condition, and results of operations.

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Changes in current laws or regulations or the imposition of new laws or regulations, or new interpretations thereof, by federal or state agencies or foreign governments could impair our ability to compete in international markets.

Changes in current laws or regulations applicable to us or the imposition of new laws and regulations in the United States, Canada, Mexico and certain Central American markets, France, the Benelux region, certain other European markets, Australia, New Zealand and certain other Asian markets, could materially and adversely affect our business, financial condition and results of operations. In addition, changes in our products or changes in export and import laws and implementing regulations may create delays in 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.

For example, several states or territories, including California, Hawaii and Queensland, Australia, have either implemented or are considering implementing new restrictions on incentives or rules regulating the installation of solar systems that we may not be able to currently comply with. In the event that we cannot comply with these or other new regulations or implement a solution to such noncompliance as they arise, the total market available for our microinverter products in such states, and our business as a result, may be adversely impacted.

While we are not aware of any other current or proposed export or import regulations that would materially restrict our ability to sell our products in countries where we offer our products for sale, any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by these regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential customers with international operations. In such event, our business and results of operations could be adversely affected.

The threat of global economic, capital markets and credit disruptions, including sovereign debt issues, pose risks for our business.

The threat of global economic, capital markets and credit disruptions pose risks for our business. These risks include slower economic activity and investment in projects that make use of our products and services. These economic developments, particularly decreased credit availability, have in the past reduced demand for solar products. For instance, the European sovereign debt crisis in recent years has caused and may continue to cause European governments to reduce, eliminate or allow to expire government subsidies and economic incentives for solar energy, which could limit our growth or cause our net sales to decline and materially and adversely affect our business, financial condition, and results of operations. These conditions, including reduced incentives, continued decreases in credit availability, as well as continued economic instability, have and may continue to adversely impact our business, financial condition and results of operations as we seek to increase our sales internationally.

Natural disasters, terrorist or cyber attacks, or other catastrophic events could harm our operations.

Our worldwide operations could be subject to natural disasters and other business disruptions, which could harm our future revenue and financial condition and increase our costs and expenses. For example, our corporate headquarters in Petaluma, California is located near major earthquake fault lines and near the sites of recent catastrophic wild fires. Further, a terrorist attack, including one aimed at energy or communications infrastructure suppliers or our cloud-based monitoring service, could hinder or delay the development and sale or performance of our products. In the event that an earthquake, fire, tsunami, typhoon, terrorist or cyber attack, or other natural, manmade or technical catastrophe were to destroy any part of our facilities or those of our contract manufacturer, destroy or disrupt vital infrastructure systems or interrupt our operations or services for any extended period of time, our business, financial condition and results of operations would be materially and adversely affected.

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

We receive, store and use certain personal information of our customers, and the end-users of our customers’ solar PV systems, including names, addresses, e-mail addresses, credit information and energy production statistics. We also store and use personal information of our employees. We take steps to protect the security, integrity and confidentiality of the personal information we collect, store and transmit, but there is no guarantee that inadvertent or unauthorized use or disclosure will not occur or that third parties will not gain

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unauthorized access to this information despite our efforts. Because techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until 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 mitigation 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. If any such unauthorized use or disclosure of, or access to, such personal information was to occur, our operations could be seriously disrupted and we could be subject to demands, claims and litigation by private parties, and investigations, related actions, and penalties by regulatory authorities. In addition, we could incur significant costs in notifying affected persons and entities and otherwise complying with the multitude of foreign, federal, state and local laws and regulations relating to the unauthorized access to, or use or disclosure of, personal information. Finally, any perceived or actual unauthorized access to, or use or disclosure of, such information could harm our reputation, substantially impair our ability to attract and retain customers and have an adverse impact on our business, financial condition and results of operations.

We may be subject to disruptions or failures in information technology systems and network infrastructures that could have a material adverse effect on our business and financial condition.

We rely on the efficient and uninterrupted operation of complex information technology systems and network infrastructures to operate our business. In addition, our Enlighten web-based monitoring service, which our customers use to track and monitor the performance of their solar PV systems, is dependent on cloud-based hosting services, along with the availability of internet services at end-user premises. A disruption, infiltration or failure of our information technology systems, third-party cloud hosting platforms or end-user internet services as a result of software or hardware malfunctions, system implementations or upgrades, computer viruses, cyber-attacks, third-party security breaches, employee error, theft or misuse, malfeasance, power disruptions, natural disasters or accidents could cause breaches of data security, failure of our Enlighten service, loss of intellectual property and critical data and the release and misappropriation of sensitive competitive information and partner, customer and employee personal data. We have been and may in the future be subject to fraud attempts from outside parties through our electronic systems (such as “phishing” e-mail communications to our finance, technical or other personnel), which could put us at risk for harm from fraud, theft or other loss if our internal controls do not operate as intended. Any of these events could harm our competitive position, result in a loss of customer confidence, cause us to incur significant costs to remedy any damages and ultimately materially adversely affect our business and financial condition.

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

We believe that a system owner’s decision to purchase a solar PV system is strongly influenced by the cost of electricity generated by solar PV installations relative to the retail price of electricity from the utility grid and the cost of other renewable energy sources, including electricity from solar PV installations using central inverters. Decreases in the retail prices of electricity from the utility grid would make it more difficult for all solar PV systems to compete. In particular, growth in unconventional natural gas production and an increase in global liquefied natural gas capacity are expected to keep natural gas prices relatively low for the foreseeable future. Persistent low natural gas prices, lower prices of electricity produced from other energy sources, such as nuclear power, or improvements to the utility infrastructure could reduce the retail price of electricity from the utility grid, making the purchase of solar PV systems less economically attractive and lowering sales of our products. In addition, energy conservation technologies and public initiatives to reduce demand for electricity also could cause a fall in the retail price of electricity from the utility grid. Moreover, technological developments by our competitors in the solar components industry, including manufacturers of central inverters and DC to DC optimizers, could allow these competitors or their partners to offer electricity at costs lower than those that can be achieved from solar PV installations based on our product platform, which could result in reduced demand for our products. Additionally, as increasing adoption of distributed generation places pressure on traditional utility business models or utility infrastructure, utilities may change their pricing structures to make installation or operation of solar distributed generation more costly. Such measures can include grid access fees, costly or lengthy interconnection studies, limitations on distributed generation penetration levels, or other measures. If the cost of electricity generated by

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solar PV installations incorporating our microinverter systems is high relative to the cost of electricity from other sources, our business, financial condition and results of operations may be harmed.

Problems with product quality or product performance may cause us to continue to incur additional warranty expenses and may damage our market reputation and cause our revenue and gross profit to decline.

We have offered 15-year limited warranties for our first and second generation microinverters and offer a limited warranty of up to 25 years on each subsequent generation microinverters. Our limited warranties cover defects in materials and workmanship of our microinverters under normal use and service conditions for up to 25 years following installation. As a result, we bear the risk of warranty claims long after we have sold the product and recognized revenue. Our estimated costs of warranty for previously sold products may change to the extent future products are not compatible with earlier generation products under warranty.

While we offer warranties of up to 25 years, our microinverters have only been in use since mid-2008, when we first commenced commercial sales of our products. Although we conduct accelerated life cycle testing to measure performance and reliability, our microinverter systems have not been tested over the full warranty cycle and do not have a sufficient operating history to confirm how they will perform over their estimated useful life. In addition, under real-world operating conditions, which may vary by location and design, as well as insolation, soiling and weather conditions, a typical solar PV installation may perform in a different way than under standard test conditions. If our products perform below expectations or have unexpected reliability problems, we may be unable to gain or retain customers and could face substantial warranty expense.

We are required to make assumptions and apply judgments, based on our accelerated life cycle testing and the limited operating history of our products, regarding a number of factors, including the durability and reliability of our products, our anticipated rate of warranty claims and the costs of replacement of defective products. Our assumptions have proved and could in the future prove to be materially different from the actual performance of our products, which has caused and may in the future cause us to incur substantial expense to repair or replace defective products. Increases in our estimates of future warranty obligations due to actual product failure rates, field service obligations and rework costs incurred in correcting product failures have caused and could in the future cause us to materially increase the amount of warranty obligations, and have had and may have in the future a corresponding negative impact on our results of operations.

We also depend significantly on our reputation for reliability and high-quality products and services, exceptional customer service and our brand name to attract new customers and grow our business. If our products and services do not perform as anticipated or we experience unexpected reliability problems or widespread product failures, our brand and reputation could be significantly impaired and we may lose, or be unable to gain or retain, customers.

Defects and poor performance in our products could result in loss of customers, decreased revenue and unexpected expenses, and we may face warranty, indemnity and product liability claims arising from defective products.

Our products must meet stringent quality requirements and 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. These errors or defects may be dangerous, as defective power components may cause power overloads, potentially resulting in explosion or fire. As we develop new generations of our products and enter new markets, we face higher risk of undetected defects because our testing protocols may not be able to fully test the products under all possible operating conditions. In the past, we have experienced defects in our products due to certain errors in the manufacturing and design process. Any actual or perceived errors, defects or poor performance in our products could result in the replacement or recall of our products, shipment delays, rejection of our products, damage to our reputation, lost revenue, diversion of our engineering personnel from our product development efforts in order to address or remedy any defects and increases in customer service and support costs, all of which could have a material adverse effect on our business and operations.

Furthermore, defective, inefficient or poorly performing power components may give rise to warranty, indemnity or product liability claims against us that exceed any revenue or profit we receive from the affected

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products. We could incur significant costs and liabilities if we are sued and if damages are awarded against us. We currently maintain a moderate level of product liability insurance, and there can be no assurance that this insurance will provide sufficient coverage in the event of a claim. Also, we cannot predict whether we will be able to maintain this coverage on acceptable terms, if at all, or that a product liability claim would not harm our business or financial condition. Costs or payments we may make in connection with warranty and product liability claims or product recalls may adversely affect our financial condition and results of operations.

Our Enlighten web-based monitoring service, which our customers use to track and monitor the performance of their solar PV systems based on our product platform, may contain undetected errors, failures, or bugs, especially when new versions or enhancements are released. We have from time to time found defects in our service and new errors in our existing service may be detected in the future. Any errors, defects, disruptions in service or other performance problems with our monitoring service could harm our reputation and may damage our customers' businesses.

If we are unable to effectively manage our workforce, our business and operating results may suffer.

We have experienced, and expect to experience in the future, volatility in our sales and operations. Our historical growth and our more recent cost reduction initiatives have placed, and are expected to continue to place, significant demands on our management as well as our financial and operational resources, to:

- manage a dynamic organization;
- expand third-party manufacturing, testing and distribution capacity;
- execute on our cost reduction efforts and product initiatives with reduced headcount;
- build additional custom manufacturing test equipment;
- manage an increasing number of relationships with customers, suppliers and other third parties;
- increase our sales and marketing efforts;
- train and manage a dynamic and increasingly international employee base;
- broaden our customer support capabilities; and
- implement new and upgrade existing operational and financial systems.

We cannot assure you that our current and planned operations, personnel, systems, internal procedures and controls will be adequate to support our future operations. If we cannot manage our sales and operations effectively, we may be unable to take advantage of market opportunities, execute our business strategies or respond to competitive pressures, any of which could have a material adverse effect on our financial condition, results of operations, business or prospects.

Our recent and planned expansion into new markets could subject us to additional business, financial and competitive risks.

We currently offer PV systems targeting the residential and commercial markets in the United States, Canada, Mexico and certain Central American markets, the United Kingdom, France, the Benelux region, certain other European markets, Australia, New Zealand and certain other Asian markets. We intend to expand into other international markets, including India, the remainder of Europe and South America. Our success in these new geographic and product markets will depend on a number of factors, such as:

- acceptance of microinverters in markets in which they have not traditionally been used;
- our ability to compete in new product markets to which we are not accustomed;
- our ability to manage manufacturing capacity and production;
- willingness of our potential customers to incur a higher upfront capital investment than may be required for competing solutions;
- timely qualification and certification of new products;
- our ability to reduce production costs in order to price our products competitively over time;
- availability of government subsidies and economic incentives for solar energy solutions;
- accurate forecasting and effective management of inventory levels in line with anticipated product demand; and
- our customer service capabilities and responsiveness.

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Further, new geographic markets and the larger commercial and utility-scale installation markets have different characteristics from the markets in which we currently sell products, and our success will depend on our ability to properly address these differences. These differences may include:

- differing regulatory requirements, including tax laws, trade laws, labor, safety, local content, recycling and consumer protection regulations, tariffs, export quotas, customs duties or other trade restrictions;
- limited or unfavorable intellectual property protection;
- risk of change in international political or economic conditions;
- restrictions on the repatriation of earnings;
- fluctuations in the value of foreign currencies and interest rates;
- difficulties and increased expenses in complying with a variety of U.S. and foreign laws, regulations and trade standards, including the Foreign Corrupt Practices Act and UK Bribery Act;
- potentially longer sales cycles;
- higher volume requirements;
- increased customer concentrations;
- warranty expectations and product return policies; and
- cost, performance and compatibility requirements.

Failure to develop and introduce these new products successfully, to generate sufficient revenue from these products to offset associated research and development, marketing and manufacturing costs, or to otherwise effectively anticipate and 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 achieve or sustain profitability.

Ordering patterns from our distributors may cause our revenue to fluctuate significantly from period to period.

Our distributors place purchase orders with us based on their assessment of end-customer demand and their forecasts. Because these forecasts may not be accurate, channel inventory held at our distributors may fluctuate significantly due to the difference between their forecasts and actual demand. As a result, distributors adjust their purchase orders placed with us in response to changing channel inventory levels, as well as their assessment of the latest market demand trends. We have limited visibility into future end customer demand. A significant decrease in our distributors' channel inventory in one period may lead to a significant rebuilding of channel inventory in subsequent periods, or vice versa, which may cause our quarterly revenue and operating results to fluctuate significantly. This fluctuation may cause our results to fall short of analyst or investor expectations in a certain period, which may cause our stock price to decline.

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

We do not have internal manufacturing capabilities, and rely upon a small number of contract manufacturers to build our products. In particular, we rely on contract manufacturers for the manufacture of microinverter products, cabling and our communications gateway related to our microinverter systems. 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. We do not have long-term supply contracts with our other manufacturing partners. Consequently, these manufacturers are not obligated to supply products to us for any period, in any specified quantity or at any certain price.

The revenues that our contract manufacturers generate from our orders may represent a relatively small percentage of their overall revenues. As a result, 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 the vast majority of our microinverters, related cabling and communications gateway products are manufactured are located outside of the United States. We believe that the location of these facilities outside of the United States increases supply risk, including the risk of supply interruptions or reductions in manufacturing quality or controls.

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If any of our contract manufacturers were unable or unwilling to manufacture our products in required volumes and at high quality levels or renew existing terms under supply agreements, we would have to identify, qualify and select acceptable alternative contract manufacturers. An alternative contract manufacturer may not be available to us when needed or may not be in a position to satisfy our quality or production requirements on commercially reasonable terms, including price. Any significant interruption in manufacturing would require us to reduce our supply of products to our customers, which in turn would reduce our revenues, harm our relationships with our customers and damage our relationships with our distributors and end customers and cause us to forgo potential revenue opportunities.

Manufacturing problems could result in delays in product shipments to customers and could adversely affect our revenue, competitive position and reputation.

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. Such processes involve a number of 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 researched, identified and properly addressed and rectified. This may occur particularly as we introduce new products, modify our engineering and production techniques, and expand our capacity. In addition, our failure to maintain appropriate quality assurance processes could result in increased product failures, loss of customers, increased production costs and delays. Any of these developments could have a material adverse effect on our business, financial condition, and results of operations.

A disruption could also occur in our manufacturing partner's fabrication facility due to any number of reasons, such as equipment failure, contaminated materials or process deviations, which could adversely impact manufacturing yields or delay product shipments. As a result, we could incur additional costs that would adversely affect our gross profit, and product shipments to our customers could be delayed beyond the shipment schedules requested by our customers, which would negatively affect our revenue, competitive position and reputation.

Additionally, manufacturing yields depend on a number of factors, including the stability and manufacturability of the product design, manufacturing improvements gained over cumulative production volumes and the quality and consistency of component parts. Capacity constraints, raw materials shortages, logistics issues, labor shortages, and changes in customer requirements, manufacturing facilities or processes have historically caused, and may in the future cause, reduced manufacturing yields, negatively impacting the gross profit on, and our production capacity for, those products. Moreover, an increase in the rejection and rework rate of products during the quality control process before, during or after manufacture would result in our experiencing lower yields, gross profit and production capacity.

The risks of these types of manufacturing problems are further increased during the introduction of new product lines, which has from time to time caused, and may in the future cause, temporary suspension of production lines while problems are addressed or corrected. Since our business is substantially dependent on a limited number of product lines, any prolonged or substantial suspension of manufacturing production lines could result in a material adverse effect on our revenue, gross profit, competitive position, and distributor and customer relationships.

We depend on sole-source and limited-source suppliers for key components and products. If we are unable to source these components on a timely basis, we will not be able to deliver our products to our customers.

We depend on sole-source and limited-source suppliers for key components of our products. For example, our ASICs are purchased from a sole source supplier or developed for us by sole source suppliers. Any of the sole-source and limited-source suppliers upon whom we rely could experience quality and reliability issues, could stop producing our components, cease operations or be acquired by, or enter into exclusive arrangements with, our competitors. We generally do not have long-term supply agreements with our suppliers, and our purchase volumes may currently be too low for us to be considered a priority customer by most of our suppliers. As a result, most of these suppliers could stop selling to us at commercially reasonable prices, or at all. Any such quality or reliability issue, or interruption or delay may force us to seek similar components or products from alternative sources, which may not be available on commercially reasonable terms, including price, or at all. Switching suppliers may require that we redesign our products to accommodate new components, and may potentially

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require us to re-qualify our products, which would be costly and time-consuming. Any interruption in the quality or supply of sole-source or limited-source components 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 and would harm our business.

If we or our contract manufacturers are unable to obtain raw materials in a timely manner or if the price of raw materials increases significantly, production time and product costs could increase, which may adversely affect our business.

The manufacturing and packaging processes used by our contract manufacturers depend on raw materials such as copper, aluminum, silicon and petroleum-based products. From time to time, suppliers may extend lead times, limit supplies or increase prices due to capacity constraints or other factors. Certain of our suppliers have the ability to pass along to us directly or through our contract manufacturers any increases in the price of raw materials. If the prices of these raw materials rise significantly, we may be unable to pass on the increased cost to our customers. While we may from time to time enter into hedging transactions to reduce our exposure to wide fluctuations in the cost of raw materials, the availability and effectiveness of these hedging transactions may be limited. Due to all these factors, our results of operations could be adversely affected if we or our contract manufacturers are unable to obtain adequate supplies of raw materials in a timely manner or at reasonable cost. In addition, from time to time, we or our contract manufacturers may need to reject raw materials that do not meet our specifications, resulting in potential delays or declines in output. Furthermore, problems with our raw materials may give rise to compatibility or performance issues in our products, which could lead to an increase in customer returns or product warranty claims. Errors or defects may arise from raw materials supplied by third parties that are beyond our detection or control, which could lead to additional customer returns or product warranty claims that may adversely affect our business and results of operations.

If potential owners of solar PV systems based on our product platform are unable to secure financing on acceptable terms, we could experience a reduction in the demand for our solar PV systems.

Many owners of solar PV systems depend on financing to purchase their systems. The limited use of microinverters to date, coupled with our relatively smaller size and capitalization compared to some of our competitors, could result in lenders refusing to provide the financing necessary to purchase solar PV systems based on our product platform on favorable terms, or at all. Moreover, in the case of debt financed projects, even if lenders are willing to finance the purchase of these systems, an increase in interest rates or a change in tax incentives could make it difficult for owners to secure the financing necessary to purchase a solar PV system on favorable terms, or at all. In addition, we believe that a significant percentage of owners purchase solar PV systems as an investment, funding the initial capital expenditure through a combination of upfront cash and financing. Difficulties in obtaining financing for solar PV systems on favorable terms, or increases in interest rates or changes in tax incentives, could lower an investor’s return on investment in a solar PV system, or make alternative solar PV systems or other investments more attractive relative to solar PV systems based on our product platform. Any of these events could result in reduced demand for our products, which could have a material adverse effect on our financial condition and results of operations. In addition, a significant share of residential solar installations has been provided through third-party financing structures, such as power purchase or lease agreements. Our sales growth may depend on sales to developers of third-party solar finance offerings who provide solar as a service via power purchase agreements or leasing structures. The third-party finance market for residential solar in the United States and elsewhere is or may become highly concentrated, with a few significant finance companies and several smaller entrants. If we are unable develop relationships and gain a significant share of inverter sales to the major finance companies or new entrants, our overall sales growth could be constrained.

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

We sell our microinverter systems primarily through distributors, as well as through direct sales to solar equipment installers and sales to developers of third party solar finance offerings. We do not have exclusive arrangements with these third parties and, as a result, many of our customers also use or market and sell products from our competitors, which may reduce our sales. Our customers may generally terminate their relationships with us at any time, or with short notice. Our customers 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

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marketing and sales efforts on products of our competitors. In addition, participants in the solar industry are becoming increasingly focused on vertical integration of the solar financing and installation process, which may lead to an overall reduction in the number of potential parties who may purchase and install our products.

Our future performance depends on our ability to effectively manage our relationships with our existing customers, as well as to attract additional customers that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. Termination of agreements with current customers, failure by these customers to perform as expected, or failure by us to cultivate new customer relationships, could hinder our ability to expand our operations and harm our revenue and operating results.

