

ACORN ENERGY, INC.
Form 10-K
March 17, 2014
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2013

Commission file number: 0-19771

ACORN ENERGY, INC.
(Exact name of registrant as specified in charter)

Delaware
(State or other jurisdiction of incorporation or
organization)

22-2786081
(I.R.S. Employer Identification No.)

3903 Centerville Road, Wilmington, Delaware
(Address of principal executive offices)

19807
(Zip Code)

302-656-1707
Registrant's telephone number, including area code

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

Title of Class	Name of Each Exchange on Which Registered
Common Stock, par value \$.01 per share	The NASDAQ Global Market

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the
Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the
Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was

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required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☐ No ☒

Indicate by check mark whether the registrant has submitted electronically 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☐ No ☒

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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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐ Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes ☐ No ☒

As of last day of the second fiscal quarter of 2013, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$143.2 million based on the closing sale price on that date as reported on the NASDAQ Global Market. As of March 10, 2014 there were 22,189,877 shares of Common Stock, \$0.01 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

None.

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Certain statements contained in this report are forward-looking in nature. These statements can be identified by the use of forward-looking terminology such as “believes”, “expects”, “may”, “will”, “should” or “anticipates”, or the negatives thereof, or comparable terminology, or by discussions of strategy. You are cautioned that our business and operations are subject to a variety of risks and uncertainties and, consequently, our actual results may materially differ from those projected by any forward-looking statements. Certain of such risks and uncertainties are discussed below under the heading “Item 1A. Risk Factors.”

AquaShield™, AquaShield-ER™ and PointShield™ are trademarks of our DSIT Solutions Ltd. subsidiary. GridSense®, HighV™, GridInSite™, CableIQ®, PowerMonic™, BreakerIQ®, LineIQ®, TransformerIQ®, DemandIQ™ and DistributionIQ® are trademarks of our GridSense subsidiaries. LazerLok™ is a trademark of our US Seismic Systems, Inc. subsidiary. OmniMetrix™, SmartService™, OmniView™, OmniLink™, and OmniScope™ are trademarks of our OmniMetrix, LLC subsidiary.

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PART I

ITEM 1. BUSINESS

OVERVIEW

Acorn Energy, Inc. ("Acorn" or "the Company") is a holding company focused on technology driven solutions for energy infrastructure asset management. Each of our four businesses is focused on helping its customers achieve greater productivity, reliability, security and efficiency.

Through our majority or wholly-owned operating subsidiaries, we provide the following services and products:

Oil and Gas Sensor Systems (formerly known as Energy and Security Sensor Systems). These products and services are provided by our US Seismic Systems, Inc. subsidiary ("USSI") which develops and produces "state of the art" fiber optic seismic sensing systems for enhancing the production of oil and gas from unconventional fields (requiring hydrofracking) and 4D seismic monitoring.

- Energy & Security Sonar Solutions. We provide sonar and acoustic related solutions for energy, defense and commercial markets with a focus on underwater site security for strategic energy installations and other advanced acoustic systems and real-time embedded hardware and software development and production through our DSIT Solutions Ltd. ("DSIT") subsidiary.

Smart Grid Distribution Automation. These products and services are provided by our GridSense® subsidiaries (GridSense Inc. in the United States and GridSense Pty Ltd. and CHK GridSense Pty Ltd. in Australia - collectively "GridSense") which develop, market and sell remote monitoring and control systems to electric utilities and industrial facilities worldwide.

Power Generation ("PG") Monitoring. These products and services are provided by our OmniMetrix™, LLC ("OmniMetrix") subsidiary, acquired in February 2012. OmniMetrix's PG products and services deliver critical, real-time machine information to customers and provide remote diagnostics that give users real-time visibility of their equipment.

During 2013, each of the four abovementioned activities represented a reportable segment. In addition, our "Other" segment represents certain IT activities (protocol management software for cancer patients and billing software) and outsourced consulting activities performed by our DSIT subsidiary as well as Cathodic Protection ("CP") activities in our OmniMetrix subsidiary.

We continually evaluate opportunities related to all of our portfolio companies and our eventual goal is to position them for a strategic event, which may include co-investment by one or more third parties and/or a sale of assets or equity.

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FINANCIAL RESULTS BY COMPANY

The following table shows, for the periods indicated, the financial results (dollar amounts in thousands) attributable to each of our consolidated companies. Our OmniMetrix's activities were acquired in February 2012. Accordingly, there are only partial comparative results reported for these activities for the year ended December 31, 2012.

	Year ended December 31, 2013					
	DSIT	OmniMetrix	GridSense	USSI	Acorn	Total
Revenues	\$13,065	\$2,197	\$5,026	\$1,468	\$—	\$21,756
Cost of Sales	8,624	963	3,198	3,815	—	16,600
Gross profit	4,441	1,234	1,828	(2,347)	—	5,156
Gross profit margin	34	% 56	% 36	% (160)%		24 %
R& D expenses, net of credits	1,511	647	2,118	3,899	—	8,175
Selling, general and administrative expenses	3,328	4,544	3,516	3,360	5,068	19,816
Impairment of intangibles	—	6,731	—	—	—	6,731
Restructuring and related charges	—	795	594	—	—	1,389
Operating loss	\$(398)	\$(11,483)	\$(4,400)	\$(9,606)	\$(5,068)	\$(30,955)
	Year ended December 31, 2012					
	DSIT	OmniMetrix	GridSense	USSI	Acorn	Total
Revenues	\$13,632	\$661	\$3,662	\$1,464	\$—	\$19,419
Cost of Sales	8,563	474	2,694	2,485	—	14,216
Gross profit	5,069	187	968	(1,021)	—	5,203
Gross profit margin	37	% 28	% 26	% (70)%		27 %
R& D expenses, net of credits	1,048	341	1,624	3,577	—	6,590
Selling, general and administrative expenses	3,245	2,490	4,550	3,826	5,250	19,361
Operating income (loss)	\$776	\$(2,644)	\$(5,206)	\$(8,424)	\$(5,250)	\$(20,748)
	Three months ended December 31, 2013					
	DSIT	OmniMetrix	GridSense	USSI	Acorn	Total
Revenues	\$3,434	\$588	\$1,483	\$320	\$—	\$5,825
Cost of Sales	2,615	228	1,153	1,129	—	5,125
Gross profit	819	360	330	(809)	—	700
Gross profit margin	24	% 61	% 22	% (253)%		12 %
R& D expenses, net of credits	365	148	331	995	—	1,839
Selling, general and administrative expenses	825	876	809	982	1,103	4,595
Impairment of intangibles	—	—	—	—	—	—
Restructuring and related charges	—	23	—	—	—	23
Operating loss	\$(371)	\$(687)	\$(810)	\$(2,786)	\$(1,103)	\$(5,757)
	Three months ended December 31, 2012					
	DSIT	OmniMetrix	GridSense	USSI	Acorn	Total
Revenues	\$3,598	\$273	\$778	\$147	\$—	\$4,796
Cost of Sales	2,162	158	1,051	396	—	3,767
Gross profit	1,436	115	(273)	(249)	—	1,029
Gross profit margin	40	% 42	% (35)%	(169)%		21 %
R& D expenses, net of credits	259	133	510	917	—	1,819

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Selling, general and administrative expenses	1,021	957	1,041	1,228	1,223	5,470
Operating income (loss)	\$156	\$(975)) \$(1,824)	\$(2,394)	\$(1,223)	\$(6,260)

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Oil and Gas Sensor Systems - US SEISMIC SYSTEMS, INC. (USSI)

Our Oil and Gas Sensor Systems segment (previously known as the Energy and Security Sensor Systems segment) is conducted through USSI, a Delaware corporation based in Chatsworth, California which was established in October 2007. USSI is focused on developing and producing “state of the art” fiber optic sensing systems for the energy market. We made our initial investment in USSI in November 2009 and currently own approximately 95.7% of USSI upon conversion of currently held USSI preferred stock.