We may fail to capture customers in the new product and geographic markets that we are pursuing.

We are pursuing opportunities in energy management and energy storage which are highly competitive markets. We have made investments in our infrastructure, increased our operating costs and forgone other business opportunities in order to seek opportunities in these areas and will continue to do so. Any new product is subject to certain risks, including component sourcing, strategic partner selection and execution, customer acceptance, competition, product differentiation, market timing, challenges relating to economies of scale in component sourcing and the ability to attract and retain qualified personnel. There can be no assurance that we will be able to develop and grow these or any other new concepts to a point where they will become profitable, or generate positive cash flow. If we fail to execute on our plan with respect to new product introductions, these new potential business segments fail to translate into revenue in the quantities or timeline projected, thus, having a materially adverse impact on our revenue, operating results and financial stability. In addition, we are pursuing new geographic markets. The inability to capture new customers in the high-growth geographic markets could have a material adverse effect on our business, financial condition or results of operations.

Our success in an “AC module” version of our microinverter system may depend in part upon our ability to continue to work closely with leading solar module manufacturers.

We are currently working on variants of our microinverter system that will enable an “AC module” for direct attachment of the microinverter to the solar modules. The market success of such solutions will depend in part on our ability to continue to work closely with solar module manufacturers to design solar modules that are compatible with such direct attachment of our microinverter. We may not be able to encourage solar module manufacturers to work with us on the development of such compatible solutions combining our microinverter system and solar modules for a variety of reasons, including differences in marketing or selling strategy, competitive considerations, lack of competitive pricing, and technological compatibility. In addition, our ability to form effective partnerships with solar module manufacturers may be adversely affected by the substantial challenges faced by many of these manufacturers due to declining prices and revenues from sales of solar modules and the new tariffs in the U.S.

If we fail to retain our key personnel or if we fail to attract additional qualified personnel, we may not be able to achieve our anticipated level of growth and our business could suffer.

Our future success and ability to implement our business strategy depends, in part, on our ability to attract and retain key personnel, and on the continued contributions of members of our senior management team and key technical personnel, each of whom would be difficult to replace. All of our employees, including our senior management, are free to terminate their employment relationships with us at any time. Competition for highly skilled technical people is extremely intense, and we face challenges identifying, hiring and retaining qualified personnel in many areas of our business. If we fail to retain our senior management and other key personnel or if we fail to attract additional qualified personnel, we may not be able to achieve our strategic objectives and our business could suffer.

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 patent, trademark, copyright, trade secret and unfair competition laws, as well as confidentiality and license agreements and other contractual provisions, to establish and protect our intellectual property and other proprietary rights. We have applied for patent and trademark registrations in the

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United States and in certain other countries, 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, and 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 United States, we may be at greater risk that our proprietary rights will be misappropriated, infringed or otherwise violated.

To protect our unregistered intellectual property, including our trade secrets and know-how, we rely in part on trade secret laws and confidentiality and invention assignment agreements with our employees and independent consultants. We also require other third parties who may have access to our proprietary technologies and information to enter into non-disclosure agreements. Such measures, however, provide only limited protection, and we cannot assure that our confidentiality and non-disclosure agreements will prevent unauthorized disclosure or use of our confidential information, especially after our employees or third parties end their employment or engagement with us, or provide us with an adequate remedy in the event of such disclosure. Furthermore, competitors or other third parties may independently discover our trade secrets, in which case we would not be able to assert trade secret rights, copy or reverse engineer our products or portions thereof or develop similar technology. If we fail to protect our intellectual property and other proprietary rights, or if such intellectual property and proprietary rights are infringed, misappropriated or otherwise violated, our business, results of operations or financial condition could be materially harmed.

In the future, we may need to take legal action to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology. Protecting and enforcing our intellectual property rights and determining their validity and scope could result in significant litigation costs and require significant time and attention from our technical and management personnel, which could significantly harm our business. In addition, we may not prevail in such proceedings. An adverse outcome of any such proceeding may reduce our competitive advantage or otherwise harm our financial condition and our business.

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, and claims of patent or other intellectual property right infringement or violation have been litigated against certain of our competitors. From time to time we may also be subject to such claims and litigation. Regardless of their merit, responding to such claims can be time consuming, divert management's attention and resources and may cause us to incur significant expenses. While we believe that our products and technology do not infringe in any material respect upon any valid intellectual property rights of third parties, we cannot be certain that we would be successful in defending against any such claims. Furthermore, patent applications in the United States and most other countries are confidential for a period of time before being published, so we cannot be certain that we are not infringing third parties' patent rights or that we were the first to conceive or protect inventions covered by our patents or patent applications. An adverse outcome with respect to any intellectual property claim could invalidate our proprietary rights and force us to do one or more of the following:

- obtain from a third party claiming infringement a license to sell or use the relevant technology, which may not be available on reasonable terms, or at all;
- stop manufacturing, selling, incorporating or using our products that embody the asserted intellectual property;
- pay substantial monetary damages;
- indemnify our customers pursuant to indemnification obligations under some of our customer contracts; or
- expend significant resources to redesign the products that use the infringing technology and to develop or acquire non-infringing technology.

Any of these actions could result in a substantial reduction in our revenue and could result in losses over an extended period of time.

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Our failure to obtain the right to use necessary third-party intellectual property rights on reasonable terms, or our failure to maintain, and comply with the terms and conditions applicable to these rights, could harm our business and prospects.

From time to time we have licensed, and in the future we may choose to or be required to license, technology or intellectual property from third parties in connection with the development of our products. We cannot assure that such licenses will be available to us on commercially reasonable terms, or at all, and our inability to obtain such licenses could require us to substitute technology of lower quality or of greater cost. In addition, we incorporate open source software code in our proprietary software. Use of open source software can lead to greater risks than use of third-party commercial software since open source licensors generally do not provide warranties or controls with respect to origin, functionality or other features of the software. Some open source software licenses require users who distribute open source software as part of their products to publicly disclose all or part of the source code in their software and make any derivative works of the open source code available for limited fees or at no cost. Although we monitor our use of open source software, open source license terms may be ambiguous, and many of the risks associated with the use of open source software cannot be eliminated. If we were found to have inappropriately used open source software, we may be required to release our proprietary source code, re-engineer our software, discontinue the sale of certain products in the event re-engineering cannot be accomplished on a timely basis or take other remedial action. Furthermore, if we are unable to obtain or maintain licenses from third parties or fail to comply with applicable open source licenses, we may be subject to costly third party claims of intellectual property infringement or ownership of our proprietary source code. Any of the foregoing could harm our business and put us at a competitive disadvantage.

Our business has been and could continue to be affected by seasonal trends and construction cycles.

We have been and could continue to be subject to industry-specific seasonal fluctuations, particularly in climates that experience colder or rainier weather during the winter months, such as northern Europe, Canada, and the United States. In general, we expect our products in the second, third, and fourth quarters will be positively affected by seasonal customer demand trends, including solar economic incentives, weather patterns and construction cycles, preceded by a seasonally softer first quarter. In the United States, customers will sometimes make purchasing decisions towards the end of the year in order to take advantage of tax credits or for budgetary reasons. In addition, construction levels are typically slower in colder and wetter months. In European countries with FiTs, the construction of solar PV systems may be concentrated during the second half of the calendar year, largely due to the annual reduction of the applicable minimum FiT and the fact that the coldest winter months are January through March. Accordingly, our business and quarterly results of operations could be affected by seasonal fluctuations in the future.

Covenants in our credit facility and term loan may limit our flexibility in responding to business opportunities and competitive developments and increase our vulnerability to adverse economic or industry conditions.

We are a party to a term loan agreement with affiliates of Tennenbaum Capital Partners, LLC. This agreement restricts our ability to take certain actions such as incurring additional debt, encumbering our tangible or intangible property, paying dividends, or engaging in certain transactions, such as mergers and acquisitions, investments and asset sales. These restrictions may limit our flexibility in responding to business opportunities, competitive developments and adverse economic or industry conditions. In addition, our obligations under these agreements are secured by substantially all of our assets, which limits our ability to provide collateral for additional financing. A breach of any of these covenants, or a failure to pay interest or indebtedness when due under any of our credit facilities, could result in a variety of adverse consequences, including the acceleration of our indebtedness and the forfeiture of our assets subject to security interests in favor of the lenders.

If we fail to maintain an effective system of internal controls or are unable to remediate any deficiencies in our internal controls, we might not be able to report our financial results accurately or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act requires us to establish and maintain internal control over financial reporting and disclosure controls procedures. The process of implementing our internal controls and

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complying with Section 404 of the Sarbanes-Oxley Act has required, and will continue to require, significant attention of management. Although we are currently not required to provide an auditor's attestation report on management's assessment of the effectiveness of our internal control over financial reporting, otherwise required by Section 404(b) of the Sarbanes-Oxley Act, this exemption will no longer be available to us beginning with our Annual Report on Form 10-K for 2018. If we are no longer deemed to be a "smaller reporting company" at such time. If we or our independent registered public accounting firm discover a material weakness in the future, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our financial statements and harm our stock price. To the extent any material weaknesses in our internal control over financial reporting are identified in the future, we could be required to expend significant management time and financial resources to correct such material weaknesses or to respond to any resulting regulatory investigations or proceedings.

Our ability to use net operating losses to reduce future tax payments may be limited by provisions of the Internal Revenue Code, and may be subject to further limitation as a result of future transactions.

Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), contain rules that limit the ability of a company that undergoes an "ownership change," generally defined as a more than 50 percentage point increase in the percentage of its stock owned by certain stockholders over a three-year period, to utilize its net operating loss and tax credit carryforwards and certain built-in losses recognized in the years after the ownership change. These rules generally operate by focusing on ownership changes involving stockholders who directly or indirectly own 5% or more of the stock of a company and any change in ownership arising from a new issuance of stock by the company. Generally, if an ownership change occurs, the yearly taxable income limitation on the use of net operating loss and tax credit carryforwards is equal to the product of the applicable long-term tax exempt rate and the value of the company's stock immediately before the ownership change. If these limitations apply, we may be unable to offset our taxable income with net operating losses, or our tax liability with credits, before these losses and credits expire. We are in the process of updating our study to assess whether an ownership change has occurred or whether there have been multiple ownership changes since we became a loss corporation under the Code. We do not anticipate these limitations will significantly impact our ability to utilize the net operating losses and tax credit carryforwards.

In addition, it is possible that future transactions (including issuances of new shares of our common stock and sales of shares of our common stock) will cause us to undergo one or more additional ownership changes. In that event, we generally would not be able to use our net operating losses from periods prior to this ownership change to offset future taxable income in excess of the annual limitations imposed by Sections 382 and 383 and those attributes that are already subject to limitations (as a result of our prior ownership changes) may be subject to more stringent limitations.

Comprehensive tax reform laws could adversely affect our business and financial condition.

The U.S. government recently enacted comprehensive tax legislation (the Tax Cuts and Jobs Act of 2017, or Tax Reform Act) that includes significant changes to the taxation of business entities. These changes include, among others, (i) a permanent reduction to the corporate income tax rate from 35% to 21%, (ii) a partial limitation on the deductibility of business interest expense, (iii) a shift of the U.S. taxation of multinational corporations from a tax on worldwide income to a territorial system (along with certain rules designed to prevent erosion of the U.S. income tax base) and (iv) a one-time tax on accumulated offshore earnings held in cash and illiquid assets, with the latter taxed at a lower rate. On December 22, 2017, the Securities and Exchange Commission issued Staff Accounting Bulletin (SAB 118) which provides a measurement period of no more than a year from the Tax Act enactment date for companies to complete the accounting under Accounting Standards Codification 740 (ASC 740). Given our current taxable loss position, based on our preliminary analysis, we do not expect the new tax legislation to have a material cash tax impact on our business [other than reducing the net operating loss carryforwards which is offset by a valuation allowance]. However, due to the broad complexities of the Tax Reform Act, our ASC 740 accounting for the Tax Reform is still subject to change, which could adversely affect our business and financial condition.

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We are dependent on ocean transportation to deliver our products in a 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 commercial ocean transportation for the delivery of a large percentage of our products to our customers in North America, Europe, Australia and other markets. We also rely on more expensive air transportation when ocean transportation is not available or compatible with the delivery time requirements of our customers. 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; and other factors, such as labor strikes and work stoppages, 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. Material interruptions in service or stoppages in transportation, whether caused by strike, work stoppage, lock-out, slowdown or otherwise, could materially and adversely impact our business, results of operations and financial condition.

The market price of our common stock may be volatile or may decline regardless of our operating performance.

The market price of our common stock has been and could be subject to wide fluctuations in response to, among other things, the risk factors described in this Annual Report on Form 10-K, and other factors beyond our control, such as fluctuations in the valuation of companies perceived by investors to be comparable to us. Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock. In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may become the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management’s attention from other business concerns, which could seriously harm our business.

Our financial results may vary significantly from quarter to quarter due to a number of factors, which may lead to volatility in our stock price.

Our quarterly revenue and results of operations have varied in the past and may continue to vary significantly from quarter to quarter. This variability may lead to volatility in our stock price as research analysts and investors respond to these quarterly fluctuations. These fluctuations are due to numerous factors, including:

- seasonal and other fluctuations in demand for our products;
- the timing, volume and product mix of sales of our products, which may have different average selling prices or profit margins;
- changes in our pricing and sales policies or the pricing and sales policies of our competitors;
- our ability to design, manufacture and deliver products to our customers in a timely and cost-effective manner and that meet customer requirements;
- our ability to manage our relationships with our contract manufacturers, customers and suppliers;
- quality control or yield problems in our manufacturing operations;
- the anticipation, announcement or introductions of new or enhanced products by our competitors and ourselves;
- reductions in the retail price of electricity;
- changes in laws, regulations and policies applicable to our business and products, particularly those relating to government incentives for solar energy applications;
- the impact of tariffs on the solar industry in general and our products in particular;
- unanticipated increases in costs or expenses;
- the amount and timing of operating costs and capital expenditures related to the maintenance and expansion of our business operations;

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- the impact of government-sponsored programs on our customers;
- our exposure to the credit risks of our customers, particularly in light of the fact that some of our customers are relatively new entrants to the solar market without long operating or credit histories;
- our ability to estimate future warranty obligations due to product failure rates, claim rates or replacement costs;
- our ability to forecast our customer demand and manufacturing requirements, and manage our inventory;
- fluctuations in our gross profit;
- our ability to predict our revenue and plan our expenses appropriately; and
- fluctuations in foreign currency exchange rates.

The foregoing factors are difficult to forecast, and these, as well as other factors, could materially and adversely affect our quarterly and annual results of operations. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of this revenue shortfall on our results of operations. Moreover, our results of operations may not meet our announced guidance or the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly. There can be no assurance that we will be able to successfully address these risks.

If research analysts do not publish research about our business or if they issue unfavorable commentary or downgrade our common stock, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that research analysts publish about us and our business. The price of our common stock could decline if one or more research analysts downgrade our stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business. If one or more of the research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our common stock could decrease, which could cause our stock price or trading volume to decline.

If we fail to meet the continued listing standards of Nasdaq, our common stock may be delisted, which could have a material adverse effect on the liquidity and market price of our common stock.

Our common stock is currently traded on the Nasdaq Global Market. The Nasdaq Stock Market LLC (“Nasdaq”) has requirements that a company must meet in order to remain listed. There can be no assurance that we will continue to meet these requirements in the future. If we fail to meet any such requirements, Nasdaq may initiate delisting processes. If our common stock were to be delisted, the liquidity of our common stock would be adversely affected and the market price of our common stock could decrease.

Our affiliated stockholders, executive officers and directors own a significant percentage of our stock, and they may take actions that our other stockholders may not view as beneficial.

Our affiliated stockholders, executive officers and directors collectively own a significant percentage of our common stock. This significant concentration of share ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with controlling stockholders. Also, as a result, these stockholders, acting together, may be able to control our management and affairs and matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as mergers, consolidations or the sale of substantially all of our assets. Consequently, this concentration of ownership may have the effect of delaying or preventing a change in control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if this change in control would benefit our other stockholders.

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Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock. Most of the outstanding shares of our common stock are eligible for sale in the public market, subject in some cases to the volume limitations and manner of sale requirements of Rule 144 under the Securities Act. Sales of stock by our stockholders could have a material adverse effect on the trading price of our common stock.

Certain holders of our securities are entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

We currently do not intend to pay dividends on our common stock and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We currently do not plan to declare dividends on shares of our common stock in the foreseeable future. In addition, our term loan agreement restricts our ability to pay dividends. Consequently, an investor's only opportunity to achieve a return on its investment in our company will be if the market price of our common stock appreciates and the investor sells its shares at a profit.

Our charter documents and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.

Our certificate of incorporation and our bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions, including effecting changes in our management. These provisions include:

- 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;
- authorizing our board of directors to issue, without stockholder approval, preferred stock rights senior to those of common stock, which could be used to significantly dilute the ownership of a hostile acquiror;
- prohibiting stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- requiring the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of voting 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, forum selection and the liability of our directors, or to amend our bylaws, which may inhibit the ability of stockholders or an acquiror to effect such amendments to facilitate changes in management or an unsolicited takeover attempt;
- requiring special meetings of stockholders may only be called by our chairman of the board, if any, our chief executive officer, our president or a majority of our board of directors, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- requiring advance notification of stockholder nominations and proposals, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, the provisions of Section 203 of the Delaware General Corporate Law may prohibit large stockholders, in particular those owning 15% or more of our outstanding common stock, from engaging in certain business combinations, without approval of substantially all of our stockholders, for a certain period of time.

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These provisions in our certificate of incorporation, our bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would be without these provisions.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters occupy approximately 100,000 square feet in Petaluma, California under leases that expire in April 2022 and accommodate our principal engineering, sales, marketing, operations and finance and administrative activities. In addition to our corporate headquarters in Petaluma, as of December 31, 2017, we leased office space in Boise, Idaho, Santa Clara, California, France, The Netherlands, Australia, New Zealand, India and China. At this time, we believe our facilities are adequate for our near term operational and business needs.

Item 3. Legal Proceedings

From time to time, we may be involved in litigation relating to claims arising out of our operations. We are not currently involved in any material legal proceedings. We may, however, be involved in material legal proceedings in the future. Such matters are subject to uncertainty and there can be no assurance that such legal proceedings will not have a material adverse effect on our business, results of operations, financial position or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

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

Our common stock has been traded on The Nasdaq Global Market under the symbol “ENPH” since March 30, 2012. The following table sets forth the range of intra-day high and low sales prices per share of our common stock as reported on the Nasdaq Global Market for the periods indicated.

	Price Range	
	High	Low
2017		
First Quarter	$2.03	$1.01
Second Quarter	1.41	0.65
Third Quarter	1.67	0.76
Fourth Quarter	3.45	1.24
2016		
First Quarter	$3.73	$1.76
Second Quarter	2.80	1.73
Third Quarter	2.14	1.16
Fourth Quarter	1.50	0.95

Holders

As of March 23, 2018, there were approximately 35 holders of record of our common stock.

Dividend Policy

We have never paid any cash dividends on our common stock. We currently anticipate that we will retain any available funds to finance the growth and operation of our business and we do not anticipate paying any cash dividends in the foreseeable future. Furthermore, our loan and credit facility agreements restrict us from paying cash dividends on our common stock.

Recent Sales of Unregistered Securities

Except as previously reported in our quarterly reports on Form 10-Q and current reports on Form 8-K filed with the SEC during the year ended December 31, 2017, there were no unregistered sales of equity securities by us during the year ended December 31, 2017.

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Stock Performance Graph

This section is not “soliciting material” and is not deemed “filed” for purposes of Section 18 of the Securities and Exchange Act of 1934 (the Exchange Act) or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, regardless of any general incorporation language in such filing.

The graph depicted below shows a comparison of cumulative total stockholder returns for our common stock, the Russell 2000 and the Guggenheim Solar Index for the period from March 29, 2012 (the date before our common stock began trading on the Nasdaq Global Market) to December 31, 2017. An investment of $100 is assumed to have been made in our common stock and in each index on March 29, 2012 and its relative performance is tracked through December 31, 2017. The information shown is historical and is not necessarily indicative of future performance.

	3/29/12	12/31/12	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17
Enphase Energy, Inc.	$ 100	$ 61	$ 106	$ 238	$ 59	$ 17	$ 40
Russell 2000 Index	$ 100	$ 102	$ 140	$ 145	$ 136	$ 163	$ 185
Guggenheim Solar Index	$ 100	$ 71	$ 160	$ 155	$ 139	$ 75	$ 114

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Item 6. Selected Consolidated Financial Data

The information set forth below for the five years ended December 31, 2017 is not necessarily indicative of results of future operations, and should be read in conjunction with Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, and the consolidated financial statements and related notes thereto included in Item 8, Financial Statements and Supplementary Data, of this Annual Report on Form 10-K to fully understand the factors that may affect the comparability of the information presented below.