USSI's primary focus is to develop and produce “state of the art” fiber optic sensing systems for unconventional oil and gas (hydrofrac) production monitoring and 4D seismic monitoring. USSI's patented ultra-high sensitivity fiber optic sensors are being designed to replace the legacy expensive, unreliable, and bulky electronic sensors currently in widespread use today with small, low cost, ultra-reliable, and inherently-safe fiber optic sensors. USSI's fiber optic sensors are designed to replace the legacy electronic sensors which cannot meet the demanding performance requirements needed for the new unconventional oil and gas recovery techniques that are driving the worldwide energy revolution.

Products and Services

USSI's new fiber optic sensing systems have been designed to provide users with a competitive advantage over those relying on existing sensor technology. USSI's fiber optic sensors can provide the ability to monitor the fracking process while improving production efficiency at a fraction of the cost of competing technology. Monitoring with USSI's sensors can also allow fracking companies to minimize potential environmental damage caused by fracking by providing a warning upon the detection of fracking events occurring outside of the desired area. As further described below, primary product lines for which USSI is currently developing products include downhole fiber optic sensor systems for hydrofrac monitoring used in unconventional oil and gas exploration and recovery, and 4D seismic reservoir monitoring systems. We believe USSI has demonstrated the highest performance down-hole seismic sensor system systems in the oil and gas industry. Based on laboratory and field data available to us, we believe that USSI's sensor systems provide the greatest sensitivity (improved signal to noise ratio), widest bandwidth (detects all signals of interest), lowest noise floor (detects quieter signals) and can operate at the highest temperatures as compared to other seismic sensors available today for use in the oil and gas industry.

Hydrofrac (microseismic) monitoring. The major oil companies are increasingly focusing on horizontal drilling techniques combined with hydro fracking to produce the world's vast tight oil and gas shale reserves. Of the over 35,000 wells fracked annually in the U.S. as reported by the EPA in 2011, we believe that less than 3% are monitored using micro-seismic techniques, in large part due to high cost, poor reliability and high temperature limitations associated with the current sensor technology. According to a 2012 survey by the oilfield research firm Welling & Co. of decision makers within the petroleum operating companies engaged in hydraulic fracture and fracture mapping services, 73% of respondents said the root cause of frac jobs not meeting performance expectations was attributed to a failure to understand the subsurface. We believe that the only way to improve understanding of the subsurface, is via seismic monitoring with sensors specifically designed to detect and locate microseismic events.

USSI recently participated in a competitive, multi-company/multi technology shootout hosted by a supermajor oil company. The supermajor hosted the shootout to determine the best sensor technology to be used for microseismic (hydrofrac) monitoring of their vast unconventional oil and gas fields. USSI's technology was judged as superior to the other competitors and USSI was the only company selected by the supermajor for follow-on qualification testing. This evaluation is currently ongoing and has included a high frequency downhole test that validated the superiority of USSI's wide bandwidth sensor. The evaluation culminates in a full-scale field validation involving two USSI downhole arrays in two deep depth, high temperature wells for microseismic monitoring of hydrofracking currently scheduled to commence later this year. If successful, USSI believes that this will lead to a potential large field rollout

by the supermajor.

Leading industry participants previously indicated to us that they would monitor all their frac jobs if equipment cost can be reduced by 75% below the cost of monitoring with the traditional technology (which we believe is achievable by utilizing USSI fiber optic sensor systems). Based on our current understanding of the marketplace and customer constraints, we cannot predict the pace or rate of adoption. We remain optimistic, however, that the market for advanced seismic monitoring will nevertheless be sizable based upon current pricing of \$250,000 (for a 10-level system) to \$1.0 million for a larger (40-level) monitoring system. According to a recent survey by Welling & Company, up to 40% of the unconventional fields in the US are high temperature. Since USSI's system is the only one on the market capable of operating at high temperature, USSI is investigating the possibility of charging higher prices for high temperature systems.

4D Reservoir Monitoring. In order to optimize production out of operating fields, exploration and production companies are keen to utilize technologies that allow them to understand how the reservoir is changing over time and how it is responding

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to enhanced recovery techniques like water injection and CO₂ flooding. To produce more oil from these existing fields, increased use of 4D seismic techniques (repeated 3D seismic images to monitor the movement of oil reservoir fluids over time) are planned. For 4D to be cost-effective, permanently-installed seismic sensors are needed. Current mainstream oilfield seismic sensing systems are based upon 50 year-old technology that is too costly and unreliable for permanent installations. USSI's fiber optic seismic sensors are specifically designed to meet the demanding performance, cost, and reliability requirements needed for permanent installation and advanced 4D seismic analysis.

Fiber optic perimeter security. USSI has developed an all-optical security system based upon a microphonic cable that can be mounted on a fence, buried along a border/perimeter, or placed underwater in a harbor. We believe the USSI fiber optic microphonic cable is the most sensitive available as it can detect disturbance signals that are 100 times quieter than competing systems. In addition, the USSI system can detect and classify multiple simultaneous events. While USSI continues to make nominal sales to security customers, we are not currently engaged in actively developing and marketing systems for the security market.

Customers and Markets

USSI targets its products into the oilfield geophysics market, which according to Barclays Capital 2011 E&P Spending report has a \$16-\$19 billion annual market size, of which approximately 10-15%, or approximately \$1.6 to \$2.9 billion is for equipment such as seismic sources and sensors. USSI's potential customers are primarily the oilfield service companies. According to the PFC Energy (an IHS Inc. company) 2012 rankings, some of the leading oilfield service companies are Schlumberger, Halliburton, Baker Hughes, Ensco, Weatherford and CGG Veritas. To date, we have not delivered a product for commercial deployment, as all of our sales have been for trials or pilot projects which has often required significant engineering and design costs in order to meet customer requirements, often resulting in a negative gross margin. We are currently focused on completing what we believe are the final steps toward having a commercial product that we hope will lead to reference customers. As a result of several recent customer trials, USSI believes that its products may be of particular interest to those oilfield services companies supporting hydro-fracking in high temperature fields. According to a 2012 Welling & Co. survey, approximately 40% of the operators reported that they will encounter maximum temperatures in excess of 250° Fahrenheit in their future frac jobs. USSI's products are also designed for mid temperature (150-250° Fahrenheit) and low temperature (less than 150° Fahrenheit) deployments and have been field tested repeatedly under those conditions.

Competition

Oil & Gas. USSI's primary competition comes from oilfield equipment providers using conventional retrievable downhole sensor technology. This technology is well-proven and widely used. The leaders include OYO Geospace Corporation, Sercel S.A., and ION Geophysical Corporation. Our target markets are the emerging microseismic monitoring and permanent downhole seismic sensor markets. The existing conventional technology is not suited for these applications for the following reasons:

• **Cost** - downhole digital sensor arrays using existing technology cost \$4M to \$6M per system. The equivalent USSI downhole system sells for a fraction (typically one-third) of that price.

• **Reliability** - existing technology requires expensive downhole electronics that cannot be serviced or repaired if permanently installed. The USSI system has no downhole electronics.

• **High Temperature Operation** - Many of the downhole applications require sensors to operate at temperatures up to 400° Fahrenheit which is well within USSI's capabilities. There are no digital downhole systems on the market capable of operating at these temperatures.

Frequency Bandwidth - The limited frequency range of the legacy downhole seismic sensors limits their ability to capture the very low frequency events or the high frequency events commonly associated with microseismic monitoring during hydrofracking, missing up to 90 per cent of the microseismic signals. USSI's wide bandwidth sensor is designed to capture the majority of the microseismic signals.

Noise Floor - USSI's downhole sensors have the lowest noise floor across the frequency range of interest for microseismic monitoring applications. This enables the detection of very quiet signals.

USSI also has competition from other oilfield fiber optic sensor companies such as Stingray Geophysical Ltd. (Stingray), Weatherford International Ltd., and Petroleum Geo-Services ASA (PGS). We believe that some of our competitors use early generation fiber optic sensor technology which is expensive and difficult to manufacture. In another case, the highest reported performance of one competitor is significantly less than published USSI performance. Recently, distributed acoustic sensing

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(DAS) systems using fiber optics have been introduced for downhole monitoring. These systems have performance specifications similar to those currently being used by USSI for perimeter security applications. USSI is aware of the performance of DAS technology and believes it lacks the sensitivity and directionality needed for downhole seismic or microseismic monitoring.

Intellectual Property

USSI invests significant resources in product development and research in order to protect its future competitiveness in the marketplace. Keeping proprietary information safe from unauthorized use or disclosure is an important objective. In order to protect its proprietary know-how and technology, USSI uses a combination of patents, trade secrets, contracts, and trademarks. However, some of USSI's know-how and technology may not be patentable. To protect its rights, USSI requires employees, as well as select consultants, advisors and collaborators to enter into confidentiality agreements. While these agreements will provide some level of protection, they cannot provide absolute assurance that USSI's trade secrets, know-how or other proprietary information are fully safeguarded. Whenever intellectual property is developed internally or acquired, USSI will evaluate and determine the optimal mix of controls to protect itself. USSI owns seven U.S. patents and two U.S. trademarks. Currently, there are 20 patent applications and one trademark application pending with the US Patent and Trademark Office. Most of the patent applications have also been nationalized for examination in foreign countries. USSI has also licensed 4 key patents from Northrop Grumman related to the electronics associated with optical sensing technology.

Facilities

USSI's activities are conducted in approximately 29,000 square feet of office and production space in the San Fernando Valley (a suburb north of Los Angeles, CA) under a lease that expires in September 2016. This includes 8,600 square feet of space leased in July 2013 which is expected to be used for production of anticipated commercial orders. USSI has not yet prepared this additional space for production. If the pace of commercialization does not increase, we may explore opportunities to sub-lease this space. We believe USSI's facilities are sufficient for expected expanding production requirements for the near future. In the future, if we receive multiple follow-on orders from our proof-of-concept projects, it may be necessary to seek expanded or new facilities, and whether they will be available at such time, location and on terms acceptable to USSI cannot be determined. Any inability to expand our production facilities as required to meet customer demand could result in loss of, or a delay in fulfilling, orders and loss of associated revenue.

ENERGY & SECURITY SONAR SOLUTIONS – DSIT SOLUTIONS LTD.

We currently own approximately 88.3% of DSIT Solutions Ltd. ("DSIT") upon conversion of currently held DSIT preferred stock. DSIT is a globally-oriented business based in Israel with expertise in sonar and acoustics and development capabilities in the areas of real-time and embedded systems. Based on these capabilities, we offer a full range of sonar and acoustic-related solutions to strategic energy installations as well as defense and homeland security markets. In addition, based on expertise in fields such as signal acquisition and processing applications, communication technologies and command, control and communication management ("C3") we provide wide ranging solutions to both governmental and commercial customers. In 2012, DSIT began to leverage its acoustic signal processing capabilities for land seismic security applications.

Products and Services

DSIT's Energy & Security Sonar Solutions activities are focused on two areas – sonar and acoustic solutions for energy and security markets and other real-time and embedded hardware and software development and production.

Energy & Security Sonar Solutions. Our energy & security sonar solutions include a full range of sonar and acoustic-related solutions to the strategic energy installation, defense and homeland security markets. These solutions include:

- AquaShield™ Diver Detection Sonar (“DDS”) – DSIT has developed an innovative, cost-effective DDS system, the AquaShield™, that provides critical coastal and offshore protection of sites through long-range detection, tracking, classification and warning of unauthorized divers and Swimmer Delivery Vehicles (“SDVs”) for rapid deployment and effective response. Our AquaShield™ DDS system is fully automatic and customizable, and requires intervention of a security person only for final decision and response to the threat. The DDS sensors can be integrated with other sensors into a comprehensive command and control (“C&C”) system to provide a complete tactical picture both above and below the water for more intelligent evaluation of and effective response to threats.

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- PointShield™ Portable Diver Detection Sonar (PDDS) – The PointShield™ PDDS is a medium range portable diver detection sonar aimed at protecting vessels at anchorage and covers restricted areas such as water canals and intakes. The PointShield™ is a cost-effective system tailored to meet the needs of customers, whose main concern is portability and flexibility.
- Mobile/Portable Acoustic Range (“MAR/PAR”) – The MAR and PAR accurately measures a submarine’s or surface vessel’s radiated noise; thus enabling navies and shipyards to monitor and control the radiated noise and to silence their submarines and ships. By continuously tracking the measured vessel and transmitting the data to a measurement ship, the MAR system enables real time radiated noise processing, analysis and display. The system also includes a platform database for measurement results management and provides playback and post analysis capability.
- Generic Sonar Simulator (“GSS”) – DSIT has developed a GSS for the rapid and comprehensive training of Anti-Submarine Warfare (“ASW”), submarine, and mine detection sonar operators. This advanced, low cost, PC-based training simulator is designed for all levels of sonar operators from beginners to the most experienced, including ship ASW teams. The simulator includes all aspects of sonar operation, with emphasis on training in weak target detection in the presence of noise and reverberation, torpedo detection, audio listening and classification. Based on this technology, DSIT expanded the application to include a full scale submarine tactical trainer.
- Underwater Acoustic Signal Analysis system (“UASA”) – DSIT’s UASA system processes and analyzes all types of acoustic signals radiated by various sources and received by naval sonar systems (submarine, surface and air platforms, fixed bottom moored sonar systems, etc.).
- Sonar Building Blocks – based on our sonar capabilities and development of the DDS, DSIT has developed a number of generic building blocks of sonar systems such as Signal Processing Systems and Sonar Power Amplifiers. Some customers designing and building their own sonar systems have purchased these building blocks from us. These elements are specifically tailored and optimized for sonar systems and have advantages over generic standard building blocks.