	Years Ended December 31,				
	2017	2016	2015	2014	2013
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Net revenues	$286,166	$322,591	$357,249	$343,904	$232,846
Cost of revenues	230,123	264,583	249,032	230,861	165,430
Gross profit	56,043	58,008	108,217	113,043	67,416
Operating expenses:					
Research and development	33,157	50,703	50,819	45,386	34,524
Sales and marketing	23,126	38,810	45,877	41,003	31,080
General and administrative	22,221	27,418	30,830	31,083	23,970
Restructuring and other charges	16,917	3,777	—	—	—
Total operating expenses	95,421	120,708	127,526	117,472	89,574
Loss from operations	(39,378)	(62,700)	(19,309)	(4,429)	(22,158)
Other income (expense), net:					
Interest expense	(7,936)	(2,773)	(501)	(1,863)	(2,055)
Other income (expense)	1,973	(514)	(893)	(994)	(837)
Total other expense, net	(5,963)	(3,287)	(1,394)	(2,857)	(2,892)
Loss before income taxes	(45,341)	(65,987)	(20,703)	(7,286)	(25,050)
Benefit (provision) for income taxes	149	(1,475)	(1,379)	(766)	(863)
Net loss attributable to common stockholders	$(45,192)	$(67,462)	$(22,082)	$(8,052)	$(25,913)
Net loss per share attributable to common stockholders, basic and diluted	$(0.54)	$(1.34)	$(0.49)	$(0.19)	$(0.62)
Shares used in computing net loss per share attributable to common stockholders, basic and diluted	82,939	50,519	44,632	42,903	41,647

	As of December 31,				
	2017	2016	2015	2014	2013
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$29,144	$17,764	$28,452	$42,032	$38,190
Total assets	169,147	163,576	165,528	152,192	116,669
Warranty obligations	29,816	31,414	30,547	29,080	30,432
Debt	49,751	30,868	17,000	—	8,677
Total stockholders' (deficit) equity	(9,126)	1,300	41,449	46,952	40,206
Additional Data:					
Working capital	$38,705	$35,092	$48,920	$56,190	$57,144
Gross margin percentage	19.6%	18.0%	30.3%	32.9%	29.0%

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

Forward-Looking Statements

The following discussion and analysis of our financial condition and results of operations should be read together with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements reflecting our current expectations and involves risks and uncertainties. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “intend,” “potential” or “continue” or the negative of these term comparable terminology. For example, statements regarding our expectations as to future financial performance, expense levels and liquidity sources are forward-looking statements. Our actual results and the timing of events may differ materially from those discussed in our forward-looking statements as a result of various factors, including those discussed below and those discussed in the section entitled “Risk Factors” and elsewhere in this report.

Overview

We deliver simple, innovative and reliable energy management solutions that advance the worldwide potential of renewable energy. We were founded in March 2006 and are a market leader in the microinverter category of the U.S inverter market. Our technology was designed to increase energy production, simplify design and installation, improve system uptime and reliability, reduce fire risk, and provide a platform for intelligent energy management. Since inception, we have shipped more than 16 million microinverters, representing over 3 gigawatts of solar photovoltaic (PV) generating capacity, and more than 739,000 Enphase residential and commercial systems have been deployed in over 110 countries.

We sell our microinverter systems primarily to distributors who resell them to solar installers. We also sell directly to large installers and through original equipment manufacturers (“OEMs”) and strategic partners. Historically, revenues generated from the U.S. market have represented 70%-80% of our total revenue.

Our first commercial shipment occurred in mid-2008. Our net revenues were $286.2 million, $322.6 million and $357.2 million for 2017, 2016 and 2015, respectively. We incurred net losses of $45.2 million, $67.5 million and $22.1 million for 2017, 2016 and 2015, respectively. As of December 31, 2017, we had $29.1 million in cash and cash equivalents and working capital of $38.7 million.

As of December 31, 2017, we had $29.1 million in cash, as compared to $17.8 million as of December 31, 2016. In February 2018 we raised an additional $20.0 million through a private placement of common stock and also reached an agreement with our lender to defer approximately 50% of the principal payments due in 2018 under our term loans. The amount deferred in 2018 will be amortized over the remaining term of the loan. See Notes 10. “Debt” and 19. “Subsequent Events” to our consolidated financial statements for further information.

Management has considered the above factors and has concluded that substantial doubt as to our ability to continue as a going concern no longer exists at the time of filing of this Annual Report on Form 10-K for the year ended December 31, 2017.

Components of Consolidated Statements of Operations

Net Revenues

We generate net revenues from sales of our microinverter systems and related accessories, which include microinverter units, AC Battery storage systems, an Envoy communications gateway, and our Enlighten cloud-based monitoring service.

Our revenue is affected by changes in the volume and average selling prices of our microinverter systems and related accessories, supply and demand, sales incentives, and competitive product offerings. Our revenue growth is dependent on our ability to compete effectively in the marketplace by remaining cost competitive, developing and introducing new products that meet the changing technology and performance requirements of our customers, the diversification and expansion of our revenue base, and our ability to market our products in a manner that increases awareness for microinverter technology and differentiates us in the marketplace.

Cost of Revenues and Gross Profit

Cost of revenues is comprised primarily of product costs, warranty, manufacturing personnel and logistics costs, freight costs, depreciation and amortization of test equipment and hosting services costs. Our product costs are impacted by technological innovations, such as advances in semiconductor integration and new product introductions, economies of scale resulting in lower component costs, and improvements in production processes and automation. Certain costs, primarily personnel and depreciation and amortization of test equipment, are not directly affected by sales volume.

We outsource our manufacturing to third-party contract manufacturers and generally negotiate product pricing with them on a quarterly basis. We believe our contract manufacturing partners have sufficient production capacity to meet the anticipated demand for our products for the foreseeable future. However, shortages in the supply of certain key raw materials could adversely affect our ability to meet customer demand for our products. We contract with third parties, including one of our contract manufacturers, to serve as our logistics providers by warehousing and delivering our products in the United States, Europe and Asia.

Gross profit may vary from quarter to quarter and is primarily affected by our average selling prices, product cost, product mix, warranty costs and sales volume fluctuations resulting from seasonality.

Operating Expenses

Operating expenses consist of research and development, sales and marketing, general and administrative and restructuring expenses. Personnel-related costs are the most significant component of each of these expense categories and include salaries, benefits, payroll taxes, recruiting costs, sales commissions, incentive compensation and stock-based compensation.

Research and development expense includes personnel-related expenses, third-party design and development costs, testing and evaluation costs, depreciation expense and other indirect costs. Research and development employees are primarily engaged in the design and development of power electronics, semiconductors, powerline communications, networking and software functionality, and storage. We devote substantial resources to research and development programs that focus on enhancements to, and cost efficiencies in, our existing products and timely development of new products that utilize technological innovation to drive down product costs, improve functionality, and enhance reliability. We intend to continue to invest appropriate resources in our research and development efforts because we believe they are critical to maintaining our competitive position.

Sales and marketing expense consists primarily of personnel-related expenses such as salaries, commissions, stock-based compensation, employee benefits and travel. It also includes trade shows, marketing, customer support and other indirect costs. We expect to continue to make the necessary investments to enable us to execute our strategy to increase our market penetration geographically and enter into new markets by expanding our customer base of distributors, large installers, OEMs and strategic partners. We currently offer microinverter systems targeting the residential and commercial markets in the United States, Canada, Mexico and certain Central American markets, the United Kingdom, France, the Benelux region, certain other European markets, Australia, New Zealand, India and certain other Asian markets. We expect to continue to expand the geographic reach of our product offerings and explore new sales channels in addressable markets in the future.

General and administrative expense consists primarily of salaries, incentive compensation, stock-based compensation and employee benefits for personnel related to our executive, finance, human resources, information technology and legal organizations. General and administrative expense also includes facilities costs and fees for professional services, which consist primarily of outside legal, accounting and information technology consulting costs.

Restructuring charges are the net of charges resulting from restructuring initiatives implemented in 2016 and 2017 to improve operational performance and reduce overall operating expense and gain on divestiture of our services business. Costs included in restructuring primarily consist of severance for workforce reduction actions, non-cash charges related to the disposition of assets and impairment of property and equipment, and the establishment of lease loss reserves. See Note 9, “Restructuring and Other Charges” to the consolidated financial statements for additional information.

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Other Expense, Net

Other expense, net primarily consists of interest expense and commitment fees under our revolving credit facility, term loans, and non-cash interest expense related to the amortization of deferred financing costs. Other expense, net also includes interest income and gains or losses upon conversion of foreign currency transactions into U.S. dollars.

Provision for Income Taxes

We are subject to income taxes in the countries where we sell our products. Historically, we have primarily been subject to taxation in the United States because we have sold the vast majority of our products to customers in the United States. As we have expanded the sale of products to customers outside the United States, we have become subject to taxation based on the foreign statutory rates in the countries where these sales took place. As sales in foreign jurisdictions increase in the future, our effective tax rate may fluctuate accordingly. Due to the history of losses we have generated in the United States since inception, we believe that it is more-likely-than-not that all of our U.S. and state deferred tax assets will not be realized as of December 31, 2017.

Summary Consolidated Statements of Operations

The following table sets forth a summary of our consolidated statements of operations for the periods presented (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Net revenues	$286,166	$322,591	$357,249
Cost of revenues	230,123	264,583	249,032
Gross profit	56,043	58,008	108,217
Operating expenses:			
Research and development	33,157	50,703	50,819
Sales and marketing	23,126	38,810	45,877
General and administrative	22,221	27,418	30,830
Restructuring and other charges	16,917	3,777	—
Total operating expenses	95,421	120,708	127,526
Loss from operations	(39,378)	(62,700)	(19,309)
Other expense, net	(5,963)	(3,287)	(1,394)
Loss before income taxes	(45,341)	(65,987)	(20,703)
Benefit (provision) for income taxes	149	(1,475)	(1,379)
Net loss	$(45,192)	$(67,462)	$(22,082)

Comparison of 2017, 2016 and 2015

Net Revenues

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
Net revenues	$286,166	$322,591	$(36,425)	(11) %	$322,591	$357,249	$(34,658)	(10) %

2017 Compared to 2016. Net revenues decreased by 11 % to $286.2 million in 2017, as compared to 2016. The number of microinverter units sold decreased by 6% to approximately 2.9 million units in 2017 in part due to our

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efforts to improve gross margins, which included foregoing low-margin sales. Net revenues decreased year-over-year primarily due to the lower volume combined with a decline in the average system selling price of approximately 5% in 2017 compared to 2016. The decrease in net revenues was partially offset by the recognition of $2.2 million of deferred revenue resulting from a change in estimate of the service period related to sales of our Envoy product. We expect the average selling price per watt of microinverters to continue to decline.

2016 Compared to 2015. Net revenues decreased by 10% to $322.6 million in 2016, as compared to 2015. The number of microinverter units sold increased slightly in 2016 and was approximately 3.1 million units in both 2016 and 2015. Net revenues decreased year-over-year primarily due to a decline in the average system selling price of approximately 13% in 2016 compared to 2015.

Cost of Revenues and Gross Margin

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
Cost of revenues	$230,123	$264,583	$(34,460)	(13)%	$264,583	$249,032	$15,551	6 %
Gross profit	56,043	58,008	(1,965)	(3)%	58,008	108,217	(50,209)	(46)%
Gross margin	19.6 %	18.0 %			18.0 %	30.3 %		

2017 Compared to 2016. Cost of revenues decreased by 13% in 2017, as compared to 2016, and was primarily attributable to the transition in 2017 to our next generation IQ microinverters, which have a lower cost profile than the previous generation, as well as the decline in sales volume. Gross margin increased by 1.6 percentage points to 19.6% in 2017, as compared to 18.0% in 2016. The primary drivers of the gross margin increase were lower warranty expense and logistics costs as a percentage of net revenues in 2017 as compared to 2016. See Note 7, “Warranty Obligations” to the consolidated financial statements for further discussion of the components of warranty expense.

2016 Compared to 2015. Cost of revenues increased by 6% in 2016, as compared to 2015, which was primarily attributable to a shift in product mix that resulted in increased sales of higher-priced accessories, including our AC Battery storage system. Gross margin decreased by 12.3 percentage points to 18.0% in 2016, as compared to 30.3% in 2015. While we experienced an overall reduction in our product costs, our adoption of a more aggressive pricing strategy resulted in a decrease to our gross margin. In 2016, our gross margin also included the impact of higher warranty expense, as compared to 2015. The higher warranty expense in 2016 was primarily due to incremental provisions recorded for changes in estimates, which reduced gross margin by 1.2 percentage points. See Note 7, “Warranty Obligations” to the consolidated financial statements for further discussion.

Research and Development

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
Research and development	$33,157	$50,703	$(17,546)	(35)%	$50,703	$50,819	$(116)	0 %
Percentage of net revenues	12 %	16 %			16 %	14 %		

2017 Compared to 2016. Research and development expenses decreased by $17.5 million in 2017 as compared to 2016. The decrease was primarily due to the implementation of our restructuring initiative that eliminated non-core projects resulting in an $11.5 million reduction in research and development personnel related expenses and a $5.9 million reduction in lab parts, product prototypes and professional fees. The amount of research and development expenses may fluctuate from period to period due to the differing levels and stages of development activity. We do not expect it to see the same magnitude of reduction in expense in the future as most of the benefits of our operating expense reduction initiatives were realized in 2017.

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2016 Compared to 2015. Research and development expenses decreased by $0.1 million in 2016 as compared to 2015. The decrease was primarily due to decreased compensation costs and depreciation expense as a result of the restructuring actions taken in September 2016. The decrease was partially offset by higher outside professional fees utilized to support the development of new products as well as enhancements and cost reductions to existing products.

Sales and Marketing

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
Sales and marketing	$23,126	$38,810	$(15,684)	(40)%	$38,810	$45,877	$(7,067)	(15)%
Percentage of net revenues	8 %	12 %			12 %	13 %		

2017 Compared to 2016. Sales and marketing expenses decreased by $15.7 million in 2017 as compared to 2016. The decrease was primarily due to the implementation of our restructuring initiative resulting in an $8.5 million decrease in compensation costs as a result of lower headcount and a $1.2 million decrease in travel and entertainment expenses as a result of cost savings initiatives. Bad debt expense was reduced by $2.6 million in 2017 as compared to 2016, and advertising and professional fees were reduced by $2.8 million. We do not expect to see the same magnitude of cost savings in sales and marketing expenses in the future as we realized most of the benefits by the end of 2017 of the cost savings initiatives we implemented.

2016 Compared to 2015. Sales and marketing expenses decreased by $7.1 million in 2016 as compared to 2015. The decrease was primarily due to an $8.4 million decrease in compensation costs as a result of lower headcount and a $1.4 million decrease in travel and entertainment expenses as a result of cost savings initiatives. These decreases were partially offset by a $1.6 million increase in bad debt expense in 2016 and a $1.8 million benefit related to a revaluation of acquisition-related contingent consideration liability that was recorded in 2015.

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General and Administrative

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
General and administrative	$22,221	$27,418	$(5,197)	(19)%	$27,418	$30,830	$(3,412)	(11)%
Percentage of net revenues	8 %	8 %			8 %	9 %		

2017 Compared to 2016. General and administrative expenses decreased by $5.2 million in 2017 as compared to 2016. The decrease is primarily due to the implementation of our restructuring initiative that eliminated non-core projects resulting in a $4.9 million reduction in general and administrative personnel related expenses, a $0.8 million reduction in facilities related expenses and a $1.0 million reduction in depreciation expense as a result of a lower fixed asset base. These decreases were partially offset by a $1.7 million increase in accounting and legal fees. We do not expect to see the same magnitude of cost savings in general and administrative expenses in the future as we realized most of the benefits by the end of 2017 of the cost savings initiatives we implemented.

2016 Compared to 2015. General and administrative expenses decreased by $3.4 million in 2016 as compared to 2015. The decrease was primarily the result of a $1.7 million reduction in compensation costs due to lower headcount, a $0.2 million decrease in travel and entertainment expenses and a $1.8 million reduction in professional services, which was primarily attributable to lower legal and other professional fees. This decrease was partially offset by a $0.4 million increase in corporate expenses including rent, utilities and depreciation.

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Restructuring and Other Charges

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
Restructuring and other charges	$16,917	$3,777	$13,140	348%	$3,777	$—	$3,777	~~%~~
Percentage of net revenues	6%	1%			1%	—%		

2017 Compared to 2016. We implemented a restructuring plan in 2016 to lower operating expenses and cost of revenues that included reductions in our global workforce and the elimination of certain non-core projects. In 2017 we engaged a management consulting firm to assist us in making organizational and structural changes to improve operational efficiencies and reduce expenses. Restructuring charges in 2017 include $12.1 million of consulting services, $2.8 million in cash-based severance and related benefits and $2.0 million in charges for asset impairments and lease loss reserves. Although we will continue to make business and process improvements, our formal restructuring efforts were largely completed in 2017, and we do not expect to incur substantial additional restructuring charges in the near future.

2016 Compared to 2015. In 2016 restructuring and other charges included $1.3 million of severance and other costs related to reduction in workforce, $2.6 million in asset impairments, $0.6 million lease loss reserves and contract termination costs and a gain of $0.6 million related to the disposition of our services business.

Other Income (Expense), Net

	Years Ended December 31,		Change in		Years Ended December 31,		Change in	
	2017	2016	$	%	2016	2015	$	%
	(In thousands, except percentages)				(In thousands, except percentages)			
Other income (expense), net	$(5,963)	$(3,287)	$(2,676)	(81)%	$(3,287)	$(1,394)	$(1,893)	(136)%

2017 Compared to 2016. Other expense increased by $2.7 million in 2017, as compared to 2016, primarily due to a $5.2 million increase in net interest expense, which was partially offset by a $2.5 million increase in other income related to foreign exchange rates.

2016 Compared to 2015. Other expense increased $1.9 million in 2015 as compared to 2014, primarily as a result of higher interest paid due to higher average outstanding borrowings on our revolving credit facility in 2016 and interest paid on an additional $25 million of term debt that funded in July 2016.

Liquidity and Capital Resources

Sources of Liquidity

As of December 31, 2017, we had $29.1 million in cash and cash equivalents and working capital of $38.7 million. Cash and cash equivalents held in the United States was $20.8 million and consisted primarily of non-interest bearing checking deposits, with the remainder held in various foreign subsidiaries. We consider amounts held outside the U.S. to be accessible and have provided for the estimated U.S. income tax liability associated with the potential repatriation our foreign earnings.

Actions we have taken to improve our liquidity include restructuring our operations raising additional funds. The restructuring actions we have taken resulted in a $38.4 million reduction in ongoing operating expenses (excluding restructuring charges of $16.9 million and $3.8 million in the years ended December 31, 2017 and 2016, respectively) for the year ended December 31, 2017 as compared to 2016. In 2016, we completed a public

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offering of 13,000,000 shares of our common stock. Including the subsequent over-allotment, we sold approximately 15 million shares and realized net proceeds of approximately $16.2 million.

In December of 2016, we entered into an At The Market Issuance Sales Agreement (ATM) under which we sold shares of our common stock up to a gross aggregate offering price of $17.0 million. We realized the full $17.0 million of gross proceeds available under the ATM in the first quarter of 2017.

In January 2017, we completed a private placement of common stock that resulted in gross proceeds of $10.0 million. In January 2018, we completed another private placement of common stock that resulted in additional gross proceeds of $20.0 million.

In July 2016, we entered into a loan and security agreement (the “Term Loan Agreement” or “Original Term Loan Agreement”) with lenders that are affiliates of Tennenbaum Capital Partners, LLC (“TCP”), which has subsequently been amended and modified as discussed below and in Notes 10, “Debt” and 18, “Subsequent Events” to the consolidated financial statements. Under the agreement, the lenders committed to advance a term loan in an aggregate principal amount of up to $25.0 million with a maturity date of July 1, 2020. We drew down the $25.0 million term loan commitment at closing.

Payments under the original agreement were interest only through June 30, 2017, followed by consecutive equal monthly payments of principal plus accrued interest beginning on July 1, 2017 and continuing through the maturity date. In addition, we paid a commitment fee of 3.3% of the loan amount upon closing and a closing fee of 10.0% of the loan amount is payable in four equal installments at each anniversary of the closing date. We may elect to prepay the loan by incurring a prepayment fee between 1% and 3% of the principal amount of the term loan depending on the timing and circumstances of prepayment.

The Term Loan Agreement is subject to customary affirmative and negative covenants including restrictions on creation of liens, dispositions of assets, dividends, mergers, or changing the nature of its business, in each case, subject to certain customary exceptions. In addition, the Term Loan Agreement contains certain customary events of default including, but not limited to, failure to pay interest, principal and fees or other amounts when due, material breach of any representation or warranty, covenant defaults, cross defaults to other material indebtedness, events of bankruptcy and the occurrence of a material adverse change (as defined in the agreement) to our business. The Term Loan Agreement offers TCP typical rights and remedies in any event of default, including the ability to declare all amounts outstanding immediately due and payable. We do not expect the lender to declare default under any event, including the material adverse change clause.

In February 2017, we amended our loan and security agreement with TCP to provide an additional $25 million in principal (together with the Term Loan Agreement the “Combined Term Loans”). We simultaneously terminated our revolving credit facility with Wells Fargo Bank, N.A. (the “Revolver”), and the combined principal and interest balance of $10.3 million was fully repaid.

The Combined Term Loans have the same July 1, 2020 maturity date as the original TCP loan. Monthly payments under the Combined Term Loans are interest only through February 28, 2018, followed by consecutive equal monthly payments of principal plus accrued interest beginning on March 1, 2018 and continuing through the maturity date. Interest on the Combined Term Loans is the greater of (a) 10.3125%, and (b) a fluctuating rate of interest per annum equal to the three-month LIBOR Rate (rounded up to the nearest 1/16th of one percent) plus 9.25%.

In February 2018 the TCP loan was modified again to provide for the deferral of 50% of the scheduled principal payments in 2018. See Notes 10, “Debt” and 18, “Subsequent Events” to the consolidated financial statements for further information.

The term loans under our amended loan and security agreement with TCP are secured by a first-priority security interest on substantially all of our assets; provided, however, that the security interest in our intellectual property may be released when we satisfy certain requirements.