In 2012, DSIT and USSI were awarded a grant from the Israel-U.S. Binational Industrial Research and Development Foundation (“BIRD Foundation”) for the joint development of a next generation integrated passive/active threat detection system for underwater site protection (PAUSS). The BIRD Foundation provides funding money for projects involving joint innovation and development between American and Israeli companies. Due to USSI’s focus on its oil and gas activities, we foresee some slowdown in the development of the PAUSS in the near future. DSIT and USSI may request an extension of this development project, though we have no assurance that such an extension would be granted. In addition to its joint efforts with USSI in underwater site protection, DSIT is exploring solutions for the perimeter fiber optic security market. DSIT and Ramot, the technology transfer company of Tel-Aviv University, recently were jointly awarded a grant from MEIMAD (a collaborative program between the Israeli Ministry of Defense, the Office of the Chief Scientist at the Ministry of Economy and the Ministry of Finance, to jointly promote new ideas and new technologies that can serve both commercial applications and military needs) for the joint development of a next generation Fiber-Optic Based Perimeter Security System Interrogator. The interrogator is the optics/electronics heart of the fiber optic sensing system.

Other Real-Time and Embedded Solutions

Additional areas of development and production in real-time and embedded hardware and software include:

- Applications - DSIT specializes in Weapon/C&C Operating Consoles for unique naval and air applications, designed through synergistic interaction with the end-user. Weapon/C&C Consoles utilize Human-Machine Interface

(“HMI”) prototyping supported on a variety of platforms as an integral part of the HMI definition and refinement process. Weapon/C&C Console specific applications driven by HMI include signal processing and data fusion and tracking.

- Computerized Vision for the Semiconductor Industry - DSIT has been cooperating with global leaders of state-of-the-art semiconductor wafer inspection systems in developing cutting edge technologies to enable the semiconductor industry to detect defects in the manufacture of silicon wafers. DSIT develops and manufactures hardware and embedded software for computerized vision systems, and we supply this multi-disciplinary field in the integration of digital and analog technologies, image processing and intricate logic development.
- Modems, data links and telemetry systems – DSIT is working with major defense industries in Israel such as Rafael Advanced Defense Systems Ltd. and Israel Aerospace Industries Ltd., developing modems, advanced wide-band data links and telemetry and navigation systems for airborne and missile systems. DSIT is providing development and production services of hardware and embedded signal processing software with high quality control standards.

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DSIT's other operations include IT and consulting activities whose results are not included in the Energy & Security Sonar Solutions segment.

Customers and Markets

According to a 2011 Wall Street Journal article, nearly 30% of U.S. oil production and 15% of gas production is produced from wells on the Outer Continental Shelf. Globally, some 30% of the world's oil output comes from offshore production. An enormous amount of capital investment has gone into creating this underwater energy infrastructure. This includes the oil platforms that drill, extract and temporarily store oil and gas, as well as the oil and gas wellheads, pipelines, single point mooring buoys and pumps required to transfer the product from its location to shore. While this infrastructure was built with the assumption that it would be able to weather natural disasters, much of this infrastructure comprises what is known in the military as "soft" targets from beneath the water that would not require much in the way of explosives to cause significant, and perhaps catastrophic, damage.

This vulnerability, combined with the development and proliferation of technologies such as mini-submarines which can submerge to depths of a few dozen feet making detection difficult, unmanned underwater vehicles, divers with underwater scooters, swimmer delivery vehicles as well as conventional scuba divers threaten the undersea economy with significant damage resulting from lost energy resources, damaged infrastructure and environmental degradation should an attack occur. DSIT looks to sell to potential customers in such areas that have significant underwater energy assets and infrastructure.

DSIT is planning to expend significant resources to integrate its active sonar diver detection system with USSI's fiber optic sensors to create an active-passive sonar diver detection system (PAUSS) as well as working to develop fiber-optic land-based perimeter security systems.

All of this segment's operations (excluding product delivery, set-up and service) take place in Israel. In recent years, an increasing share of this segment's revenues were derived from outside of Israel increasing from 43% in 2009 to 81% in 2012 before decreasing to 41% in 2013. The decrease in 2013 was due to the near completion of a number of non-Israeli projects during 2013. We expect this segment's non-Israel based revenues to increase again in 2014 following the DSIT's recently disclosed contract with an unnamed customer for the supply, operation and support of an advanced underwater acoustic monitoring system (See "Recent Developments"). DSIT continues to invest considerable efforts to penetrate Asian, European and South American markets in order to broaden its geographic sales base with respect to its sonar technology solutions. We have significant customer relationships with some of Israel's largest companies in its defense and electronics industries as well as relationships with some of the biggest Asian defense integrators. We are currently exploring several cooperation opportunities within Asia and Central America.

In 2014, we anticipate expanding our sales and marketing efforts for our entire portfolio of naval solutions including our Shield family of products - AquaShield™, AquaShield-ER™ (Extended Range), PointShield™ and our Mobile Acoustic range (MAR) as well as the other naval solutions. In some cases we also offer a complete solution including above-water optical and radar sensors from third-party integrators into a complete C&C system. DSIT is currently in discussions with a number of energy, commercial and governmental customers seeing an increasing awareness of potential underwater threats to coastal and offshore critical infrastructure as well as vessels, canals and intakes.

In 2013, three customers accounted for approximately 55% of segment revenues (25%, 20% and 10%). Two of the customers, the Israeli Ministry of Defense and the Republic of Azerbaijan accounted for 14% and 11% , respectively (\$2.9 million and \$2.3 million) of Acorn's consolidated revenues in 2013. In addition, two other customers in this

segment also represented approximately 40% (approximately 20% and 20% or \$1.2 million and \$1.1 million, respectively) of Acorn's consolidated accounts receivable at December 31, 2013. A substantial portion of such amounts were received in the first quarter of 2014. The loss of any one or more of these customers or the lack of a replacement project upon the completion of projects to these customers could have a material adverse effect on this segment.