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The following table summarizes our cash flows for the periods presented (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Net cash used in operating activities	$(28,442)	$(32,953)	$(21,160)
Net cash used in investing activities	(4,121)	(11,795)	(12,462)
Net cash provided by financing activities	43,297	34,375	20,564

Cash Flows from Operating Activities

For 2017, net cash used in operating activities was $28.4 million, primarily resulting from a net loss of $45.2 million. The net loss was partially offset by non-cash charges including stock-based compensation of $6.7 million, depreciation and amortization of $9.0 million, asset impairment and non-cash restructuring charges of $1.1 million, and a provision for doubtful accounts of $0.5 million. Changes in net operating assets and liabilities used cash of $1.4 million.

The primary uses of cash from changes in net operating assets and liabilities in 2017 were a $6.5 million decrease in accounts payable and accrued liabilities, a $4.8 million increase in accounts receivable and a $1.6 million decrease in warranty obligations. Offsetting these uses of cash was a decrease in inventory of $6.0 million and an increase in deferred revenue of $5.3 million.

For 2016, net cash used in operating activities was $33.0 million, primarily resulting from a net loss of $67.5 million. The net loss was partially offset by non-cash charges including stock-based compensation of $10.3 million, depreciation and amortization of $10.6 million, asset impairment and restructuring charges of $3.2 million, and an increase in the provision for doubtful accounts of $3.1 million. In addition, the effect of changes in net operating assets and liabilities provided cash of $7.2 million.

The primary sources of cash from changes in net operating assets and liabilities in 2016 were an $11.3 million increase in deferred revenue related to our Enlighten service and deferred product revenue, an $8.8 million decrease in inventory, and a $8.9 million increase in accounts payable and accrued liabilities. Offsetting these sources of cash was an increase in accounts receivable of $18.0 million and an increase in other assets of $4.8 million. The increase in accounts receivable was due to higher sales in the fourth quarter of 2016 as compared to the same period in 2015, and the increase in other assets was primarily attributable to an increase in customer financing receivables.

For 2015, net cash used in operating activities was $21.2 million, primarily resulting from a net loss of $22.1 million. The net loss was partially offset by non-cash charges including stock-based compensation of $12.7 million, depreciation and amortization of $10.5 million, and net adjustments of $1.0 million for other non-cash items. In addition, the effect of changes in net operating assets and liabilities resulted in the use of cash totaling $23.3 million.

The primary use of cash from changes in net operating assets and liabilities in 2015 was attributable to a $19.2 million increase in inventory. The increase in inventory was attributed to lower sales in the fourth quarter of 2015, as compared to the same period in 2014. Other uses of cash from changes in net operating assets and liabilities included a $5.3 million increase in other assets primarily attributable to an increase in customer financing receivables and the corresponding deferred costs of revenues, $3.4 million decrease in warranty obligations, $2.6 million decrease in accounts payable and accrued other liabilities due to timing of payments and a decrease in incentive compensation accrual and $2.5 million increase in accounts receivable. Offsetting these uses of cash was an increase in deferred revenue of $9.7 million related to our Enlighten service as well as deferred product revenue corresponding with the increase in customer financing receivables.

Cash Flows from Investing Activities

For 2017, net cash used in investing activities of $4.1 million primarily resulted from purchases of test and assembly equipment, license fees for certain technology related to ASIC development and capitalized costs related to internal-use software.

For 2016, net cash used in investing activities of $11.8 million primarily resulted from purchases of test and assembly equipment, capitalized costs related to internal-use software and license fees for certain technology

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related to ASIC development, and was partially offset by $1.1 million in proceeds from the sale of our services business.

For 2015, net cash used in investing activities of $12.5 million included $10.2 million for purchases of test and assembly equipment and $2.3 million of capitalized internal-use software costs.

Cash Flows from Financing Activities

For 2017, net cash provided by financing activities of $43.3 million primarily consisted of $24.2 million additional net proceeds from amending our term loan with TCP and $27.0 million in net proceeds from the issuance of common stock and $2.8 million in proceeds from the sale of certain financing receivables offset by the $10.1 million repayment associated with the termination of our revolving credit facility with Wells Fargo Bank.

For 2016, net cash provided by financing activities of $34.4 million primarily consisted of $24.2 million net proceeds from our term loan and $17.8 million in proceeds from the issuance of common stock offset by $6.9 million net reduction in borrowings under our Revolver and $0.7 million in debt issuance and equity offering costs.

For 2015, net cash provided by financing activities primarily consisted of $17.0 million from net borrowings made under our Revolver to fund our working capital needs, $4.0 million received from common stock issuance pursuant to our equity incentive plans, $0.2 million in financing costs associated with the amended and restated revolving credit facility.

Contractual Obligations

The following table summarizes our outstanding contractual obligations as of December 31, 2017:

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	4-5 Years	More Than 5 Years
	(in thousands)				
Operating leases	$15,190	$3,011	$5,984	$4,651	$1,544
Term loan (2)	50,000	15,715	34,285	—	—
Estimated interest and fees related to term loan	10,824	5,815	5,009	—	—
Purchase obligations (1)	26,887	26,887	—	—	—
Total	$102,901	$51,428	$45,278	$4,651	$1,544

(1) Purchase obligations include amounts related to component inventory that our primary contract manufacturer procures on our behalf in accordance with our production forecast as well as other inventory related purchase commitments. The timing of purchases in future periods could differ materially from estimates presented above due to fluctuations in demand requirements related to varying sales levels as well as changes in economic conditions.

(2) On February 28, 2018 the term loan was amended to defer approximately 50% of the principal payments due in 2018. See Note 10. "Debt" to the consolidated financial statements.

As of December 31, 2017, the liability recorded for uncertain tax positions, including associated interest and penalties, was approximately $1.1 million. Since the ultimate amount and timing of cash settlements cannot be predicted due to the high degree of uncertainty, liabilities for uncertain tax positions are excluded from the contractual obligations table. See Note 10, “Debt” and Note 14, “Income Taxes” to the consolidated financial statements.

Off-Balance Sheet Arrangements

As of December 31, 2017, we did not have any off-balance-sheet arrangements as defined in Item 303(a)(4)(ii) of Regulation S-K.

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Critical Accounting Policies

The preparation of our consolidated financial statements and related notes requires us to make judgments, estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. We have based our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

For a description of our significant accounting policies, see Note 2, “Summary of Significant Accounting Policies” to our consolidated financial statements. An accounting policy is considered to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could materially impact the consolidated financial statements. We believe the following critical accounting policies reflect the more significant estimates and assumptions used in the preparation of our consolidated financial statements.

Revenue Recognition

We generate revenue from sales of our microinverter systems, which include microinverter units and related accessories, an Envoy communications gateway, our cloud-based Enlighten monitoring service, and AC Battery storage solutions to distributors, large installers, OEMs and strategic partners. Enlighten service revenue represented less than 2% of the total revenues for all periods presented.

Revenue from sales of our products is recognized when: (i) persuasive evidence of an arrangement exists; (ii) delivery of the products has occurred in accordance with the terms of the sales agreement and title and risk of loss have passed to the customer; (iii) the sale price is fixed or determinable; and (iv) collection is reasonably assured. Provisions for rebates, sales incentives, and discounts to customers are generally accounted for as reductions in revenue in the same period the related sales are recorded. For some programs the provision is made at the later of when the related revenue is recognized or when the offer is made.

Sales of an Envoy communications gateway include the Enlighten cloud-based monitoring service. The allocation of revenue between the two deliverables is based on our best estimate of selling price determined by considering multiple factors including, internal costs, gross margin and historical pricing practices. After allocating the overall consideration from such sale to each deliverable using a best estimate of the selling price, revenue from the sale of Envoy hardware devices is recognized upon shipment, assuming all other revenue recognition criteria have been met. Through September 30, 2017 the estimated economic life of the related Envoy devices was used to determine the period over which revenue from the cloud-based monitoring service was recognized as adequate historical user data was not available. During the fourth quarter of 2017 we determined historical user data was available to adequately assess the period over which the service obligation was met. As a result, we shortened the estimated service period of the Enlighten effective October 1, 20107 from 10 years to 6.5 years. The impact of the change in estimate was an increase to revenue and earnings in the fourth quarter of 2017 of approximately $2.6 million and a reduction of net loss per share of approximately $0.03.

Inventory

Inventory is valued at the lower of cost or market. Market is current replacement cost (by purchase or by reproduction, dependent on the type of inventory). In cases where market exceeds net realizable value (i.e., estimated selling price less reasonably predictable costs of completion and disposal), inventories are stated at net realizable value. Market is not considered to be less than net realizable value reduced by an allowance for an approximately normal profit margin. We determine cost on a first-in first-out basis. Certain factors could affect the realizable value of its inventory, including customer demand and market conditions. Management assesses the valuation on a quarterly basis and writes down the value for any excess and obsolete inventory based upon expected demand, anticipated sales price, effect of new product introductions, product obsolescence, customer concentrations, product merchantability and other factors. Inventory write-downs are equal to the difference between the cost of inventories and market. The impact of changes in the inventory valuation allowance for 2017, 2016 and 2015 were insignificant.

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Warranty Obligations

Microinverters Sold Through December 31, 2013
Our warranty accrual provides for the replacement of microinverter units that fail during the product's warranty term (15 years for first and second generation microinverters and up to 25 years for third and fourth generation microinverters). On a quarterly basis, we employ a consistent, systematic and rational methodology to assess the adequacy of our warranty liability. This assessment includes updating all key estimates and assumptions for each generation of product, based on historical results, trends and the most current data available as of the filing date. The key estimates and assumptions used in the warranty liability are thoroughly reviewed by management on a quarterly basis. The key estimates used by us to estimate our warranty liability are: (1) the number of units expected to fail over time (i.e. failure rate); (2) the number of failed units expected to result in warranty claims over time (i.e. claim rate); and (3) the per unit cost of replacement units, including outbound shipping and limited labor costs, expected to be incurred to replace failed units over time (i.e. replacement cost).

Estimated Failure Rates—Our Quality and Reliability department has primary responsibility to determine the estimated failure rates for each generation of microinverter. To establish initial failure rate estimates for each generation of microinverter, our quality engineers use a combination of industry standard MTBF (Mean Time Between Failure) estimates for individual components contained in that generation of microinverters, third party data collected on similar equipment deployed in outdoor environments similar to those in which our microinverters are installed, and rigorous long term reliability and accelerated life cycle testing which simulates the service life of the microinverter in a short period of time. As units are deployed into operating environments, we continue to monitor product performance via our Enlighten monitoring platform. It typically takes three to nine months between the date of sale and date of end-user installation. Consequently, our ability to monitor actual failures of units sold similarly lags by three to nine months. When a microinverter fails and is returned, we perform diagnostic root cause failure analysis to understand and isolate the underlying mechanism(s) causing the failure. We then use the results of this analysis (combined with the actual, cumulative performance data collected on those units prior to failure via Enlighten) to draw conclusions with respect to how or if the identified failure mechanism(s) will impact the remaining units deployed in the installed base.
Estimated Claim Rates—Warranty claim rate estimates are based upon assumptions with respect to expected customer behavior over the warranty period. As the vast majority of our microinverters have been sold to end users for residential applications, we believe that warranty claim rates will be affected by changes over time in residential home ownership because we expect that subsequent homeowners are less likely to file claims than the homeowners who originally purchase the microinverters.
Estimated Replacement Costs—Three factors are considered in our analysis of estimated replacement cost: (1) the estimated cost of replacement microinverters; (2) the estimated cost to ship replacement microinverters to end users; and (3) the estimated labor reimbursement expected to be paid to third party installers performing replacement services for the end user. Because our warranty provides for the replacement of defective microinverters over long periods of time (between 15 and 25 years, depending on the generation of product purchased), the estimated per unit cost of current and future product generations is considered in the estimated replacement cost. Estimated costs to ship replacement units are based on observable, market-based shipping costs paid by us to third party freight carriers. We have a separate program that allows third-party installers to claim fixed-dollar reimbursements for labor costs they incur to replace failed microinverter units for a limited time from the date of original installation. Included in our estimated replacement cost is an analysis of the number of fixed-dollar labor reimbursements expected to be claimed by third party installers over the limited offering period.
In addition to the key estimates noted above, we also compare actual warranty results to expected results and evaluate any significant differences. We may make additional adjustments to the warranty provision based on performance trends or other qualitative factors. If actual failure rates, claim rates, or replacement costs differ from our estimates in future periods, changes to these estimates may be required, resulting in increases or decreases in our warranty

obligations. Such increases or decreases could be material.

Fair Value Option for Microinverters Sold Since January 1, 2014

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Our warranty obligations related to microinverters sold since January 1, 2014 provide us the right, but not the requirement, to assign our warranty obligations to a third-party. Under Accounting Standards Codification (“ASC”) 825—Financial Instruments, (“fair value option”), an entity may choose to elect the fair value option for such warranties at the time it first recognizes the eligible item. We made an irrevocable election to account for all eligible warranty obligations associated with microinverters sold since January 1, 2014 at fair value. This election was made to reflect the underlying economics of the time value of money for an obligation that will be settled over an extended period of up to 25 years.

We estimate the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, we used certain inputs that are unobservable and significant to the overall fair value measurement. Such additional assumptions included compensation comprised of a profit element and risk premium required of a market participant to assume the obligation and a discount rate based on our credit-adjusted risk-free rate. See Note 8, (“Fair Value Measurements”) to the consolidated financial statements for additional information.

Recently Adopted Accounting Pronouncements

In July 2015, the FASB issued ASU 2015-11, “Simplifying the Measurement of Inventory,” which requires most entities to measure most inventories at the lower of cost or net realizable value ("NRV"). This simplifies the evaluation from the current method of lower of cost or market, where market is based on one of three measures (i.e. replacement cost, net realizable value, or net realizable value less a normal profit margin). ASU 2015-11 does not apply to inventories measured under the last-in, first-out method or the retail inventory method, and defines NRV as the “estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.” This standard, which was adopted in the first quarter of 2017, did not have a material impact on our consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, “Improvements to Employee Share-Based Payment Accounting,” which will simplify the income tax consequences, accounting for forfeitures and classification on the Statements of Consolidated Cash Flows. This standard, which was adopted in the first quarter of 2017, did not have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, “Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.” This ASU simplifies the subsequent measurement of goodwill, the FASB eliminated Step 2 from the goodwill impairment test. Under the amendments in this ASU, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Additionally, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. The FASB also eliminated the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. Therefore, the same impairment assessment applies to all reporting units. An entity is required to disclose the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount of net assets. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. A public business entity that is an SEC filer should adopt the amendments in this Update for its annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. We adopted ASU 2017-04 for the year beginning January 1, 2017. We have a single reporting unit, and adoption of the standard did not have a material impact on our consolidated financial statements.

Recent Accounting Pronouncements Not Yet Effective

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers: Topic 606 and issued subsequent amendments to the initial guidance in August 2015, March 2016, April 2016, May 2016 and

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December 2016, (collectively “Topic 606”). Topic 606 supersedes nearly all existing revenue recognition guidance under GAAP. The standard is effective for and was adopted by us on January 1, 2018.

The updated standard’s core principle is that revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled in exchange for those goods or services. The standard generally requires an entity to identify performance obligations in its contracts, estimate the amount of variable consideration to be received in the transaction price, allocate the transaction price to each separate performance obligation, and recognize revenue as obligations are satisfied. In addition, the updated standard requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts.

The guidance permits two methods of adoption, the full retrospective method applying the standard to each prior reporting period presented, or the modified retrospective method with a cumulative effect of initially applying the guidance recognized at the date of initial application. Upon adoption we will use the modified retrospective method with a cumulative catch up adjustment to accumulated deficit and will provide additional disclosures comparing results to previous GAAP in our 2018 consolidated financial statements.

The most significant impacts upon adoption of the standard will be how we account for revenue related to our envoy communications device and related enlighten service and the timing of when certain sales incentives will be recognized. Under ASC 605 our monitoring hardware and service are considered two units of accounting with a portion of the consideration related to the hardware recognized upfront and the remaining deferred over the estimated service period. Under ASC 606 the full consideration for these products represents a single performance obligation and is deferred over the estimated service period. This treatment will result in an increase in deferred revenue of approximately $77 million, an increase in deferred costs of approximately $43 million and an increase in accumulated deficit of approximately $34 million upon adoption of ASC 606.

Under ASC 605 we recorded certain contra revenue promotions at the later of the date revenue was recognized or the date at which the promotional offer was extended. Under ASC 606 all such contra revenue programs will be treated as variable consideration and recognized at the time the related revenue is recorded. This change in timing will result in an increase in accrued liabilities of approximately $6 million and an increase to accumulated deficit in the same amount upon adoption of ASC 606. The change in accounting treatment affects the timing of the recognition of certain contra revenue programs, but the overall income statement impact of this new accounting method is expected to be immaterial.

Under ASC 605, we expensed commission costs as incurred. The new standard requires upfront contract acquisition costs, such as sales commissions, to be capitalized and amortized over the estimated life of the asset. Under the new guidance, we will utilize the practical expedient permitting expensing of costs to obtain a contract when the expected amortization period is one year or less, which typically results in expensing commissions paid. Commissions related to our sale of monitoring hardware and service will be capitalized and amortized over the period of the associated revenue, which is 6.5 years. This treatment will result in an increase in deferred costs of approximately $0.8 million and an increase in accumulated deficit by the same amount upon adoption of ASC 606. The amortization of these deferred costs is immaterial to our income statement.

We do not expect the adoption of ASC 606 to have a material impact on the amount or timing of revenue recognition related to specific customer contracts.

In January 2016, the FASB issued ASU 2016-01, “Recognition and Measurement of Financial Assets and Financial Liabilities,” which amends certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Changes to the current guidance include the accounting for equity investments, the presentation and disclosure requirements for financial instruments, and the assessment of valuation allowance on deferred tax assets related to available-for-sale securities. In addition, ASU 2016-01 establishes an incremental recognition and disclosure requirement related to the presentation of fair value changes of financial liabilities for which the fair value option has been elected. Under this guidance, an entity would be required to separately present in other comprehensive income the portion of the total fair value change attributable to instrument-specific credit risk as opposed to reflecting the entire amount in earnings. ASU 2016-01 is effective for fiscal years and interim periods beginning after December 15, 2017, and upon adoption, an entity should apply the amendments by means of a cumulative-effect adjustment to the balance sheet at the beginning of the first

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reporting period in which the guidance is effective. Early adoption is not permitted except for the provision to record fair value changes for financial liabilities under the fair value option resulting from instrument-specific credit risk in other comprehensive income. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued Accounting Standards Codification ("ASC") 842 ("ASC 842"), "Leases" which replaces the existing guidance in ASC 840, Leases. ASC 842 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. ASC 842 requires a dual approach for lessee accounting under which a lessee would account for leases as finance leases or operating leases. Both finance leases and operating leases will result in the lessee recognizing a right-of-use (ROU) asset and a corresponding lease liability. For finance leases the lessee would recognize interest expense and amortization of the ROU asset and for operating leases the lessee would recognize a straight-line total lease expense. We are currently evaluating the impact of adoption on our consolidated financial statements.

In November 2016, the FASB issued Accounting Standards Update No. 2016-18 (ASU 2016-18), "Statement of Cash Flows," which requires companies to include amounts generally described as restricted cash and restricted cash equivalents in cash and cash equivalents when reconciling beginning-of-period and end-of-period total amounts shown on the statement of cash flows. ASU 2016-18 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. We do not expect the adoption of this guidance to have a material impact on our consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09 (ASU 2017-09), "Compensation - Stock Compensation." ASU 2017-09 was issued to provide clarity and reduce both 1) diversity in practice and 2) cost and complexity when applying the guidance in Topic 718 to a change in the terms or conditions of a share-based payment award. ASU 2017-09 provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting under Topic 718. ASU 2017-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. We are currently evaluating the impact of adoption on our consolidated financial statements.

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Item 7A. Quantitative and Qualitative Disclosures about Market Risk
Foreign Currency Exchange Risk

We operate and conduct business in foreign countries where our foreign entities use the local currency as their respective functional currency and, as a result, are exposed to movements in foreign currency exchange rates. More specifically, we face foreign currency exposure primarily from the effect of fluctuating exchange rates on payables and receivables relating to transactions that are denominated in Euros, Indian Rupee and Australian and New Zealand Dollars. These payables and receivables primarily arise from sales to customers and intercompany transactions. We also face currency exposure that arises from translating the results of our European, Indian, Australian and New Zealand operations, including sales and marketing and research and development expenses, to the U.S. dollar at exchange rates that have fluctuated from the beginning of a reporting period.
We have utilized foreign currency forward contracts to reduce the impact of foreign currency fluctuations related to anticipated cash receipts from expected future revenues denominated in Euros and intercompany transaction gains or losses. The contracts we enter into typically have maturities of less than one year. We do not enter into derivative financial instruments for trading or speculative purposes. Any foreign currency forward contracts are accounted for as derivatives whereby the fair value of the contracts is reported as other current assets or current liabilities, and gains and losses resulting from changes in the fair value are reported in other income (expense), net, in the accompanying consolidated statements of operations. We were not party to any foreign currency contracts as of December 31, 2016, and we did not enter into any foreign currency forward contracts during 2017.
As of December 31, 2017 and 2016, the aggregate gross notional amounts of outstanding foreign currency forward contracts, all with maturities of less than one year, was $0.0 million. We recorded $0.0 million, $0.1 million and $0.3 million of net gains in 2017, 2016, and 2015, respectively, related to foreign currency forward contracts.

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Item 8. Financial Statements and Supplementary Data
ENPHASE ENERGY, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AS OF DECEMBER 31, 2017 AND 2016, AND FOR THE YEARS ENDED DECEMBER 31, 2017, 2016 AND 2015

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Enphase Energy, Inc.:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Enphase Energy, Inc. and subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP
San Francisco, California
April 2, 2018

We have served as the Company's auditor since 2010.

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ENPHASE ENERGY, INC.

Consolidated Balance Sheets
(In thousands, except par value)

	December 31, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$29,144	$17,764
Accounts receivable, net of allowances of $2,378 and $2,921 at December 31, 2017 and 2016, respectively	65,346	61,019
Inventory	25,999	31,960
Prepaid expenses and other	9,957	7,121
Total current assets	130,446	117,864
Property and equipment, net	26,483	31,440
Goodwill	3,664	3,664
Intangibles, net	515	945
Other assets	8,039	9,663
Total assets	$169,147	$163,576
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$28,747	$31,696
Accrued liabilities	22,447	22,937
Deferred revenues	15,691	6,411
Warranty obligations, current portion (includes $2,240 and $3,296 measured at fair value at December 31, 2017 and 2016, respectively)	7,427	8,596
Revolving credit facility	—	10,100
Debt, current	17,429	3,032
Total current liabilities	91,741	82,772
Deferred revenues, non-current	29,941	33,893
Warranty obligations, non-current (includes $7,551 and $7,036 measured at fair value at December 31, 2017 and 2016, respectively)	22,389	22,818
Other non-current liabilities	1,880	2,025
Debt, less current portion	32,322	20,768
Total liabilities	178,273	162,276
Commitments and contingencies		
Stockholders' (deficit) equity:		
Preferred stock, $0.00001 par value, 10,000 shares authorized; none issued and outstanding	—	—
Common stock, $0.00001 par value, 125,000 and 100,000 shares authorized and 85,914 and 62,269 shares issued and outstanding at December 31, 2017 and 2016, respectively	1	1
Additional paid-in capital	287,256	252,126
Accumulated deficit	(295,727)	(250,535)
Accumulated other comprehensive loss	(656)	(292)
Total stockholders' (deficit) equity	(9,126)	1,300
Total liabilities and stockholders' (deficit) equity	$169,147	$163,576

See Notes to Consolidated Financial Statements.

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ENPHASE ENERGY, INC.

Consolidated Statements of Operations
(In thousands, except per share data)

	Years Ended December 31,		
	2017	2016	2015
Net revenues	$286,166	$322,591	$357,249
Cost of revenues	230,123	264,583	249,032
Gross profit	56,043	58,008	108,217
Operating expenses:			
Research and development	33,157	50,703	50,819
Sales and marketing	23,126	38,810	45,877
General and administrative	22,221	27,418	30,830
Restructuring and other charges	16,917	3,777	—
Total operating expenses	95,421	120,708	127,526
Loss from operations	(39,378)	(62,700)	(19,309)
Other income (expense):			
Interest expense	(7,936)	(2,773)	(501)
Other income (expense), net	1,973	(514)	(893)
Total other expense, net	(5,963)	(3,287)	(1,394)
Loss before income taxes	(45,341)	(65,987)	(20,703)
Benefit (provision) for income taxes	149	(1,475)	(1,379)
Net loss	$(45,192)	$(67,462)	$(22,082)
Net loss per share, basic and diluted	$(0.54)	$(1.34)	$(0.49)
Shares used in computing net loss per share, basic and diluted	82,939	50,519	44,632

See Notes to Consolidated Financial Statements.

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ENPHASE ENERGY, INC.

Consolidated Statements of Comprehensive Loss
(In thousands)

	Years Ended December 31,		
	2017	2016	2015
Net loss	$(45,192)	$(67,462)	$(22,082)
Other comprehensive loss:			
Foreign currency translation adjustments	(364)	(82)	(131)
Other comprehensive loss:	(364)	(82)	(131)
Comprehensive loss	$(45,556)	$(67,544)	$(22,213)

See Notes to Consolidated Financial Statements.

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ENPHASE ENERGY, INC.
Consolidated Statements of Stockholders' Equity
(In thousands)

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' (Deficit) Equity
BALANCE—December 31, 2014	43,756	$ —	$ 208,022	$ (160,991)	$ (79)	$ 46,952
Issuance of common stock under employee stock plans	2,065	—	4,014			4,014
Stock-based compensation			12,696			12,696
Net loss				(22,082)		(22,082)
Foreign currency translation adjustment					(131)	(131)
BALANCE—December 31, 2015	45,821	—	224,732	(183,073)	(210)	41,449
Issuance of common stock under employee stock plans	1,498	$ 1	$ 1,144			$ 1,145
Issuance of common stock, net of offering costs	14,950	—	15,924			15,924
Stock-based compensation			10,326			10,326
Net loss				(67,462)		(67,462)
Foreign currency translation adjustment					(82)	(82)
BALANCE—December 31, 2016	62,269	$ 1	$ 252,126	$ (250,535)	$ (292)	$ 1,300
Issuance of common stock under employee stock plans	1,752	—	531			531
Issuance of common stock, net of offering costs	21,893	—	26,425			26,425
Issuance of warrants			1,447			1,447
Stock-based compensation			6,727			6,727
Net loss				(45,192)		(45,192)
Foreign currency translation adjustment					(364)	(364)
BALANCE—December 31, 2017	85,914	$ 1	$ 287,256	$ (295,727)	$ (656)	$ (9,126)

See Notes to Consolidated Financial Statements.

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ENPHASE ENERGY, INC.
Consolidated Statements of Cash Flows
(In thousands)

	Years Ended December 31,		
	2017	2016	2015
Operating activities:			
Net loss	$(45,192)	$(67,462)	$(22,082)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:			
Depreciation and amortization	9,004	10,638	10,539
Provision for doubtful accounts	476	3,097	1,502
Asset impairment and restructuring	1,681	3,190	522
Gain on business divestiture	—	(640)	—
Amortization of debt issuance costs	1,673	145	163
Stock-based compensation	6,727	10,326	12,696
Revaluation of contingent consideration liability	—	—	(1,827)
Deferred income tax (benefit) expense	(1,394)	651	642
Changes in operating assets and liabilities (net of acquisition/divestiture):			
Accounts receivable	(4,803)	(18,017)	(2,482)
Inventory	5,961	8,840	(19,210)
Prepaid expenses and other assets	(1,227)	(4,759)	(5,281)
Accounts payable, accrued and other liabilities	(5,078)	8,897	(2,620)
Warranty obligations	(1,598)	867	(3,393)
Deferred revenues	5,328	11,274	9,671
Net cash used in operating activities	(28,442)	(32,953)	(21,160)
Investing activities:			
Purchases of property and equipment	(4,121)	(12,167)	(12,525)
Purchases of intangible assets	—	(678)	(237)
Business divestitures	—	1,050	—
Change in restricted cash	—	—	300
Net cash used in investing activities	(4,121)	(11,795)	(12,462)
Financing activities:			
Proceeds from common stock offerings, net of issuance costs	26,425	16,142	—
Proceeds from debt, net of issuance costs	26,442	23,989	—
Proceeds from borrowings under revolving credit facility	—	10,000	46,000
Payments under revolving credit facility	(10,100)	(16,900)	(29,150)
Holdback payment related to prior acquisition	—	—	(300)
Proceeds from issuance of common stock under employee stock plans	530	1,144	4,014
Net cash provided by financing activities	43,297	34,375	20,564
Effect of exchange rate changes on cash	646	(315)	(522)
Net increase (decrease) in cash and cash equivalents	11,380	(10,688)	(13,580)
Cash and cash equivalents — Beginning of year	17,764	28,452	42,032
Cash and cash equivalents — End of year	$29,144	$17,764	$28,452
Supplemental cash flow disclosure:			
Cash paid for interest	$5,816	$2,704	$358
Cash paid for income taxes	$909	$1,146	$594
Noncash financing and investing activities:			
Offering and loan costs included in accrued liabilities	$—	$518	$—
Purchases of fixed and intangible assets included in accounts payable	$551	$700	$1,718

See Notes to Consolidated Financial Statements.

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
YEARS ENDED DECEMBER 31, 2017, 2016 and 2015

1. DESCRIPTION OF BUSINESS

Enphase Energy, Inc. and subsidiaries (the "Company") delivers simple, innovative and reliable energy management solutions that advance the worldwide potential of renewable energy. The Company's semiconductor-based microinverter system converts direct current (DC) electricity to alternating current (AC) electricity at the individual solar module level, and brings a system-based, high technology approach to solar energy generation leveraging our design expertise across power electronics, semiconductors, networking, and cloud-based software technologies. Since inception, the Company has shipped more than 16 million microinverters, representing over 3 gigawatts of solar photovoltaic (PV) generating capacity, and more than 739,000 Enphase residential and commercial systems have been deployed in over 110 countries.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Consolidation

The accompanying consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States ("US GAAP"). The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

The Company has taken and continues to take actions to improve its financial stability. Such actions include accessing additional capital, reducing its operating expense structure and substantially transitioning to its next generation of microinverters, which offer increased functionality and have a reduced cost profile.
The restructuring actions taken by the Company resulted in a $38.4 million reduction in ongoing operating expenses (excluding restructuring charges of $16.9 million and $3.8 million for the years ended December 31, 2017 and 2016, respectively) for the year ended December 31, 2017 as compared to 2016.
In February of 2018 the Company raised an additional $20.0 million through a private placement of the Company's common stock and also reached an agreement with its lender to defer approximately 50% of the principal payments due in 2018 under its term loans, with the deferred principal being amortized over the remaining term of the loan.
The Company's management has considered the factors noted above and has concluded that substantial doubt as to its ability to continue as a going concern does not exist at the time of filing its Annual Report on Form 10-K for the period ended December 31, 2017.

Use of Estimates

The preparation of the Company's consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. These estimates are based on information available as of the date of the financial statements; therefore, actual results could differ materially from management's estimates using different assumptions or under different conditions.

Revenue Recognition

The Company generates revenue from sales of its microinverter systems, which include microinverter units and related accessories, an Envoy communications gateway, the cloud-based Enlighten monitoring service, and AC Battery storage solutions to distributors, large installers, OEMs and strategic partners. Enlighten service revenue represented less than 2% of the total revenues for all periods presented.

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Revenue from sales of the Company's products is recognized when: (i) persuasive evidence of an arrangement exists; (ii) delivery of the products has occurred in accordance with the terms of the sales agreement and title and risk of loss have passed to the customer; (iii) the sale price is fixed or determinable; and (iv) collection is reasonably assured. Provisions for rebates, sales incentives, and discounts to customers are accounted for as reductions in revenue in the same period the related sales are recorded.

Sales of an Envoy communications gateway include the Enlighten cloud-based monitoring service. The allocation of revenue between the two deliverables is based on the Company's best estimate of selling price determined by considering multiple factors including internal costs, gross margin and historical pricing practices. After allocating the overall consideration from such sale to each deliverable using a best estimate of the selling price, revenue from the sale of Envoy hardware devices is recognized upon shipment, assuming all other revenue recognition criteria have been met. Through September 30, 2017 the estimated economic life of the related Envoy devices was used to determine the period over which revenue from the cloud-based monitoring service was recognized as adequate historical user data was not available. During the fourth quarter of 2017 the Company determined historical user data was available to adequately assess the period over which the service obligation was met. As a result, the Company shortened the estimated service period of the Enlighten from 10 years to 6.5 years effective October 1, 2017. The impact of the change is estimate was an increase to revenue and earnings in the fourth quarter of 2017 of approximately $2.6 million and a reduction of net loss per share of approximately $0.03.

Deferred revenues consist of payments received from customers in advance of revenue recognition for the Company's products and services as described above. As of December 31, 2017 and 2016, deferred revenues consist primarily of Enlighten service revenue.

Cost of Revenues

The Company includes the following in cost of revenues: product costs, warranty, manufacturing personnel and logistics costs, freight costs, inventory write-downs, hosting services costs related to the Company's Enlighten service offering, and depreciation and amortization of manufacturing test equipment.

Cash and Cash Equivalents

The Company considers all highly liquid investments, such as certificates of deposit and money market instruments with maturities of three months or less at the time of acquisition to be cash equivalents. For all periods presented, its cash balances consist of amounts held in non-interest-bearing deposits and money market accounts.

Fair Value of Financial Instruments

The carrying amounts of the Company's cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value because of the short maturity of those instruments.

Allowances for Doubtful Accounts

The Company maintains allowances for doubtful accounts for uncollectible accounts receivable. Management estimates anticipated losses from doubtful accounts based on days past due, collection history and the financial health of customers. The allowance for doubtful accounts was $2.4 million and $2.9 million at December 31, 2017 and 2016, respectively. The following table sets forth activities in the allowance for doubtful accounts for the periods indicated (in thousands):

December 31,

	2017	2016	2015
Balance, at beginning of year	$2,921	$1,808	$569
Net charges to expenses	476	3,097	1,502
Write-offs, net of recoveries	(1,019)	(1,984)	(263)
Balance, at end of year	$2,378	$2,921	$1,808

Inventory

Inventory is valued at the lower of cost or market. Market is current replacement cost (by purchase or by reproduction, dependent on the type of inventory). In cases where market exceeds net realizable value (i.e., estimated selling price less reasonably predictable costs of completion and disposal), inventories are stated at net realizable value. Market is not considered to be less than net realizable value reduced by an allowance for an approximately normal profit margin. The Company determines cost on a first-in first-out basis. Management assesses the valuation on a quarterly basis and writes down the value for any excess and obsolete inventory based upon expected demand, anticipated sales price, effect of new product introductions, product obsolescence, customer concentrations, product merchantability and other factors. Inventory write-downs are equal to the difference between the cost of inventories and market.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. Cost includes amounts paid to acquire or construct the asset as well as any expenditure that substantially adds to the value of or significantly extends the useful life of an existing asset. Repair and maintenance costs are expensed as incurred. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets, which range from three to ten years. Leasehold improvements are amortized over the shorter of the lease term or expected useful life of the improvements.

Capitalized Software Costs

Internally used software, whether purchased or developed, is capitalized and amortized on a straight-line basis over its estimated useful life. Costs associated with internally developed software are expensed until the point at which the project has reached the development stage. Subsequent additions, modifications or upgrades to internal-use software are capitalized only to the extent that they provide additional functionality. Software maintenance and training costs are expensed in the period in which they are incurred. The capitalization of software requires judgment in determining when a project has reached the development stage and the period over which the Company expects to benefit from the use of that software.

Long-Lived Assets

Property, plant and equipment, including capitalized software costs, are recorded at cost. Property, plant and equipment amounts are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss would be recognized when the carrying amount of an asset exceeds the estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. The Company recorded asset impairment charges for specific assets that were no longer in use of approximately $0.8 million and $2.6 million for the years ended December 31, 2017 and 2016, respectively. The fair value of the remaining assets is in excess of the carrying value.

Goodwill

Goodwill results from the purchase consideration paid in excess of the fair value of the net assets recorded in connection with a business acquisition. Goodwill is not amortized, but is assessed for potential impairment at least annually during the fourth quarter of each fiscal year or between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Goodwill is tested at the reporting unit level, which the Company has determined to be the same as the entity as a whole (entity level). Once goodwill has been assigned to a reporting unit, it is no longer associated with a particular acquisition; therefore, all of the activities within a reporting unit, whether acquired or organically grown, are available to support the goodwill value. Based on management's goodwill impairment tests, there was no impairment of goodwill in any of the years presented.

Intangible Assets

Intangible assets include patents and other purchased intangible assets. Intangible assets with finite lives are amortized on a straight-line basis, with estimated useful lives ranging from 3 to 5 years. Indefinite-lived

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intangible assets are tested for impairment annually and are also tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Intangible assets with finite lives are tested for impairment whenever events or circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. There was no impairment of intangible assets in any of the years presented.

Warranty Obligations

Microinverters Sold Through December 31, 2013
The Company’s warranty accrual provides for the replacement of microinverter units that fail during the product’s warranty term (15 years for first and second generation microinverters and up to 25 years for third and fourth generation microinverters). On a quarterly basis, the Company employs a consistent, systematic and rational methodology to assess the adequacy of its warranty liability. This assessment includes updating all key estimates and assumptions for each generation of product, based on historical results, trends and the most current data available as of the filing date. The key estimates and assumptions used in the warranty liability are thoroughly reviewed by management on a quarterly basis. The key estimates used by the Company to estimate its warranty liability are: (1) the number of units expected to fail over time (i.e. failure rate); (2) the number of failed units expected to result in warranty claims over time (i.e. claim rate); and (3) the per unit cost of replacement units, including outbound shipping and limited labor costs, expected to be incurred to replace failed units over time (i.e. replacement cost).

Estimated Failure Rates—The Company’s Quality and Reliability department has primary responsibility to determine the estimated failure rates for each generation of microinverter. To establish initial failure rate estimates for each generation of microinverter, the Company’s quality engineers use a combination of industry standard MTBF (Mean Time Between Failure) estimates for individual components contained in its microinverters, third party data collected on similar equipment deployed in outdoor environments similar to those in which the Company’s microinverters are installed, and rigorous long term reliability and accelerated life cycle testing which simulates the service life of the microinverter in a short period of time. As units are deployed into operating environments, the Company continues to monitor product performance via its Enlighten monitoring platform. It typically takes three to nine months between the date of sale and date of end-user installation. Consequently, the Company’s ability to monitor actual failures of units sold similarly lags by three to nine months. When a microinverter fails and is returned, the Company performs diagnostic root cause failure analysis to understand and isolate the underlying mechanism(s) causing the failure. The Company then uses the results of this analysis (combined with the actual, cumulative performance data collected on those units prior to failure via Enlighten) to draw conclusions with respect to how or if the identified failure mechanism(s) will impact the remaining units deployed in the installed base.
Estimated Claim Rates—Warranty claim rate estimates are based upon assumptions with respect to expected customer behavior over the warranty period. As the vast majority of the Company’s microinverters have been sold to end users for residential applications, the Company believes that warranty claim rates will be affected by changes over time in residential home ownership because the Company expects that subsequent homeowners are less likely to file claims than the homeowners who originally purchase the microinverters.
Estimated Replacement Costs—three factors are considered in the Company’s analysis of estimated replacement cost: (1) the estimated cost of replacement microinverters; (2) the estimated cost to ship replacement microinverters to end users; and (3) the estimated labor reimbursement expected to be paid to third party installers performing replacement services for the end user. Because the Company’s warranty provides for the replacement of defective microinverters over long periods of time (between 15 and 25 years, depending on the generation of product purchased), the estimated per unit cost of current and future product generations is considered in the estimated replacement cost. Estimated costs to ship replacement units are based on observable, market-based shipping costs paid by the Company to third party

freight carriers. The Company has a separate program that allows third-party installers to claim fixed-dollar reimbursements for labor costs they incur to replace failed microinverter units for a limited time from the date of original installation. Included in the

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Company's estimated replacement cost is an analysis of the number of fixed-dollar labor reimbursements expected to be claimed by third party installers over the limited offering period.
In addition to the key estimates noted above, the Company also compares actual warranty results to expected results and evaluates any significant differences. Management may make additional adjustments to the warranty provision based on performance trends or other qualitative factors. If actual failure rates, claim rates, or replacement costs differ from the Company's estimates in future periods, changes to these estimates may be required, resulting in increases or decreases in the Company's warranty obligations. Such increases or decreases could be material.

Fair Value Option for Microinverters Sold Since January 1, 2014

The Company's warranty obligations related to microinverters sold since January 1, 2014 provide the Company the right, but not the requirement, to assign its warranty obligations to a third-party. Under Accounting Standards Codification ("ASC") 825—Financial Instruments, ("fair value option"), an entity may choose to elect the fair value option for such warranties at the time it first recognizes the eligible item. The Company made an irrevocable election to account for all eligible warranty obligations associated with microinverters sold since January 1, 2014 at fair value. This election was made to reflect the underlying economics of the time value of money for an obligation that will be settled over an extended period of up to 25 years.

The Company estimates the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, the Company used certain inputs that are unobservable and significant to the overall fair value measurement. Such additional assumptions included compensation comprised of a profit element and risk premium required of a market participant to assume the obligation and a discount rate based on the Company's credit-adjusted risk-free rate. See Note 8, ("Fair Value Measurements") for additional information.

Warranty obligations initially recorded at fair value at the time of sale will be subsequently re-measured to fair value at each reporting date. In addition, the fair value of the liability will be accreted over the corresponding term of the warranty of up to 25 years using the interest method.

Warranty for Other Products

The Company offers a 5 year warranty for its Envoy communications gateway and a 10 year warranty on its AC Battery storage solution. The warranties provide the Company with the right, but not the obligation, to assign its warranty obligations to a third-party. As such, warranties for Envoy and AC Battery storage solution products are accounted for under the fair value method of accounting.

Research and Development Costs

The Company expenses research and development costs as incurred. Research and development costs totaled $33.2 million, $50.7 million and $50.8 million in 2017, 2016 and 2015, respectively.

Stock-Based Compensation

Share-based payments are required to be recognized in the Company's consolidated statements of operations based on their fair values and the estimated number of shares expected to vest. The Company measures stock-based compensation expense for all share-based payment awards, including stock options made to employees and directors, based on the estimated fair values on the date of the grant. The fair value of stock options granted is estimated using the Black-Scholes option valuation model. The fair value of restricted stock units granted is determined based on the price of the Company’s common stock on the date of grant. Stock-based compensation, net of estimated forfeitures, is recognized on a straight-line basis over the requisite service period, which is typically four years.