Competition

Our Energy & Security Sonar Solutions segment faces competition from several competitors, large and small, operating in worldwide markets (such as Sonardyne International Ltd. and Atlas Elektronik (both based in the United Kingdom) and the Kongsberg group of companies (based in Norway)) with substantially greater financial and marketing resources, particularly with respect to our energy and security sonar solutions. We believe that our wide range of experience and long-term relationships with large businesses as well as the strategic partnerships that we are developing will enable us to compete successfully and obtain future business. In product demonstrations to potential customers, DSIT's AquaShield™ has achieved better performance regarding

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detection range and automatic classification, than its main competitor. DSIT has sold its AquaShield™ DDS system to the Israeli Navy following a comprehensive review and evaluation process in which the Navy investigated competing systems and selected those of DSIT. DSIT anticipates additional orders from the Israeli Navy for additional systems. We also face competition from other competitors (such as Whitehead Sistemi Subacquei (WASS) in Italy and Ultra Electronics in the UK in the area of portable acoustic ranges.

Intellectual Property

DSIT rigorously attempts to protect its proprietary know-how, proprietary technologies, processes and other intellectual property.

DSIT's systems are heavily based on software implementing advanced acoustic signal processing algorithms. The foundation of the systems and DSIT's competitive edge lies in these algorithms. DSIT's strategy is to identify these key intellectual property elements developed by us in order to protect them in a timely and effective manner, and to continually use such intellectual property to our competitive advantage in the marketplace.

We keep the detailed description of these core algorithms as proprietary information and accordingly they are not disclosed to the public or to customers. We use contractual measures such as non-disclosure agreements and special contract terms to protect this intellectual and proprietary information. It is uncommon for companies such as DSIT to rely heavily on patents, as the patent itself may disclose critical information. Nonetheless, in certain cases the benefits of patent protection can outweigh the risks. We anticipate that we may apply for certain patents during the course of 2014.

A significant portion of our know-how is protected as commercial secrets and supported through agreements with our employees, suppliers, partners and customers.

Facilities

DSIT's activities are conducted in approximately 21,000 square feet of space in the Tel Aviv metropolitan area under a lease that expires in June 2016. We believe that DSIT's premises, which include a new integration and production lab built in 2013, will be sufficient to handle any potential growth for the near future.

SMART GRID DISTRIBUTION AUTOMATION – GridSense

GridSense which is 100% owned by Acorn, develops and markets remote monitoring systems to electric utilities and industrial facilities worldwide. These systems are used in a wide range of utility applications including outage management, power quality monitoring, system planning, trouble shooting and proactive maintenance, and condition monitoring. These systems provide transmission and distribution network operators with the intelligence to better and more efficiently conduct grid operations. GridSense's solutions allow end-users to cost effectively monitor the power quality and reliability parameters of electric transmission and distribution systems in applications where competitive offerings are non-existent or cost-prohibitive.

GridSense operates from offices in the U.S. and Australia and has utility customers throughout the world, including the Americas, Asia, Australia, Africa, and the United Kingdom.

During the second quarter of 2013, GridSense restructured its operations in both its US and Australian entities. This action was taken primarily in order to improve efficiency based on GridSense's revenue mix and skills mix. In

Australia, personnel reductions were made and operations were moved to a smaller facility. Following the restructuring, GridSense's Australian operations no longer have a production line and have minimal research and development activities. Substantially all product production and development now take place at GridSense's U.S. operations facility in Sacramento.

GridSense Offerings & Solutions

GridSense provides a range of offerings to utilities worldwide that help them identify, and in some cases prevent, outages and failure conditions. GridSense offerings cost-effectively identify issues on transformers from the substation to the poletop, overhead distribution and transmission lines. GridSense also provides solutions for underground line monitoring, power quality analysis, and close up inspection of energized, high voltage assets. With GridSense solutions, utilities can minimize inconveniences

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and productivity losses for their consumers, optimize asset utilization, and reduce the costs of identifying and rectifying network outages and disturbances. GridSense offerings include:

• **Transformer IQ®** - The Transformer IQ® is a comprehensive, cost-effective monitoring system that monitors from the substation to the residential transformer all transformer failure parameters.

• **Line IQ® Systems** - The Line IQ® provides real-time monitoring of events, load, voltage and temperatures with intelligent algorithms for accurate fault detection and overhead line condition monitoring.

• **PowerMonic™** - The PowerMonic™ range of outdoor power analyzers and analytical software provides portable, comprehensive monitoring of low-voltage circuits, including power quality profiles, transient recordings, RMS event captures, flicker, sags and swells, and remote capabilities.

• **HighV™ Camera** - HighV™ Camera provides high-voltage inspection for energized assets to 345kV phase to phase, with one-touch still image or video capture, is Android tablet optimized for maximum functionality, and offers rapid deployment via hotstick.

• **Grid InSite™** - An intuitive, integrated software platform for configuring GridSense network monitoring devices, accessing their data, and turning that data into actionable, smart grid intelligence.

• **DistributionIQ®** - A robust platform for battery- and maintenance-free remote monitoring of non-transformer assets and applications, including fixed capacitor banks, underground cables, and underground line faults.

GridSense products under current development include:

• **DemandIQ™** - Uses TransformerIQ® to detect overload conditions at the poletop transformer and, in conjunction with proprietary algorithms developed at San Diego Gas and Electric, perform direct load shedding within the household.

Customers and Markets

The industry in which GridSense operates is characterized by intense competition from both large, established companies as well as smaller companies with specialized offerings. Strategically important markets include North America, South America, Asia and South Africa. Having invested heavily in an organization to support its customers in the U.S. and Canada, GridSense has grown its customer base from just a handful a few years ago to nearly 400 utility companies ranging from municipal utilities and cooperatives to large investor owned utilities. GridSense has not, however, generally been able to leverage market exposure into high volume sales. We believe this is due to the fact that until recently, GridSense's focus had been on increasing the number of pilots which, though having potential for sizable orders, required considerable engineering resources and customization effort. Furthermore, pilot programs (consisting of deployment of one or more products on a test basis) generally last between three and eighteen months. GridSense's new management has realigned sales and engineering efforts and is focusing on fewer and more standardized opportunities with the most perceived likelihood for successful deployment and commercial-scale orders. We attribute the recent receipt of large orders in both North America and Australia to this new strategy. GridSense has recently received orders from five different utilities ranging from \$200,000 to \$1.1 million. These orders either shipped in the fourth quarter of 2013 or were received in the first quarter of 2014 (see Recent Developments). North America is characterized by a large number of electricity suppliers operating over a vast geographic territory. We are currently pursuing deployment opportunities in these markets, including supporting local pilots that either were underway or meet our new participation criteria. We have no assurance that any of our pilot programs will ultimately result in large scale roll-out programs.

GridSense utilizes a global network of resellers, including rental companies, electrical engineering firms, distributors, independent manufacturers' representatives and agents. By leveraging off this indirect sales network, GridSense has expanded into international territories while minimizing the risk and financial burden of maintaining a direct sales organization. In North America, GridSense employs two sales professionals and two application sale engineers. Within Australia, we sell primarily the PowerMonic™, but also the Line IQ® and Transformer IQ® range of products directly to electric utilities and industrial customers.

Currently, GridSense has over 15 ongoing major pilot programs, each of which we believe could have a roll-out potential in excess of \$500,000. Pilot programs consist of deployment of one or more products on a test basis. Such pilot programs generally

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last between three and eighteen months. We have no assurance that such pilot programs will ultimately result in large scale roll-out programs.

In 2013, two customers (both serviced from GridSense's U.S. operations) accounted for approximately 40% (approximately \$1.0 million from each customer) of GridSense's total revenues. These two customers accounted for approximately 58% of GridSense's U.S. based revenues (\$3.4 million). Three customers accounted for approximately 68% (\$1.1 million of GridSense's Australian based revenues (\$1.6 million)). The balance of GridSense's revenues in 2013 were generally spread across a broad base of customers. The loss of one or more of the company's top customers could have a material effect on the overall sales of GridSense. To mitigate this risk, the company is aggressively working to further expand its sales pipeline and supporting a larger base of customers.

Competition

The industry in which GridSense operates is characterized by intense competition from both large, established companies as well as smaller companies with specialized offerings. Such competitors include General Electric, Siemens, Qualitrol Company LLC, PowerSense and Schweitzer Engineering Laboratories. To avoid direct competition with larger, more established companies, GridSense focuses on niches where it can offer a differentiated product based on superior cost and performance. In the niche market, GridSense competes against Power Delivery Product, Sentient and Cooper. These companies have varying degrees of similar products at comparable price points. As GridSense grows and penetrates markets where larger companies have been established, it may experience more competition. GridSense is in a field where electronics and software/firmware dominate. This fast changing area may generate new methods of detecting and monitoring disturbances. GridSense closely monitors trends and changes in technologies and customer demand that could adversely impact its competitiveness and overall success. Price, quality and experience are the primary competitive factors.

Intellectual Property

GridSense invests significant resources in product development and research in order to maintain its competitiveness in the marketplace. Keeping proprietary information safe from unauthorized use or disclosure is therefore an important objective. In order to protect its proprietary know-how and technology, GridSense uses a combination of patents, trade secrets, contracts, copyrights and trademarks. GridSense owns two U.S. patents, and has one patent pending in the U.S. In addition, GridSense owns one patent in Canada. Some of GridSense's know-how and technology may not be patentable. To protect its rights, GridSense generally requires employees, as well as select consultants, advisors and collaborators to enter into confidentiality agreements. While these agreements will provide some level of protection, they cannot provide absolute assurance that GridSense's trade secrets, know-how or other proprietary information are fully safeguarded. Whenever intellectual property is developed internally or acquired, GridSense will evaluate and determine the optimal mix of controls to protect itself.

Production Facilities and Locations

GridSense has facilities in West Sacramento, CA and Sydney, Australia. The leased facility in West Sacramento covers approximately 11,900 square feet. The facility in West Sacramento is used for production, development and administrative activities. The leased facility in Sydney has approximately 1,500 square feet. The facility in Sydney is primarily a distribution and service center. GridSense management believes both facilities are sufficient to meet the company's needs for the foreseeable future. GridSense has successfully outsourced many production processes to external parties while maintaining strict quality assurance standards including the internal testing of all finished goods. The transfer of production to accredited contract manufacturers has reduced the Company's fixed manufacturing overhead and freed up resources to focus on quality assurance and service. The leases in West Sacramento and Sydney expire in February 2016 and September 2016, respectively.

POWER GENERATION MONITORING - OmniMetrix, LLC

In accordance with applicable accounting standards, we began consolidating the results of OmniMetrix beginning February 15, 2012, the date we acquired OmniMetrix. OmniMetrix is a Georgia limited liability company established in 1998 based in Buford, Georgia that develops and markets wireless remote monitoring systems and services for two

markets - stand-by power generators and cathodic protection for the gas pipeline industry. Acorn owns 100% of OmniMetrix.

Products & Services

In the Power Generation ("PG") market, OmniMetrix sells a line of devices built on its baseline G8500 wireless remote monitor. This device is designed to be broadly applicable across all brands and models of emergency power generators. The G8500 product family provides the ability to identify whether an emergency generator is capable of operating as expected. In

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2012, OmniMetrix designed and gained approval from PTCRB and AT&T for a new 4G data radio module, replacing the 2G technology used since 2007. This new device includes GPS functionality for the first time, enabling the company to bring a mobile asset tracking functionality into the market, with primary focus on mobile generators and related equipment. OmniMetrix' G8700 product line is designed specifically for this mobile market segment, and offers robust functionality and ultra-low power consumption, a critically important feature for mobile equipment.

In the Pipeline market, OmniMetrix offers two primary product lines, Rectifier Monitors and Test Point Monitors. Both of these products are used in Cathodic Protection ("CP") engineering, a process which reduces rust and corrosion on the steel pipes used to transport natural gas underground. As the name suggests, the OmniMetrix Rectifier Monitor (RM) product monitors the operation of the rectifiers, which are a critical component in the effort to prevent corrosion, and are also the most common point of failure in the corrosion system. The OmniMetrix Computer Automated Test Station (CATS) is also used to provide data points along the pipeline segment powered by the rectifier.

Customers and Markets

In the first stages of OmniMetrix's PG product and market development, relatively unsophisticated generator controls and early generation cellular and satellite communication processes limited the applications to alarm delivery. Customers were notified that some event had taken place after the fact. There was no diagnostic data opportunity, but service organizations could at best practice a proactive service approach.

With the advent of second generation cellular systems, and newer computerized engine controls, OmniMetrix migrated to a design point of collecting large amounts of performance data from the remote machinery, allowing service organizations to perform diagnostics on remote equipment before dispatching service. This was the beginning of the OmniMetrix SmartService™ program. It allowed the service organization to put the right person in the right truck with the right parts to effect a one trip solution. At this phase service organizations could be efficient, as well as proactive, in their operations.

OmniMetrix is now in its third phase of evolution, maturing the high performance data collection design point into the first provider offering of automated prognostic solutions. As most generator failures are the result of consumables, and as those consumables can be monitored, the consumption trends can be extrapolated into predictions of the most common failure modes. In 2013, OmniMetrix opened its 24 x 7 Network Operation Center ("NOC"). With the NOC, OmniMetrix coupled its data analysis capabilities with an active call center environment, giving its customers a new level of support.

OmniMetrix' PG monitors have been installed on generators from original equipment manufacturers ("OEMs") such as Caterpillar, Kohler, Generac, Cummins, MTU Energy and other generator manufacturers. Based on both published and industrial sources, we estimate that the U.S. emergency power generation marketplace consists of at least 100,000 industrial generators and 200,000 residential generators per year. These new machines join an installed base of approximately two million generators. While new generators provide more useful diagnostic data thanks to their computerized controls, older machines have an ever greater need for basic monitoring due to their aging systems. Some estimates place the world market for monitoring at over 10 million installed generators.