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Comprehensive Loss

Comprehensive loss consists of two components, net loss and other comprehensive income (loss). Other comprehensive income (loss) refers to gains and losses that are recorded as an element of stockholders' equity but are excluded from net income. The Company's other comprehensive income (loss) consists of foreign currency translation adjustments for all periods presented.

Income Taxes

The Company records income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected tax consequences of temporary differences between the tax bases of assets and liabilities for financial reporting purposes and amounts recognized for income tax purposes. In estimating future tax consequences, generally all expected future events other than enactments or changes in the tax law or rates are considered. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company operates in various tax jurisdictions and is subject to audit by various tax authorities. The Company follows accounting for uncertainty in income taxes which requires that the tax effects of a position be recognized only if it is "more likely than not" to be sustained based solely on its technical merits as of the reporting date. The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Recently Adopted Accounting Pronouncements

In July 2015, the FASB issued ASU 2015-11, "Simplifying the Measurement of Inventory," which requires most entities to measure most inventories at the lower of cost or net realizable value ("NRV"). This simplifies the evaluation from the current method of lower of cost or market, where market is based on one of three measures (i.e. replacement cost, net realizable value, or net realizable value less a normal profit margin). ASU 2015-11 does not apply to inventories measured under the last-in, first-out method or the retail inventory method, and defines NRV as the "estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation." This standard, which was adopted in the first quarter of 2017, did not have a material impact on the consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, "Improvements to Employee Share-Based Payment Accounting," which will simplify the income tax consequences, accounting for forfeitures and classification on the Statements of Consolidated Cash Flows. This standard, which was adopted in the first quarter of 2017, did not have a material impact on the consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, "Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment." This ASU simplifies the subsequent measurement of goodwill, the FASB eliminated Step 2 from the goodwill impairment test. Under the amendments in this ASU, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Additionally, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. The FASB also eliminated the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. Therefore, the same impairment assessment applies to all reporting units. An entity is required to disclose the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount of net assets. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. A public business entity that is an SEC filer should adopt the amendments in this Update for its annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. ASU 2017-04 was early adopted by the Company for the year beginning January 1, 2017. The Company has a single reporting unit, and adoption of the standard did not have a material impact on the Company's consolidated financial statements.

Recent Accounting Pronouncements Not Yet Effective

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers: Topic 606 and issued subsequent amendments to the initial guidance in August 2015, March 2016, April 2016, May 2016 and December 2016, collectively “Topic 606”). Topic 606 supersedes nearly all existing revenue recognition guidance under GAAP. The standard is effective for and was adopted by the Company on January 1, 2018.

The updated standard’s core principle is that revenue is recognized when the customer obtains control of promised goods or services in an amount that reflects the consideration to which an entity expects to be received in exchange for those goods or services. The standard generally requires an entity to identify performance obligations in its contracts, estimate the amount of variable consideration to be received in the transaction price, allocate the transaction price to each separate performance obligation, and recognize revenue as obligations are satisfied. In addition, the updated standard requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts.

The guidance permits two methods of adoption, the full retrospective method applying the standard to each prior reporting period presented, or the modified retrospective method with a cumulative effect of initially applying the guidance recognized at the date of initial application. The Company will adopt the standard using the modified retrospective method with a cumulative catch up adjustment to accumulated deficit and will provide additional disclosures comparing results to previous GAAP in its 2018 consolidated financial statements.

The most significant impacts upon adoption of the standard will be how the Company accounts for revenue related to its envoy communications device and related enlighten service and the timing of when certain sales incentives will be recognized. Under ASC 605 the Company’s monitoring hardware and service are considered two units of accounting with a portion of the consideration related to the hardware recognized upfront and the remaining deferred over the estimated service period. Under ASC 606 the full consideration for these products represents a single performance obligation and is deferred over the estimated service period. This treatment will result in an increase in deferred revenue of approximately $77 million, an increase in deferred costs of approximately $43 million and an increase in accumulated deficit of approximately $34 million upon adoption of ASC 606.

Under ASC 605 the Company recorded certain contra revenue promotions at the later of the date revenue was recognized or the date at which the promotional offer was extended. Under ASC 606 all such contra revenue programs will be treated as variable consideration and recognized at the time the related revenue is recorded. This change in timing will result in an increase in accrued liabilities of approximately $6 million and an increase to accumulated deficit in the same amount upon adoption of ASC 606. The change in accounting treatment affects the timing of the recognition of certain contra revenue programs, but the overall income statement impact of this new accounting method is expected to be immaterial.

Under ASC 605, the Company expensed commission costs as incurred. The new standard requires upfront contract acquisition costs, such as sales commissions, to be capitalized and amortized over the estimated life of the asset. Under the new guidance, the Company will utilize the practical expedient permitting expensing of costs to obtain a contract when the expected amortization period is one year or less, which typically results in expensing commissions paid. Commissions related to the Company’s sale of monitoring hardware and service will be capitalized and amortized over the period of the associated revenue, which is 6.5 years. This treatment will result in an increase in deferred costs of approximately $0.8 million and an increase in accumulated deficit by the same amount upon adoption of ASC 606. The amortization of these deferred costs is immaterial to the Company’s income statement.

The Company does not expect the adoption of ASC 606 to have a material impact on the amount or timing of revenue recognition related to specific customer contracts.

In January 2016, the FASB issued ASU 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities," which amends certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Changes to the current guidance include the accounting for equity investments, the presentation and disclosure requirements for financial instruments, and the assessment of valuation allowance on

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deferred tax assets related to available-for-sale securities. In addition, ASU 2016-01 establishes an incremental recognition and disclosure requirement related to the presentation of fair value changes of financial liabilities for which the fair value option has been elected. Under this guidance, an entity would be required to separately present in other comprehensive income the portion of the total fair value change attributable to instrument-specific credit risk as opposed to reflecting the entire amount in earnings. ASU 2016-01 is effective for fiscal years and interim periods beginning after December 15, 2017, and upon adoption, an entity should apply the amendments by means of a cumulative-effect adjustment to the balance sheet at the beginning of the first reporting period in which the guidance is effective. Early adoption is not permitted except for the provision to record fair value changes for financial liabilities under the fair value option resulting from instrument-specific credit risk in other comprehensive income. The Company does not expect the adoption of this standard to have a material impact on the consolidated financial statements.

In February 2016, the FASB issued Accounting Standards Codification (“ASC”) 842 (“ASC 842”), “Leases” which replaces the existing guidance in ASC 840, Leases. ASC 842 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. ASC 842 requires a dual approach for lessee accounting under which a lessee would account for leases as finance leases or operating leases. Both finance leases and operating leases will result in the lessee recognizing a right-of-use (ROU) asset and a corresponding lease liability. For finance leases the lessee would recognize interest expense and amortization of the ROU asset and for operating leases the lessee would recognize a straight-line total lease expense. The Company is currently evaluating the impact of adoption on the consolidated financial statements.

In November 2016, the FASB issued Accounting Standards Update No. 2016-18 (ASU 2016-18), “Statement of Cash Flows,” which requires companies to include amounts generally described as restricted cash and restricted cash equivalents in cash and cash equivalents when reconciling beginning-of-period and end-of-period total amounts shown on the statement of cash flows. ASU 2016-18 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The Company does not expect the adoption of this guidance to have a material impact on the consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09 (ASU 2017-09), "Compensation - Stock Compensation." ASU 2017-09 was issued to provide clarity and reduce both 1) diversity in practice and 2) cost and complexity when applying the guidance in Topic 718 to a change in the terms or conditions of a share-based payment award. ASU 2017-09 provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting under Topic 718. ASU 2017-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The Company is currently evaluating the impact of adoption on the consolidated financial statements.

3. INVENTORY

Inventory as of December 31, 2017 and 2016, consists of the following (in thousands):

	December 31,	
	2017	2016
Raw materials	$2,341	$5,095
Finished goods	23,658	26,865
Total inventory	$25,999	$31,960

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4. PROPERTY AND EQUIPMENT, NET

As of December 31, 2017 and 2016, property and equipment consists of the following (in thousands):

	Estimated Useful Life (Years)	December 31, 2017	2016
Equipment and machinery	7-10	$41,148	$38,486
Furniture and fixtures	5–7	2,188	2,635
Computer equipment	3–5	2,627	2,913
Capitalized software costs	3–5	11,749	11,324
Leasehold improvements	4–10	8,537	9,477
Construction in process		4,672	6,275
Total		70,921	71,110
Less accumulated depreciation and amortization		(44,438)	(39,670)
Property and equipment, net		$26,483	$31,440

Depreciation expense for property and equipment was $8.6 million, $10.0 million and $8.1 million, in 2017, 2016 and 2015, respectively.

As of December 31, 2017 and 2016, unamortized capitalized software costs were $1.1 million and $1.9 million, respectively.

5. GOODWILL AND INTANGIBLE ASSETS

	December 31, 2017			December 31, 2016		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Goodwill	$3,664	$ —	$3,664	$3,664	$ —	$3,664
Other indefinite-lived intangibles	$286	$ —	$286	$286	$ —	$286
Intangibles assets with finite lives:						
Patents and licensed technology	1,665	(1,436)	229	1,665	(1,006)	659
Total purchased intangibles	$1,951	$ (1,436)	$515	$1,951	$ (1,006)	$945

In July 2014, the Company purchased certain patents related to system interconnection and photovoltaic AC module construction. The patents were amortized over their legal life of 3 years. In October 2015, the Company licensed certain technology related to ASIC development for a 3-year term.
The aggregate amortization expense for intangibles assets was $0.4 million, $0.7 million and $0.5 million for the years ended December 31, 2017, 2016 and 2015, respectively. The remaining $0.2 million of patents and licensed technology will be amortized in 2018.

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6. ACCRUED LIABILITIES

As of December 31, 2017 and 2016 accrued liabilities consists of the following (in thousands):

	December 31,	
	2017	2016
Salaries, commissions, incentive compensation and benefits	$3,608	$4,227
Customer rebates and sales incentives	8,988	11,786
Freight	3,853	2,321
Other	5,998	4,603
Total	$22,447	$22,937

7. WARRANTY OBLIGATIONS

The Company's warranty activities during 2017, 2016 and 2015 were as follows (in thousands):

	December 31,		
	2017	2016	2015
Balance, at beginning of year	$31,414	$30,547	$33,940
Accruals for warranties issued during the year	3,797	4,130	4,383
Changes in estimates	(732)	2,562	31
Settlements	(7,037)	(8,523)	(7,269)
Increase due to accretion expense	2,053	1,772	1,001
Fair value adjustments	321	926	(1,539)
Balance, at end of year	29,816	31,414	30,547
Less current portion	(7,427)	(8,596)	(7,072)
Long-term portion	$22,389	$22,818	$23,475

The Company sold approximately 1.0 million first and second generation microinverters from 2008 through mid-2012. The Company has sold approximately 3.9 million third generation microinverters since mid-2012 through mid-2015. The Company has sold approximately 10.2 million of its fourth generation microinverters, which were introduced in mid-2013 and are still being sold. The Company began selling its IQ series microinverters in 2017, sales of which totaled approximately 1.2 million units.

Changes in Estimates

On a quarterly basis, the Company uses the best and most complete underlying information available, following a consistent, systematic and rational methodology to determine its warranty obligations. The Company considers all available evidence to assess the reasonableness of all key assumptions underlying its estimated warranty obligations for each generation of microinverter. The changes in estimates discussed below resulted from consideration of new or additional information becoming available and subsequent developments. Changes in estimates included in the table above were comprised of the following:

2017

In 2017, primarily in the fourth quarter, the Company recorded the impact of further product-cost reduction initiatives for its sixth generation microinverters, which are backwards compatible with previous microinverter generations and will be used to fulfill future warranty obligations for all microinverter generations in the field. This resulted in a $2.2 million decrease to warranty expense related to estimated future replacement costs. The Company also recorded, primarily in the third quarter, a decrease to warranty expense of $1.9 million for labor reimbursement costs expected to be paid to third party installers performing replacement services for its second generation product as a result of a change in its reimbursement policy. In addition, the Company recorded additional warranty expense of $3.9 million based on continuing analysis of field performance data and diagnostic root-cause failure analysis primarily relating to its second generation product.

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2016

In 2016, primarily in the fourth quarter, the Company recorded the impact of product-cost reduction initiatives for its sixth generation microinverters, which are backwards compatible with previous microinverter generations and will be used to fulfill future warranty obligations for all microinverter generations in the field. This resulted in a $2.1 million decrease to warranty expense related to estimated future replacement costs. This decrease was offset by an increase to warranty expense of $1.5 million for an increase in labor reimbursement costs expected to be paid to third party installers performing replacement services for its second generation product. In addition, the Company recorded additional warranty expense of $3.0 million based on continuing analysis of field performance data and diagnostic root-cause failure analysis primarily relating to its second generation product.

2015

In 2015, primarily in the fourth quarter, the Company implemented product-cost reduction initiatives for its fourth generation microinverters, which are backwards compatible with prior microinverter generations and are used to fulfill warranty obligations for all microinverter generations in the field. This resulted in a $1.5 million decrease to warranty expense related to estimated future replacement costs. This decrease was offset by an increase to warranty expense of $0.7 million for an increase in labor reimbursement costs expected to be paid to third party installers performing replacement services for its second generation product. In addition, the Company recorded additional warranty expense of $0.8 million based on continuing analysis of field performance data and diagnostic root-cause failure analysis performed on returned units of its second generation product.

8. FAIR VALUE MEASUREMENTS

The accounting guidance defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, the Company considers the principal or most advantageous market in which it would transact and considers assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance.
The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. An asset's or liability's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Three levels of inputs may be used to measure fair value:

- Level 1—Valuations based on quoted prices in active markets for identical assets or liabilities that the Company is able to access. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of such assets or liabilities do not entail a significant degree of judgment.
- Level 2—Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3—Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

The following table presents the Company's liabilities that were measured at fair value on a recurring basis and its categorization within the fair value hierarchy at December 31, 2017 and 2016 (in thousands):

		December 31,	
	Fair Value Hierarchy	2017	2016
Liabilities:			
Warranty obligations	Level 3	$9,790	$10,332
Third party option to purchase receivables at a discount	Level 3	700	—

Fair Value Option for Warranty Obligations Related to Microinverters Sold Since January 1, 2014

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The Company estimates the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, the Company used certain Level 3 inputs which are unobservable and significant to the overall fair value measurement. Such additional assumptions included a discount rate based on the Company's credit-adjusted risk-free rate and compensation comprised of a profit element and risk premium required of a market participant to assume the obligation.
The following table provides a reconciliation of the beginning and ending balances of warranty obligations measured at fair value for the periods indicated (in thousands):

Balance—December 31, 2014	$3,562
Accruals for warranties issued during period	4,140
Changes in estimates	(755)
Settlements	(227)
Increase due to accretion expense	1,001
Fair value adjustments	(1,539)
Balance—December 31, 2015	$6,182
Accruals for warranties issued during period	4,091
Changes in estimates	(1,616)
Settlements	(1,023)
Increase due to accretion expense	1,772
Fair value adjustments	926
Balance—December 31, 2016	$10,332
Accruals for warranties issued during period	3,591
Changes in estimates	(4,551)
Settlements	(1,956)
Increase due to accretion expense	2,053
Fair value adjustments	321
Balance—December 31, 2017	$9,790

Third Party Option to Purchase Receivables at a Discount

The Company entered into an agreement with a third party in the fourth quarter of 2017 to sell certain current and future receivables at a discount. The buyer has the option to purchase certain additional future receivables at various fixed discounts. This option was valued at $0.7 million using the discounted cash flow methodology based on the counterparty credit-adjusted-risk-free rate and recorded as a liability.

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Quantitative and Qualitative Information about Level 3 Fair Value Measurements

As of December 31, 2017, the significant unobservable inputs used in the fair value measurement of the Company's liabilities designated as Level 3 are as follows:

Item Measured at Fair Value	Valuation Technique	Description of Significant Unobservable Input	Percent Used (Weighted-Average)
Warranty obligations for microinverters sold since January 1, 2014	Discounted cash flows	Profit element and risk premium	17%
		Credit-adjusted risk-free rate	17%
Third party option to purchase receivables at a discount	Discounted cash flows	Counter party credit-adjusted risk-free rate	4%

As of December 31, 2016, the significant unobservable inputs used in the fair value measurement of the Company's liabilities designated as Level 3 are as follows:

Item Measured at Fair Value	Valuation Technique	Description of Significant Unobservable Input	Percent Used (Weighted-Average)
Warranty obligations for microinverters sold since January 1, 2014	Discounted cash flows	Profit element and risk premium	17%
		Credit-adjusted risk-free rate	19%

Sensitivity of Level 3 Inputs

Warranty Obligations

Each of the significant unobservable inputs is independent of the other. The profit element and risk premium are estimated based on requirements of a third-party participant willing to assume the Company's warranty obligations. The credit-adjusted risk-free rate is determined by reference to the Company's own credit standing at the fair value measurement date. Increasing (decreasing) the profit element and risk premium input by 100 basis points would not have a material impact on the fair value measurement of the liability. Increasing (decreasing) the discount rate by 100 basis points would result in a ($443,000) $485,000 (decrease) increase, respectively, to the fair value measurement of the liability.

9. RESTRUCTURING AND OTHER

In the third quarter of 2016, the Company began implementing restructuring actions to lower its operating expenses and cost of revenues. The restructuring actions have included reductions in the Company's global workforce, the elimination of certain non-core projects, consolidation of office space at the Company's corporate headquarters and the engagement of management consultants to assist the Company in making organizational and structural changes to improve operational efficiencies and reduce expenses.

The following table presents the details of the Company's restructuring charges for the periods indicated (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Employee severance and benefit arrangements	$2,827	$1,263	$ —
Asset impairments	522	2,575	—
Consultants engaged in restructuring activities	12,100	—	—
Lease loss and other	1,468	579	—
Gain on business divestiture	—	(640)	—
Total restructuring and other	$16,917	$3,777	$ —

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The following table provides information regarding changes in the Company's accrued restructuring balance for the periods indicated (in thousands):

	Employee Severance and Benefits	Asset Impairments	Lease Loss Reserves and Contractual Obligations	Total
Balance as of December 31, 2015	$ —	$ —	$ —	$—
Charges	1,263	2,575	579	4,417
Cash payments	(1,065)	—	(95)	(1,160)
Non-cash settlement	—	(2,575)	—	(2,575)
Balance as of December 31, 2016	$ 198	$ —	$ 484	$682
Charges	2,827	522	13,568	16,917
Cash payments	(2,796)	—	(12,958)	(15,754)
Non-cash settlement	—	(522)	—	(522)
Balance at end of period as of December 31, 2017	$ 229	$ —	$ 1,094	$1,323

The following table provides information regarding the computation of the Company's gain on business divestiture included in restructuring and other (in thousands) for the year ended December 31, 2016:

	Business Divestiture
Consideration	$ 1,375
Identifiable assets	(979)
Contingent Consideration	244
Gain on business divestiture	$ 640

10. DEBT

Term Loan

In July 2016, the Company entered into a Term Loan Agreement (the “Original Term Loan”) with lenders that are affiliates of Tennenbaum Capital Partners, LLC. (the “Lenders”). Under the agreement, the Lenders committed to advance a term loan in an aggregate principal amount of up to $25.0 million with a maturity date of July 1, 2020. The Company borrowed the entire $25.0 million of term loan commitments on the loan closing date. Monthly payments due through June 30, 2017 were interest only, followed by consecutive equal monthly payments of principal plus accrued interest that were to begin on July 1, 2017 and continue through the maturity date. The term loan provided for an interest rate per annum equal to the higher of (i) 10.25% or (ii) LIBOR plus 9.5625%, subject to a 1.0% reduction if the Company achieves minimum levels of Revenue and EBITDA (each as defined in the Term Loan Agreement) for the twelve-consecutive month period ending June 30, 2017 as set forth in the Term Loan Agreement. In addition, the Company paid a commitment fee of 3.3% of the loan amount upon closing and a closing fee of 10.0% of the loan amount is payable in four equal installments at each anniversary of the closing date. The Company could elect to prepay the loan by incurring a prepayment fee between 1% and 3% of the principal amount of the term loan depending on the timing and circumstances of prepayment.

In February 2017, the Company entered into an Amended and Restated Loan and Security Agreement (the “Loan Agreement”) that amended and restated the Original Term Loan. The Loan Agreement provides for a $25.0 million secured term loan to the Company (the “New Term Loan”), which is in addition to the $25.0 million secured term loan borrowed by the Company under the Original Term Loan (together with the “New Term Loan” the “Term Loans”). The New Term Loan has the same July 1, 2020 maturity date that was applicable to the Original Term Loan. The New Term Loan was fully drawn at closing, with approximately $10.3 million of the proceeds used to repay existing combined principal and interest due under the Company’s Revolver with Wells Fargo. Upon the repayment of loans under the Wells Fargo Revolver, the Wells Fargo Revolving Credit Agreement was terminated. The Company expects to use the remainder of the proceeds from the New Term Loan for general corporate purposes.

Monthly payments under the Term Loans through February 28, 2018 are interest only, followed by consecutive equal monthly payments of principal plus accrued interest beginning on March 1, 2018 and continuing through the maturity date. Interest on the Term Loans is the greater of (a) 10.3125%, and (b) a fluctuating rate of interest per annum equal to the three-month LIBOR Rate (rounded up to the nearest 1/16th of one percent) plus 9.25%. In addition, the Company paid a commitment fee of 3.0% of the New Term Loan amount upon closing and a closing fee of 4.0% of the New Term Loan amount, which is payable with the closing fee under the Original Term Loan in four equal installments at each anniversary of the closing date of the Original Loan Agreement. The Company may elect to prepay the Term Loans by incurring a prepayment fee between 1% and 3% of the principal amount of the Term Loans depending on the timing and circumstances of prepayment.