OmniMetrix provides dual value propositions to the generator service organizations as well as to the machine owner. The dealers benefit from the receipt of performance data and status conditions from the generators they service for their customers that allows the dealer service organization to be proactive in their delivery of service to their customers, as well as to implement the OmniMetrix SmartService™ approach to analyzing the remote machines before dispatching a service truck. Since the majority of service and warranty costs are incurred from service people driving trucks, preemptive analysis of customer site conditions prior to dispatch can reduce their labor cost

consequentially. While some larger dealers embraced OmniMetrix's business model (a recurring revenue model where monitors are sold at or below cost in exchange for customer commitments for fixed term monitoring contracts), it did not universally resonate within the dealer marketplace and the rate of anticipated adoption (and thus sales of monitors and monitoring subscriptions) was far slower than anticipated. From the machine owner's perspective, the OmniMetrix product provides a powerful tool to be used in their constant effort to avoid failures that come from consumables such as batteries and fuel. With proper monitoring, the large majority of machine failures can be avoided completely. This migration from failure reporting to failure prevention is fundamental to the OmniMetrix focus, and is the result of a strong data collection and analysis design point. We believe that this transition to prognostics sets OmniMetrix apart from its competitors, many of whom are still in the failure reporting phase of application development. We have also increased our marketing efforts to end-users in an effort to increase demand for our services. Whether these efforts will prove to be successful cannot be determined at this time.

In addition, in January 2013, the EPA finalized amendments to the National Emissions Standards for Hazardous Air Pollutants for stationary reciprocating internal combustion engines (generators). Now, every commercial generator over a certain

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size is required to collect and report run times and annual emissions or face significant civil penalties. Consequently, we believe that some end-user customers as well as environmental engineering firms, will see significant value in our offering due to our ability to assist end-user customers in complying with such environmental regulations. As a result, we have begun to highlight this value in our marketing efforts to our customers. We are currently providing reports and information to end-user customers to assist them in their environmental compliance, and we have received positive feedback from these customers.

There are two types of competitors in the PG marketplace: independent monitoring organizations (such as OmniMetrix) who produce the monitoring systems (but not the equipment being monitored); and OEMs such as generator manufacturers or generator controls manufacturers who have begun offering customer connectivity to their machinery. We recently commissioned a market study that supports our belief that we offer an excellent product, but which indicates that our pricing strategy needs to become more aggressive in order to compete effectively with both our monitoring and OEM competitors. Whether any new pricing and marketing programs will be effective cannot be determined.

Within the CP pipeline marketplace, there are no OEM competitors, but there are several independent monitoring companies similar to OmniMetrix. While we believe that OmniMetrix systems provide greater functionality than its competitors, those competitors offer a broader range of corrosion products beyond monitoring enabling better channel penetration than OmniMetrix can accomplish. In 2013, one customer in OmniMetrix's CP segment accounted for approximately 19% (approximately \$420,000) of OmniMetrix's revenue. The loss of this customer could have a material effect on the overall revenues of OmniMetrix. We do not anticipate significant growth in this marketing channel due to the crowded competitive field, although we have several repeat customers for which we are monitoring hundreds of units.

In 2013, one customer in its PG segment accounted for approximately 11% (approximately \$230,000) of OmniMetrix's total revenue. In 2013, this customer has indicated that it would be disconnecting its PG monitoring units over a period of time. Accordingly, OmniMetrix recorded a charge of \$1.1 million in the second quarter with respect to the impairment of the customer relationship. During 2013, this customer disconnected approximately one-third of its approximately 1,500 units. We do not know what the pace of disconnects will be in 2014 or whether it will continue. Any further loss of units monitored for this customer could have a material effect on the overall revenues of OmniMetrix. To mitigate this risk, the company is aggressively attempting to increase its penetration rate, its sales pipeline and to support a larger base of customers. The balance of OmniMetrix's revenues in 2013 were generally spread across a broad base of customers.

Competition

OmniMetrix is a vertical market company, deeply focused on product and service designs for a complete end-to-end program for its customers. Having been the first (1998) provider of wireless remote monitoring systems for standby generators and pipeline corrosion programs, the company has had the opportunity to mature its offering to a level not offered by others who might like to compete in these two segments. This long experience working with key brand project partners over the years has resulted in product offerings that other competitors simply cannot match.

There are two types of competitors in the PG marketplace:

- (1) Independent monitoring organizations (such as OmniMetrix) who produce the monitoring systems, but not the equipment being monitored. Among these are companies such as Ayantra, FleetZOOM, Gen-Tracker, and PointGuard. PointGuard is owned by a Caterpillar dealer, and focuses its business on the Caterpillar channel. Today it offers an array of diagnostic capabilities. The other three competitors operate in the reactive "failure notification" mode described in the early stages of the OmniMetrix business model. In the past, those competitors positioned themselves at a lower performance, lower price quadrant of the market. Following its acquisition by

Acorn, OmniMetrix began an aggressive push into lower price offerings, while providing significantly higher performance than the competition.

- OEMs such as generator manufacturers or generator controls manufacturers have begun offering customer connectivity to their machinery. They offer a current generation connectivity replacing telephone dial-up modems that had been used in the past. Their offerings are limited to their own brands, so they do not fit into a broad application such as does the OmniMetrix SmartServiceTM, supporting service organizations that service all brands.
- (2) They are also generally designed for the machine owners' use, in a reactive application. Deep Sea Electronics offers wireless devices to allow remote access to generators with some of their controls. Similarly, Cummins Power Generation offers a device that allows their machine owners to browse directly into the generator. This device is only valid for certain types of their generators.

We believe OmniMetrix has a well established and well-defended position in the high performance PG monitoring segment, due to its long history and numerous industry partner projects. The company is currently applying an aggressive sales effort into both the market segment requiring less technology and lower price (including the extremely large residential generator

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market) as well as developing more sophisticated, diagnostic products and custom solutions for commercial clientele.

Within the CP pipeline marketplace, there are no OEM competitors, but there are several independent monitoring companies similar to OmniMetrix such as Abriox, Elecsys, and American Innovations. While we believe that OmniMetrix systems provide greater functionality than its competitors, those competitors offer a broader range of corrosion products beyond monitoring enabling better channel penetration than OmniMetrix can accomplish. We do not anticipate significant growth in this marketing channel due to the crowded competitive field.

Intellectual Property

OmniMetrix has always focused on being the technology leader in its markets, and as a result has created many “industry firsts”. Initially, the company only pursued patents on the most valuable processes and systems and otherwise made public disclosure of many processes to prevent others from making later patent claims on those items. Nonetheless, OmniMetrix has two issued patents and is evaluating the benefit of completing additional applications currently in process. Furthermore, the company has agreements with its employees and consultants which establish certain non-disclosure and in some cases, non-compete, requirements. OmniMetrix continually evaluates whether and how to best protect its intellectual property, but there can be no assurance that its efforts will be successful in all cases.