On February 28, 2018, the Company entered into a Second Amendment to the Term Loans. The Amendment decreases by 50% the amount of principal repayments required under the Loan Agreement for the period from March 1, 2018 through December 31, 2018 and provides that the Company shall not prepay any part of the Term Loan during that same period without the Collateral Agent’s prior written consent.

The Term Loans are secured by a first-priority security interest on substantially all assets of the Company; provided, however that the security interest in the Company’s intellectual property may be released if the Company satisfies certain requirements. The Company’s obligations under the Term Loans are not guaranteed by any of the Company’s existing subsidiaries, nor have any existing subsidiaries of the Company pledged any of their assets to secure the Term Loans.

The Loan Agreement requires that (i) at all times from the closing date to and including March 31, 2018, the Company, and any future guarantors, have Unrestricted Cash (as defined in the Loan Agreement) of at least $10.0 million; (ii) at all times from the closing date to and including March 31, 2018, that the aggregate amount of Consolidated Unrestricted Cash, plus the value of Consolidated Receivables, plus the value of Consolidated Inventory (each as defined in the Loan Agreement) divided by the outstanding principal amount of Term Loans, shall equal or exceed 1.5; and (iii) at all times from April 1, 2018 and thereafter, that the aggregate amount of Consolidated

Unrestricted Cash, plus the value of Consolidated Receivables, plus the value of Consolidated

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Inventory divided by the outstanding principal amount of Term Loans, shall equal or exceed 1.75. In addition, the Loan Agreement is subject to customary affirmative and negative covenants including restrictions on creation of liens, dispositions of assets, mergers, changing the nature of its business and dividends and other distributions, in each case subject to certain exceptions. The Term Loan Agreement also contains certain customary events of default including, but not limited to, failure to pay interest, principal and fees or other amounts when due, material breach of any representation or warranty, covenant defaults, cross defaults to other material indebtedness, events of bankruptcy and the occurrence of a material adverse change (as defined in the agreement) to the Company's business. The Term Loan Agreement offers TCP typical rights and remedies in any event of default, including the ability to declare all amounts outstanding immediately due and payable. The Company was in compliance with all financial covenants as of December 31, 2017.

In connection with the New Term Loan, the Company issued to the Lenders warrants to purchase an aggregate 1,220,000 shares of the Company's Common Stock at an exercise price of $1.05 per share. The warrants have a term of seven years and contain a "cashless exercise" feature that allows the holder to exercise the warrant without a cash payment upon the terms set forth therein.

The Company estimated the fair value of the warrants by using the Black-Scholes approach and the following assumptions: stock price of $1.56; strike price of $1.05; volatility of 85.9%, risk-free rate of 2.23%; dividend yield of 0%; and a 7 year term. The resulting fair value was used to allocate the proceeds from the Term Loan between liability and equity components.

The Company classified the warrants as equity and allocated the proceeds from the Term Loan and warrants using the relative fair value method. Using this method, the Company allocated $1.4 million to the warrants, which was recorded as equity. This amount represents debt discount that will be amortized to interest expense over the term of the loan.

As of December 31, 2017, the estimated schedule of principal payments due on the term loan (without regard to the February 28, 2018 amendment described above) is as follows (in thousands):

Year	Amounts
2018	$ 15,715
2019	20,939
2020	13,346
Total	$ 50,000

The amount of estimated schedule of principal payments due on the term loan including the impact of the February 28, 2018 amendment described above is as follows (in thousands):

Year	Amounts
2018	$ 8,521
2019	25,333
2020	16,146
Total	$ 50,000

Sale of Long Term Financing Receivables

The Company entered into an agreement with a third party in the fourth quarter of 2017 to sell certain current and future receivables at a discount. In December 2017, the third party made an initial purchase of receivables resulting in net proceeds to the Company of $2.8 million. This transaction was recorded as debt on the accompanying consolidated balance sheets, and the debt balance will be relieved by January 2019 as the underlying receivables are settled. The buyer has the option to purchase certain additional future receivables at various fixed discounts. This option was valued at $0.7 million and was recorded as a liability with a corresponding offset to debt as of December 31, 2017.

See Note 8, “Fair Value Measurements” for additional information.

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Total long-term debt was comprised of the following at December 31, 2017 and 2016 (in thousands):

	December 31, 2017	December 31, 2016
Term loan	$50,000	$25,000
Less unamortized discount and issuance costs	(2,111)	(1,200)
Carrying amount of term loan	47,889	23,800
Sale of long term financing receivable recorded as debt	2,562	—
Less value of future purchase option	(700)	—
Carrying amount of sale of long term financing receivable recorded as debt	1,862	—
Total carrying amount of debt	49,751	23,800
Less current portion term loan	(15,715)	(3,032)
Less current portion of long term financing receivable recorded as debt	(1,714)	—
Long-term debt	$32,322	$20,768

Revolving Credit Facility

The Company had a $50.0 million revolving credit facility with Wells Fargo Bank, N.A. (“Wells Fargo”) that was entered into in November 2012, as first amended on February 14, 2014. On December 18, 2015, the Company entered into an amended and restated revolving credit agreement with Wells Fargo (the “Revolver”) which extended the maturity date to November 7, 2019 and added an uncommitted accordion feature that could increase the size of the facility by $25.0 million, subject to the satisfaction of certain conditions. The Revolver had a balance of $10.1 million as of December 31, 2016 and was fully repaid and terminated in February 2017.

11. COMMITMENTS AND CONTINGENCIES

Operating Leases—The Company leases office facilities under noncancelable operating leases that expire on various dates through 2022. The terms of the lease agreements generally provide for rental payments on a graduated basis, and certain leases require the Company to pay its portion of executory costs such as taxes, insurance, and operating expenses. The Company recognizes rent expense on a straight-line basis over the lease term.

Rent expense for 2017, 2016 and 2015 was $2.8 million, $3.8 million and $3.2 million, respectively.

The Company’s minimum lease payments under noncancelable operating leases, exclusive of executory costs, as of December 31, 2017 are as follows (in thousands):

2018	$3,011
2019	3,065
2020	2,919
2021	2,678
2022	1,973
Thereafter	1,544
Total minimum lease payments	$15,190

Purchase Obligations—The Company has contractual obligations related to component inventory that its primary contract manufacturer procures on its behalf in accordance with its production forecast as well as other inventory related purchase commitments. As of December 31, 2017, these purchase obligations totaled approximately $26.9 million.

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Contingencies — From time to time, the Company may be involved in litigation relating to claims arising out of its operations. The Company is not currently involved in any material legal proceedings. The Company may, however, be involved in material legal proceedings in the future. Such matters are subject to uncertainty and there can be no assurance that such legal proceedings will not have a material adverse effect on its business, results of operations, financial position or cash flows.

12. SALE OF COMMON STOCK

In January 2017, the Company completed a private placement of securities that resulted in the issuance of approximately 10.8 million shares of common stock and gross proceeds of $10.0 million.
In December 2016, the Company entered into an At Market Issuance Sales Agreement (ATM) under which it could sell shares of its common stock up to a gross aggregate offering price of $17.0 million. During the three months ended March 31, 2017 the Company sold approximately 11.1 million shares of common stock under the ATM and received net proceeds of approximately $16.6 million.

13. STOCK-BASED COMPENSATION

Description of Equity Incentive Plans

2006 Plan

Under the Company's 2006 Equity Incentive Plan (the "2006 Plan"), equity awards granted generally vest over a four-year period from the date of grant with a contractual term of up to 10 years. As of December 31, 2017, there were 2.3 million shares of options outstanding under the 2006 Plan. No further stock options or other stock awards may be granted under the 2006 Plan.

2011 Plan

Under the 2011 Equity Incentive Plan (the "2011 Plan"), the Company could initially issue up to 2,643,171 shares of its common stock pursuant to stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other forms of equity compensation, or collectively, stock awards, all of which may be granted to employees, including officers, and to non-employee directors and consultants. Options granted under the 2011 Plan before August 1, 2012 generally expire 10 years after the grant date and options granted thereafter generally expire 7 years after the grant date. Equity awards granted under the 2011 Plan generally vest over a four-year period from the date of grant based on continued employment. The number of shares of the Company's common stock authorized for issuance under the 2011 Plan automatically increases on each January 1 by 4.5% of the total number of shares of the Company's common stock outstanding on December 31 of the preceding calendar year, or such lesser number of shares of common stock as determined by the board of directors. As of December 31, 2017, 743,329 shares remained available for issuance pursuant to future grants under the 2011 Plan. On January 1, 2018, the shares available for issuance under the 2011 Plan automatically increased by 3,866,120 shares.

2011 Employee Stock Purchase Plan

The 2011 Employee Stock Purchase Plan ("ESPP") became effective immediately upon the execution and delivery of the underwriting agreement for the Company's IPO on March 29, 2012. The ESPP authorized the issuance of 669,603 shares of the Company's common stock pursuant to purchase rights granted to employees. The number of shares of common stock reserved for issuance will automatically increase, on each January 1, by a lesser of (i) 330,396 shares of the Company's common stock or or (ii) 1.0% of the total number of shares of the Company's common stock outstanding on December 31 of the preceding calendar year, as determined by the Company's board of directors.
The ESPP is implemented by concurrent offering periods and each offering period may contain up to four interim purchase periods. In general, offering periods consists of the 24 months periods commencing on each May 15 and November 15 of a calendar year.

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Generally, all full time employees, including executive officers, are eligible to participate in the ESPP. The ESPP permits eligible employees to purchase the Company's common stock through payroll deductions, which may not exceed 15% of the employee's total compensation subject to certain limits. Stock may be purchased under the plan at a price equal to 85% of the fair market value of the Company's stock on either the date of purchase or the first day of an offering period, whichever is lower. A two year look-back feature in the Company's ESPP causes an offering period to reset if the fair value of the Company's common stock on a purchase date is less than that on the initial offering date for that offering period. The reset feature, when triggered, will be accounted for as a modification to the original offering, resulting in additional expense to be recognized over the 24-month period of the new offering. During any calendar year, participants may not purchase shares of common stock having a value greater than $25,000, based on the fair market value per share of the common stock at the beginning of an offering period.

As of December 31, 2017, there were 290,658 shares remained available for future issuance under the 2011 ESPP. On January 1, 2018, the shares available for issuance under the 2011 ESPP automatically increased by 700,000 shares. At the Annual Meeting of Stockholders held on May 18, 2017 the Company's stockholders approved an amendment to the Company's ESPP to increase the aggregate number of shares available for purchase by 400,000 shares and to increase the annual automatic increase in shares reserved for issuance from 330,396 to 700,000 effective January 1, 2018.

Valuation of Equity Awards

Stock Options

The fair value of each option granted was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions:

- Expected term—The expected term of the option awards represents the period of time between the grant date of the option awards and the date the option awards are either exercised, converted or canceled, including an estimate for those option awards still outstanding. The Company used the simplified method, as permitted by the SEC for companies with a limited history of stock option exercise activity, to determine the expected term for its option grants.
- Expected volatility—The expected volatility was calculated based on the Company's historical stock prices, supplemented as necessary with historical volatility of the common stock of several peer companies with characteristics similar to those of the Company.
- Risk-free interest rate—The risk-free interest rate was based on the U.S. Treasury yield curve in effect at the time of grant and with a maturity that approximated the Company's expected term.
- Dividend yield—The dividend yield was based on the Company's dividend history and the anticipated dividend payout over its expected term.

A summary of the weighted-average assumptions used to estimate the fair values of the stock options granted during the periods presented is as follows:

	Years Ended December 31,		
	2017	2016	2015
Expected term (in years)	4.4	4.5	4.5
Expected volatility	83.9 %	80.0 %	72.5 %
Annual risk-free rate of return	1.8 %	1.1 %	1.4 %
Dividend yield	— %	— %	— %
Weighted-average fair value on grant date	$0.76	$1.29	$4.68

Restricted Stock Units

The fair value of restricted stock units granted is determined based on the price of the Company's common stock on the date of grant.

Stock-Based Compensation Expense

The Compensation cost for all stock-based awards expected to vest is measured at fair value on the date of grant and recognized ratably over the requisite service period. The following table summarizes the components of total stock-based compensation expense included in the consolidated statements of operations for the periods presented (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Cost of revenues	$1,072	$1,188	$1,217
Research and development	2,573	3,879	4,559
Sales and marketing	1,157	2,144	3,162
General and administrative	1,925	3,115	3,758
Total stock-based compensation expense	$6,727	$10,326	$12,696

A summary of stock-based compensation expense associated with each type of award for the periods presented is as follows (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Stock options and restricted stock units	$5,559	$8,384	$10,685
ESPP	1,168	1,942	2,011
Total stock-based compensation expense	$6,727	$10,326	$12,696

As of December 31, 2017, there was approximately $10.4 million of total unrecognized compensation cost related to unvested equity awards, net of expected forfeitures, which is expected to be recognized over a weighted-average period of 3.0 years.

No income tax benefit has been recognized relating to stock-based compensation expense and no tax benefits have been realized from exercised stock options.

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Equity Awards Activity

Stock Options

A summary of the Company's stock option activity for the periods presented is as follows (in thousands, except per share data):

	Shares	Weighted-Average Exercise Price per Share
Options outstanding — December 31, 2014	4,632	$ 4.75
Granted	1,289	8.20
Exercised	(1,079)	1.40
Canceled	(672)	9.31
Options outstanding — December 31, 2015	4,170	5.36
Granted	2,440	2.12
Exercised	(375)	0.39
Canceled	(1,505)	6.01
Options outstanding — December 31, 2016	4,730	4.55
Granted	4,500	1.22
Exercised	(425)	0.51
Canceled	(4,379)	6.91
Options outstanding — December 31, 2017	4,426	1.77

The following table summarizes information about stock options outstanding at December 31, 2017:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number of Shares (in thousands)	Weighted-Average Remaining Life (in years)	Weighted-Average Exercise Price	Number of Shares (in thousands)	Weighted-Average Exercise Price
$0.27 —— $0.79	1,690	4.0	$ 0.51	1,117	$ 0.38
$0.83 —— $1.29	1,565	6.8	1.17	34	1.06
$1.31 —— $1.31	1,751	6.3	1.31	500	1.31
$1.37 —— $1.98	1,726	2.8	1.67	1,415	1.66
$2.00 —— $12.57	1,694	3.8	4.14	1,245	4.62
Total	8,426			4,311	

The intrinsic value of options exercised in 2017, 2016 and 2015 was $0.5 million, $0.7 million and $4.9 million, respectively. As of December 31, 2017, there were 8.4 million options outstanding that were vested and expected to vest. Such options have a weighted-average exercise price of $1.77 and a weighted-average remaining contractual term of 4.7 years. As of December 31, 2017, the aggregate intrinsic value was $4.0 million for the 4.3 million exercisable shares. The intrinsic value is based on the Company's common stock fair value of $2.41 per share as of December 31, 2017.

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Restricted Stock Units
A summary of restricted stock unit activity for the periods presented is as follows: (in thousands, except per share data):

	Restricted Stock Units	Weighted Average Fair Value per Share at Grant Date
Outstanding at December 31, 2014	1,345	$ 8.25
Granted	683	11.22
Vested	(488)	8.58
Canceled	(227)	10.32
Outstanding at December 31, 2015	1,313	9.31
Granted	54	1.99
Vested	(464)	9.06
Canceled	(297)	8.32
Outstanding at December 31, 2016	606	9.33
Granted	5,418	1.46
Vested	(885)	3.81
Canceled	(1,634)	1.90
Outstanding at December 31, 2017	3,505	2.03

The intrinsic value of restricted stock units vested during 2017, 2016 and 2015 was $0.9 million, $0.9 million and $4.2 million, respectively. As of December 31, 2017, the restricted stock units outstanding had a weighted average remaining contractual term of 3.1 years with an intrinsic value of $8.4 million.
On April 3, 2017, the Company commenced a Tender Offer (Offer) to exchange out of the money stock options for restricted stock units. The Offer expired on Monday, May 1, 2017. Pursuant to the Offer, the Company accepted elections to exchange options to purchase 2,362,470 shares of common stock and issued replacement awards of restricted stock units for 733,559 shares of common stock. As the transaction approximated a value-for-value exchange, it did not have a material impact on the Company’s stock based compensation expense.

ESPP
A summary of ESPP activity for the years presented is as follows: (in thousands, except per share data):

	Years Ended December 31,		
	2017	2016	2015
Proceeds from common stock issued under ESPP	$313	$999	$2,497
Shares of common stock issued	478	659	499
Weighted-average price per share	$0.65	$1.52	$5.00

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14. INCOME TAXES

The domestic and foreign components of loss before provision for income taxes consisted of the following (in thousands):

	Years Ended December 31,		
	2017	2016	2015
United States	$(47,882)	$(67,631)	$(22,120)
Foreign	2,541	1,644	1,417
Total	$(45,341)	$(65,987)	$(20,703)

The (benefit) provision for income taxes for the years presented is as follows (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Current:			
Federal	$—	$—	$—
State	21	36	44
Foreign	1,224	785	693
	1,245	821	737
Deferred:			
Federal	(1,092)	594	652
State	(21)	59	41
Foreign	(281)	1	(51)
	(1,394)	654	642
(Benefit) provision for income taxes	$(149)	$1,475	$1,379

A reconciliation of the provision for income taxes and the amount computed by applying the statutory federal income tax rate of 34% to loss before income taxes for the years presented is as follows (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Income tax benefit at statutory federal rate	$(15,416)	$(22,435)	$(7,039)
State taxes, net of federal benefit	(64)	63	56
Change in valuation allowance	(20,571)	21,370	7,812
Foreign tax rate and tax law differential	(133)	27	(29)
Tax credits	(382)	(1,179)	(1,553)
Stock-based compensation	761	1,775	1,932
Other permanent items	479	776	61
Other nondeductible/nontaxable items	930	920	(72)
Uncertain tax positions	106	158	211
Tax law changes	34,141	—	—
(Benefit) provision for income taxes	$(149)	$1,475	$1,379

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A summary of significant components of the Company’s deferred tax assets and liabilities as of December 31, 2017 and 2016 is as follows (in thousands):

	December 31,	
	2017	2016
Deferred tax assets:		
Allowances and reserves	$9,748	$16,032
Net operating loss and tax credit carryforwards	66,243	67,875
Stock-based compensation	2,528	3,033
Deferred revenue	7,210	8,289
Fixed assets and intangibles	4,369	7,661
Other	278	2,857
Subtotal	90,376	105,747
Less valuation allowance	(88,789)	(104,554)
Total deferred tax assets, net of valuation allowance	1,587	1,193
Deferred tax liabilities:		
Goodwill	(992)	(1,346)
Unremitted foreign earnings	(10)	(748)
Total deferred tax liabilities	(1,002)	(2,094)
Net deferred tax asset/(liability)	$585	$(901)

Accounting for income taxes requires that companies assess whether valuation allowances should be established against their deferred tax assets based on consideration of all available evidence, both positive and negative, using a “more likely than not” standard. This assessment considers, among other matters, the nature, frequency and amount of recent losses, the duration of statutory carryforward periods, and tax planning strategies. In making such judgments, significant weight is given to evidence that can be objectively verified. Due to the history of losses the Company has generated in the United States since inception, the Company believes that it is more-likely-than-not that all of its U.S. and state deferred tax assets will not be realized as of December 31, 2017. Therefore, the Company has recorded a full valuation allowance on its U.S. and state deferred tax assets at December 31, 2017 of $88.8 million, which is a decrease of $15.8 million as compared to December 31, 2016. Should the Company determine that it would be able to realize its deferred tax assets in the foreseeable future, an adjustment to the deferred tax assets may cause a material increase to income in the period such determination is made. Significant management judgment is required in determining the period in which the reversal of a valuation allowance should occur.

On December 22, 2017, H.R. 1 (the "Act") was enacted and included broad tax reforms. The Act reduced the U.S. corporate tax rate from 35% to 21% effective January 1, 2018. The rate change resulted in a $28.3 million reduction in the Company's deferred tax assets from prior year. Tax law changes created the ability for federal indefinite lived assets to be generated in the years following 2017. As such, an income tax benefit was recorded to reduce the domestic indefinite lived liability that is now partially offset by indefinite lived deferred tax assets. The Company has elected to treat taxes on Global Intangible Low Tax Income ("GILTI") as period costs. The Act also imposed a deemed repatriation of foreign earnings previously considered deferred for US tax purposes. The Company had previously recorded a deferred tax liability for such unremitted earnings that were not considered permanently reinvested in the foreign jurisdictions. As of December 31, 2017, the Company has recognized the previously deferred federal liability in accordance with the Act. The Company continues to include deferred tax liabilities for potential future tax consequences of remitting such earnings, such as foreign withholding and state taxes, as of December 31, 2017.

The Company has net operating loss carryforwards for federal and California income tax purposes of approximately $176.2 million and $89.1 million, respectively, as of December 31, 2017. The federal and state net operating loss carryforwards, if not utilized, will expire beginning in 2028.

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The Company has approximately $11.3 million of federal research credit and $11.7 million of state research credit carryforwards. The federal credits begin to expire in 2026 and the state credits can be carried forward indefinitely.

Utilization of some of the federal and state net operating loss and credit carryforwards are subject to annual limitations due to the “change in ownership” provisions of the Internal Revenue Code of 1986 and similar state provisions. Company does not anticipate these limitations, if any, will significantly impact its ability to utilize the net operating losses and tax credit carryforwards.

The accounting for uncertain tax positions prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The Company is required to recognize in the financial statements the impact of a tax position, if that position is more-likely-than-not of being sustained on audit, based on the technical merits of the position. The Company recorded a net charge for unrecognized tax benefits in 2017 of $0.1 million.

The Company does not have any tax positions for which it is reasonably possible the total amount of gross unrecognized tax benefits will increase or decrease over the next year. The unrecognized tax benefits may increase or change during the next year for items that arise in the ordinary course of business. The Company recognizes interest and penalties related to uncertain tax positions in income tax expense.

A tabular reconciliation of the total amounts of unrecognized tax benefits for the years presented is as follows (in thousands):

	Year Ended December 31,		
	2017	2016	2015
Unrecognized tax benefits—at beginning of year	$6,016	$5,482	$4,426
Increases in balances related to tax positions taken in prior years	—	—	14
Decreases in balances related to tax positions taken in prior years	(135)	—	—
Increases in balances related to tax positions taken in current year	306	571	1,053
Lapses in statutes of limitations	(81)	(37)	(11)
Unrecognized tax benefits—at end of year	$6,106	$6,016	$5,482

The Company’s tax returns continue to remain subject to examination by U.S. federal authorities for the years 2006 through 2017 and by California state authorities for the years 2006 through 2017 due to the use of net operating losses and credits.

15. CONCENTRATION OF CREDIT RISK AND MAJOR CUSTOMERS

The Company is potentially subject to financial instrument concentration of credit risk through its cash and cash equivalents and accounts receivable. The Company places its cash and cash equivalents with high quality institutions and performs periodic evaluations of their relative credit standing. Accounts receivable can be potentially exposed to a concentration of credit risk with its major customers. As of December 31, 2017, amounts due from one customer represented approximately 22% of the total accounts receivable balance. As of December 31, 2016, amounts due from one customer represented 25% of the total accounts receivable balance. In 2017, two customers accounted for approximately 15% and 11% of total net revenues. In 2016, one customer accounted for approximately 18% of total net revenues. In 2015, two customers accounted for approximately 17% and 12% of total net revenues.

16. NET LOSS PER SHARE

Basic net loss per share is calculated by dividing net loss by the weighted average number of shares outstanding for the period. Diluted net loss per share is calculated by dividing net loss by the weighted average number of common shares and potential dilutive common share equivalents outstanding during the period if the effect is dilutive. The Company’s potentially dilutive common shares include outstanding stock options and warrants and non-vested restricted stock units.

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The following table presents the potential common shares outstanding that were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented because including them would have been anti-dilutive (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Stock options to purchase common stock	8,433	8,981	8,646
Unvested restricted stock units	3,029	906	1,506
Warrants to purchase common stock	1,083	—	111
Total	12,545	9,887	10,263

17 SEGMENT AND GEOGRAPHIC INFORMATION

The Company's chief operating decision maker is the Chief Executive Officer. The Chief Executive Officer reviews financial information presented on a consolidated basis. The Company has one business activity, which entails the design, development, manufacture and sale of microinverter systems for the solar photovoltaic industry. There are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, management has determined that the Company has a single operating and reportable segment.

The following tables present net revenues (based on the destination of shipments) and long-lived assets by geographic region as of and for the periods presented (in thousands):

Net Revenues

	Years Ended December 31,		
	2017	2016	2015
United States	$199,565	$259,080	$303,195
International	86,601	63,511	54,054
Total	$286,166	$322,591	$357,249

Long-Lived Assets

	As of December 31,		
	2017	2016	2015
United States	$16,899	$22,634	$21,913
China	7,164	5,727	7,950
Other	2,420	3,079	2,255
Total	$26,483	$31,440	$32,118

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18. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

The following tables show a summary of the Company’s quarterly financial information for each of the four quarters of 2017 and 2016 (in thousands, except per share data):

	Year Ended December 31, 2017			
	March 31	June 30	September 30	December 31
Net revenues	$54,751	$74,704	$ 77,038	$ 79,674
Cost of revenues	47,703	61,157	60,577	60,685
Gross profit	7,048	13,547	16,461	18,989
Operating expenses:				
Research and development	9,605	7,947	7,397	8,208
Sales and marketing	6,458	6,274	5,453	4,940
General and administrative	5,833	4,964	5,441	5,983
Restructuring charges	7,247	3,609	4,071	1,991
Total operating expenses	29,143	22,794	22,362	21,122
Loss from operations	(22,095)	(9,247)	(5,901)	(2,133)
Other income expense, net	(1,079)	(1,992)	(1,137)	(1,755)
Loss before income taxes	(23,174)	(11,239)	(7,038)	(3,888)
Income tax benefit (provision)	(131)	(854)	184	948
Net loss	$(23,305)	$(12,093)	$ (6,854)	$ (2,940)
Net loss per share, basic and diluted	$(0.30)	$(0.14)	$ (0.08)	$ (0.03)

	Year Ended December 31, 2016			
	March 31	June 30	September 30	December 31
Net revenues	$64,121	$79,185	$ 88,684	$ 90,601
Cost of revenues	52,361	65,049	72,805	74,367
Gross profit	11,760	14,136	15,879	16,234
Operating expenses:				
Research and development	13,066	13,091	13,169	11,378
Sales and marketing	10,215	9,987	11,016	7,592
General and administrative	7,567	6,846	6,708	6,296
Restructuring charges	—	—	2,717	1,060
Total operating expenses	30,848	29,924	33,610	26,326
Loss from operations	(19,088)	(15,788)	(17,731)	(10,092)
Other income expense, net	529	(591)	(881)	(2,345)
Loss before income taxes	(18,559)	(16,379)	(18,612)	(12,437)
Income tax provision	(236)	(344)	(144)	(751)
Net loss	$(18,795)	$(16,723)	$ (18,756)	$ (13,188)
Net loss per share, basic and diluted	$(0.41)	$(0.36)	$ (0.40)	$ (0.21)

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19. SUBSEQUENT EVENTS

On February 4, 2018, the Company entered into a securities purchase agreement with an investor pursuant to which the Company, in a private placement, agreed to issue and sell to the investor 9,523,809 shares of the Company's common stock, at a price per share of $2.10, for gross proceeds of $20.0 million. The Company intends to use the net proceeds from the Private Placement for general corporate purposes.
On February 28, 2018, the Company entered into a Second Amendment to the Term Loans. The Amendment decreases by 50% the amount of principal repayments required under the Loan Agreement for the period from March 1, 2018 through December 31, 2018 and provides that the Company shall not prepay any part of the Term Loan during that same period without the Collateral Agent's prior written consent.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure
None.

Item 9A. Controls and Procedures
Evaluation of Disclosure Controls and Procedures
We carried out an evaluation required by the Exchange Act, under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rule 13a-15(e) of the Exchange Act, as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and to provide reasonable assurance that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosures.
Management's Report on Internal Control over Financial Reporting
Management is responsible for establishing and maintaining adequate internal control over financial reporting in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, as defined in Rule 13a-15(f) of the Exchange Act. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2017 based on criteria set forth in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013). As a result of this assessment, management concluded that, as of December 31, 2017, our internal control over financial reporting was effective.
We are a "smaller reporting company" as defined in Rule 12b-2 of the Exchange Act. As a result, we are exempt from the auditor attestation requirements related to internal controls over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act for this annual report for the year ended December 31, 2017.
Changes in Internal Control over Financial Reporting
There were no changes in our internal control over financial reporting that occurred during the most recent quarter ended December 31, 2017 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.
Limitations on Controls
Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected.

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Item 9B. Other Information

None.

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PART III

Item 10. Directors and Executive Officers and Corporate Governance

The information required regarding our directors is incorporated herein by reference from the information contained in the section entitled “Proposal 1-Election of Directors” in our definitive Proxy Statement for the 2018 Annual Meeting of Stockholders (our “Proxy Statement”), a copy of which will be filed with the Securities and Exchange Commission on or before April 30, 2018.

The information required regarding our executive officers is incorporated herein by reference from the information contained in the section entitled “Management” in our Proxy Statement.

The information required regarding Section 16(a) beneficial ownership reporting compliance is incorporated by reference from the information contained in the section entitled “Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement.

The information required with respect to procedures by which security holders may recommend nominees to our board of directors, and the composition of our Audit Committee, and whether we have an “audit committee financial expert,” is incorporated by reference from the information contained in the section entitled “Information Regarding the Board of Directors and Corporate Governance” in our Proxy Statement.

Code of Conduct

We have a written code of conduct that applies to all our executive officers, directors and employees. Our Code of Conduct is available on our website at http://investor.enphase.com/corporate-governance.cfm. A copy of our Code of Conduct may also be obtained free of charge by writing to our Secretary, Enphase Energy, Inc., 1420 N. McDowell Blvd., Petaluma, CA 94954. If we make any substantive amendments to our Code of Conduct or grant any waiver from a provision of the Code of Conduct to any executive officer or director, we intend to promptly disclose the nature of the amendment or waiver on our website.

Item 11. Executive Compensation

The information required regarding the compensation of our directors and executive officers is incorporated herein by reference from the information contained in the sections entitled “Executive Compensation,” “Director Compensation” and “Compensation Committee Interlocks and Insider Participation” in our Proxy Statement.

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

The information required regarding security ownership of our 5% or greater stockholders and of our directors and executive officers is incorporated herein by reference from the information contained in the section entitled “Security Ownership of Certain Beneficial Owners and Management” in our Proxy Statement.

Equity Compensation Plan Information

The information required regarding securities authorized for issuance under our equity compensation plans is incorporated herein by reference from the information contained in the section entitled “Employee Benefit Plans” in our Proxy Statement.

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

The information required regarding related transactions is incorporated herein by reference from the information contained in the section entitled “Transactions With Related Persons” and, with respect to director independence, the section entitled “Proposal 1-Election of Directors” in our Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required is incorporated herein by reference from the information contained in the sections

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entitled “Principal Accountant Fees and Services” and “Pre-Approval Policies and Procedures” in the section entitled “Proposal 5-Ratification of Selection of Independent Registered Public Accounting Firm” in our Proxy Statement.

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PART IV

Item 15. Exhibits, Financial Statement Schedules

Consolidated Financial Statements

The information concerning our consolidated financial statements, and Report of Independent Registered Public Accounting Firm required by this Item is incorporated by reference herein to the section of this Annual Report on Form 10-K in Item 8, Consolidated Financial Statements and Supplementary Data.

No schedules are provided because they are not applicable, not required under the instructions, or the requested information is shown in the financial statements or related notes thereto.

Exhibits

The exhibits listed in the accompanying index to exhibits are filed or incorporated by reference as part of this Annual Report on Form 10-K.

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Item 16. Form 10-K Summary
Not Applicable
SIGNATURES
Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on April 2, 2018.

Enphase Energy, Inc.

By: /s/ BADRINARAYANAN KOTHANDARAMAN
Badrinarayanan Kothandaraman

POWER OF ATTORNEY
KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Badrinarayanan Kothandaraman and Humberto Garcia, jointly and severally, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises hereby ratifying and confirming all that said attorneys-in-fact and agents, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.
Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities on the dates indicated.

Signature	Title	Date
/s/ BADRINARAYANAN KOTHANDARAMAN Badrinarayanan Kothandaraman	President and Chief Executive Officer (Principal Executive Officer)	April 2, 2018
/s/ HUMBERTO GARCIA Humberto Garcia	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	April 2, 2018
/s/ STEVEN J. GOMO Steven J. Gomo	Director	April 2, 2018
/s/ BENJAMIN KORTLANG Benjamin Kortlang	Director	April 2, 2018
/s/ RICHARD MORA Richard Mora	Director	April 2, 2018
/s/ THURMAN JOHN RODGERS Thurman John Rodgers	Director	April 2, 2018
/s/ JOHN H. WEBER John H. Weber	Director	April 2, 2018

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EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
3.1	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.	10-Q	001-35480	10.1	8/9/2017	
3.2	Amended and Restated Bylaws of Enphase Energy, Inc.	S-1/A	333-174925	3.5	3/12/2012	
4.1	Specimen Common Stock Certificate of Enphase Energy, Inc.	S-1/A	333-174925	4.1	3/12/2012	
10.1+	Form of Indemnification Agreement by and between Enphase Energy, Inc. and each of its directors and officers.	S-1/A	333-174925	10.1	8/24/2011	
10.2+	2006 Equity Incentive Plan, as amended, and related documents.	S-8	333-181382	99.1	5/14/2012	
10.3+	2011 Equity Incentive Plan, as amended, and forms of agreement thereunder.	S-8	333-181382	99.2	5/14/2012	
10.4+	2011 Employee Stock Purchase Plan.	S-8	333-181382	99.3	5/14/2012	
10.5+	Offer Letter by and between Enphase Energy, Inc. and Paul B. Nahi, dated January 1, 2007, as amended.	S-1	333-174925	10.5	6/15/2011	
10.6	Redwood Business Park NNN Lease by and between Enphase Energy, Inc. and Sequoia Center LLC, dated June 3, 2011 (1400 North McDowell Boulevard), as amended.	S-1	333-174925	10.14	6/15/2011	
10.7	First Amendment to Redwood Business Park NNN Lease (1400 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC dated January 12, 2012.	10-K	001-35480	10.8	3/4/2015	
10.8	Second Amendment to Redwood Business Park NNN Lease (1400 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC dated January 13, 2014.	10-K	001-35480	10.9	3/4/2015	
10.9	Third Amendment to Redwood Business Park NNN Lease (1400 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC dated	10-K	001-35480	10.10	3/4/2015	

	September 25, 2014.				
10.10	Fourth Amendment to Redwood Business Park NNN Lease (1400 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC dated December 30, 2014.	10-K	001-35480	10.11	3/4/2015
10.11	Redwood Business Park NNN Lease by and between Enphase Energy, Inc. and Sequoia Center LLC, dated June 3, 2011 (1420 North McDowell Boulevard), as amended.	S-1	333-174925	10.15	6/15/2011
10.12	First Amendment to Redwood Business Park NNN Lease (1420 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC dated January 12, 2012.	10-K	001-35480	10.13	3/4/2015
10.13	Second Amendment to Redwood Business Park NNN Lease (1420 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC, dated July 3, 2012.	10-Q	001-35480	10.4	11/13/2012
10.14	Third Amendment to Redwood Business Park NNN Lease (1420 North McDowell Blvd), between Enphase Energy, Inc. & Sequoia Center LLC dated May 14, 2014.	10-K	001-35480	10.15	3/4/2015
10.15†	Cooperation Agreement “AC cabling system for solar micro-inverter” by and among Enphase Energy, Inc., and Phoenix Contact GmbH & Co. KG and Phoenix Contact USA, Inc., dated December 7, 2010.	S-1	333-174925	10.16	6/15/2011
10.16	Amendment No. 2 to the Cooperation Agreement and Amendment No. 1 by and among Enphase Energy, Inc., Phoenix Contact GmbH & Co. KG and Phoenix Contact USA, Inc., dated September 1, 2016.	10-Q	001-35480	10.3	11/2/2016
10.17	Flextronics Logistics Services Agreement by and between Enphase Energy, Inc. and Flextronics America, LLC, dated May 1, 2009.	S-1	333-174925	10.17	6/15/2011
10.18	Amendment #1 to the Flextronics Logistics Services Agreement, by and between Enphase Energy, Inc. and Flextronics America, LLC, dated July 28, 2016.	10-Q	001-35480	10.4	11/2/2016
10.19	Flextronics Manufacturing Services Agreement by and between Enphase Energy, Inc. and Flextronics Industrial, Ltd., dated March 1, 2009, as amended.	S-1	333-174925	10.18	6/15/2011
10.20	Master Development and Production Agreement by and between Enphase Energy, Inc. and Fujitsu	10-Q	001-35480	10.1	5/6/2015

	Microelectronics America, Inc., dated August 19, 2009.				
10.21	License and Technology Transfer Agreement by and between Enphase Energy, Inc. and Ariane Controls, Inc., dated December 21, 2007.	S-1	333-174925	10.20	6/15/2011
10.22	Software License Agreement by and between PVI Solutions, Inc. (subsequently known as Enphase Energy, Inc.) and DCD, Digital Core Design, dated May 8, 2007, as amended.	S-1	333-174925	10.21	6/15/2011
10.23	Master License Agreement between Enphase Energy, Inc. and Flextronics Industrial, Ltd., dated June 9, 2017	10-Q	001-35480	10.1	8/9/2017
10.24+	Non-employee Director Compensation Policy.	10-Q	001-35480	10.28	5/8/2013
10.25	Offer Letter by and between Enphase Energy, Inc. and David Ranhoff, dated December 1, 2017.	8-K	001-35480	10.1	12/2/2017
10.26	Amended and Restated Credit Agreement by and among the lenders identified on the signature pages thereof, Wells Fargo Bank, National Association, as agent for the lenders, and Enphase Energy, Inc., dated December 18, 2015.	10-K	001-35480	10.24	3/1/2016
10.27	Amendment No. 1 to Amended and Restated Credit Agreement and Amended and Restated Guaranty and Security Agreement, by and among Enphase Energy, Inc., the lenders identified on the signature pages thereto and Wells Fargo Bank, National Association, as agent, dated July 8, 2016.	10-Q	001-35480	10.1	11/2/2016
10.28	Waiver and Second Amendment to Amended and Restated Credit Agreement, by and among Enphase Energy, Inc. and Wells Fargo Bank, National Association, as agent, dated December 21, 2016.	10-K	001-35480	10.27	3/16/2017
10.29	Consent and Third Amendment to Amended and Restated Credit Agreement, by and among Enphase Energy, Inc., the lenders identified on the signature pages thereto and Wells Fargo Bank, National Association, as agent, dated December 30, 2016.	10-K	001-35480	10.28	3/16/2017
10.30+	2018 Performance Bonus Program Summary.	8-K	001-35480	10.1	3/9/2018
10.31+	Severance and Change in Control Benefit Plan.	10-Q	001-35480	10.50	5/8/2013
10.32†		10-Q	001-35480	10.2	8/5/2015

	Supply Agreement, by and between Enphase Energy, Inc. and Dow Corning Corporation, dated April 22, 2014.				
10.33†	First Amendment to the Supply Agreement, by and between Enphase Energy, Inc. and Dow Corning Corporation, dated August 1, 2014.	10-Q	001-35480	10.3	8/5/2015
10.34†	Second Amendment to the Supply Agreement, by and between Enphase Energy, Inc. and Dow Corning Corporation, dated August 1, 2014.	10-Q	001-35480	10.4	8/5/2015
10.35	At Market Issuance Sales Agreement, by and between Enphase Energy, Inc. and FBR Capital Markets & Co., dated December 23, 2016.	8-K	001-35480	10.1	12/23/2016
10.36	Loan and Security Agreement by and among Enphase Energy, Inc., Tennenbaum Special Situations Fund IX, LLC, the lenders identified on the signature pages thereto and Obsidian Agency Services, Inc., as administrative agent and collateral agent for the lenders, dated July 8, 2016.	10-Q	001-35480	10.2	11/2/2016
10.37	First Amendment to Loan and Security Agreement, by and among Enphase Energy, Inc., Tennenbaum Special Situations Fund IX, LLC, the lenders identified on the signature pages thereto and Obsidian Agency Services, Inc., as administrative agent and collateral agent for the lenders, dated December 30, 2016.	10-K	001-35480	10.37	3/16/2017
10.38	Amended and Restated Loan and Security Agreement, by and among Enphase Energy, Inc., the lenders party thereto, Cortland Capital Market Services LLC, as administrative agent, and Obsidian Agency Services, Inc., as collateral agent, dated February 10, 2017.	10-K	001-35480	10.38	3/16/2017
10.39	Form of Warrant under Amended and Restated Loan and Security Agreement, by and among Enphase Energy, Inc., the lenders party thereto, Cortland Capital Market Services LLC, as administrative agent, and Obsidian Agency Services, Inc., as collateral agent, dated February 10, 2017.	10-K	001-35480	10.39	3/16/2017
10.40	Securities Purchase Agreement, by and among Enphase Energy, Inc. and the purchasers identified on Exhibit A thereto, dated January 9, 2017.	8-K	001-35480	10.1	1/10/2017
10.41	Second Amendment to Amended and Restated Loan and Security Agreement by and among Enphase Energy Inc., each Lender identified, and Obsidian	8-K	001-35480	10.1	3/5/2018

	Agency Services, Inc., as collateral agent for Lenders and Cortland Capital Market Services LLC, dated February 28, 2018					
10.42	Security Agreement by and among Enphase Energy, Inc. and Flextronics Industrial, LTD and Flextronics Americas, LLC, dated December 30, 2016.	10-K	001-35480	10.41	3/16/2017	
10.43	Securities Purchase Agreement by and among Enphase Energy Inc., and the purchasers identified on Exhibit A thereto, dated February 4, 2018	8-K	001-35480	10.1	2/5/2018	
12.1	Statement of Computation of Ratio Earnings to Fixed Charges					X
21.1	List of subsidiaries of the Registrant					X
23.1	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm					X
24.1	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K).					X
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a).					X
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a).					X
32.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS	XBRL Instance Document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Document.					X

+Management compensatory plan or arrangement.
†

Confidential treatment has been granted for certain portions of this exhibit. Omitted information has been filed separately with the Securities and Exchange Commission.

* The certifications attached as Exhibit 32.1 accompany this quarterly report on Form 10-K pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed “filed” by Enphase Energy, Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

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