Facilities

OmniMetrix's activities are currently conducted in approximately 21,000 square feet of office and production space in the Hamilton Mill Business Park located in Buford, Georgia under a lease that expires on December 31, 2019. OmniMetrix is currently utilizing only a portion of these leased facilities and has taken an impairment charge in connection with its restructuring in the third quarter of 2013 with respect to expected underutilization of leasehold improvements in these facilities. OmniMetrix is attempting to sub-lease a portion of these facilities. It cannot be determined at this time whether OmniMetrix will be successful in its attempts to sub-lease the facilities.

BACKLOG

As of December 31, 2013, our backlog of work to be completed and the amounts expected to be completed in 2014 were as follows (amounts in millions of U.S. dollars):

	Backlog at December 31, 2013	Amount expected to be completed in 2014
DSIT Solutions	\$13.4	\$7.0
GridSense *	0.8	0.8
OmniMetrix	1.8	1.6
USSI	2.5	2.5
Total	\$18.5	\$11.9

* See Recent Developments.

RESEARCH AND DEVELOPMENT EXPENSE, NET

Research and development expense recorded for the years ended December 31, 2011, 2012 and 2013 for each of our consolidated subsidiaries is as follows (amounts in thousands of U.S. dollars):

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	Years ended December 31,		
	2011	2012	2013
DSIT Solutions	\$568	\$1,048	\$1,511
GridSense	1,370	1,624	2,118
OmniMetrix*	—	341	647
USSI	1,057	3,577	3,899
Total	\$2,995	\$6,590	\$8,175

* OmniMetrix was acquired on February 15, 2012. Accordingly, the research and development expense recorded with respect to OmniMetrix relates only to the period after its acquisition.

Research and development expense recorded is net of participation by third parties in the research and development costs as well as credits arising from qualifying research and experimental development expenditures.

EMPLOYEES

At December 31, 2013, we employed a total of 205 employees, including 179 full-time employees. We consider our relationship with our employees to be satisfactory.

A breakdown of our full-time employees by geographic location can be seen below:

	Full-time employee count at December 31, 2013			
	U.S	Australia	Israel	Total
DSIT Solutions	—	—	62	62
GridSense	28	9	—	37
OmniMetrix	26	—	—	26
USSI	50	—	—	50
Acorn	4	—	—	4
Total	108	9	62	179

A breakdown of our full-time employees by activity can be seen below:

	Full-time employee count at December 31, 2013			
	Production, Engineering and Technical Support	Marketing and Sales	Management, Administrative and Finance	Total
DSIT Solutions	49	3	10	62
GridSense	24	7	6	37
OmniMetrix	14	9	3	26
USSI	42	2	6	50
Acorn	—	—	4	4
Total	129	21	29	179

We have no collective bargaining agreements with any of our employees. However, with regard to our Israeli activities, certain provisions of the collective bargaining agreements between the Israeli Histadrut (General Federation

of Labor in Israel) and the Israeli Coordination Bureau of Economic Organizations (including the Industrialists Association) are applicable by order of the Israeli Ministry of Labor. These provisions mainly concern the length of the workday, contributions to a pension fund, insurance for work-related accidents, procedures for dismissing employees, determination of severance pay and other conditions

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of employment. We generally provide our Israeli employees with benefits and working conditions beyond the required minimums. Israeli law generally requires severance pay upon the retirement or death of an employee or termination of employment without due cause. Furthermore, Israeli employees and employers are required to pay specified amounts to the National Insurance Institute, which administers Israel's social security programs. The payments to the National Insurance Institute include health tax and are approximately 5.5% of wages (up to a specified amount), of which the employee contributes approximately 70% and the employer approximately 30%.

In Australia, all employers are required to make contributions to retirement investment funds benefiting employees called Superannuation. GridSense is required to pay 9% of salary as a contribution toward Superannuation funds nominated by its employees. Further, the Australian Government stipulates that employees are entitled to severance pay if their position is terminated as a result of company restructuring.

ADDITIONAL FINANCIAL INFORMATION

For additional financial information regarding our operating segments, foreign and domestic operations and sales, see "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 21 to our Consolidated Financial Statements included in this Annual Report.

AVAILABLE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). These filings are available to the public over the internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's public reference room located at 100 F Street, NE, Washington, DC 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room.

Our website can be found at <http://www.acornenergy.com>. We make available free of charge on or through our website, access to our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports as soon as reasonably practicable after such material is electronically filed, or furnished, to the SEC. Our website also includes our Code of Business Conduct and Ethics, and our Board of Directors' Committee Charters for the Audit, Compensation and Nominating Committees.

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ITEM 1A. RISK FACTORS

We may from time to time make written or oral statements that contain forward-looking information. However, our actual results may differ materially from our expectations, statements or projections. The following risks and uncertainties, together with other factors not presently determinable, could cause actual results to differ from our expectations, statements or projections.

GENERAL FACTORS

We have a history of operating losses and have used increasing amounts of cash for operations and to fund our acquisitions and investments.

In 2013, each of our companies experienced delays in anticipated orders, lower than planned sales volume and in the case of USSI, technical challenges that collectively and materially have negatively impacted and may continue to negatively impact our financial performance in the future. We have a history of operating losses, and have used significant amounts of cash to fund our operating activities over the years. In 2011, 2012 and 2013, we had operating losses of \$8.0 million, \$20.7 million and \$31.0 million, respectively. Cash used in operating activities of continuing operations in 2011, 2012 and 2013 was \$7.8 million, \$22.2 million and \$17.8 million, respectively.

We do not presently anticipate pursuing new acquisitions and investment opportunities unless they support our existing businesses, but we do expect to continue to support the financing needs of USSI and possibly our other subsidiaries. While we plan for GridSense and OmniMetrix (as a combined operating unit) as well as DSIT to be net cash flow neutral going forward, each of these companies may from time to time need temporary support for their financing needs. While we have taken steps to reduce our corporate cash expenses and currently have enough cash on hand to fund our operations for at least the next 12 months depending on our corporate strategy, we may need additional funds to finance future activity we wish to undertake. We do not know if such funds will be available if needed on terms that we consider acceptable. We may have to limit or adjust our operating strategy in order to continue to pursue our corporate goals.

We do not expect to pay dividends on shares of our common stock for the foreseeable future. Investors may never obtain a return on their investment.

In October 2011, our Board of Directors adopted a dividend policy pursuant to which Acorn expected to pay quarterly dividends on our common stock. We suspended this policy after our March 2013 dividend payment and do not presently intend to pay dividends to our stockholders in the foreseeable future. We intend to reinvest earnings, if any, in the development and expansion of our business. Accordingly, you will need to rely on sales of your common stock after price appreciation, which may never occur, in order to realize a return on your investment.

We depend on key management for the success of our business.

Our success is largely dependent on the skills, experience and efforts of our senior management team, including John Moore, Jim Andersen, Joseph Musanti, Benny Sela and Michael Barth. The loss of the services of any of these key managers could materially harm our business, financial condition, future results and cash flow. We do not maintain “key person” life insurance policies on any of these employees other than for our CEO, John A. Moore. We may also not be able to locate or employ on acceptable terms qualified replacements for our senior management if their services were no longer available.

We believe the ultimate success of USSI will depend on our ability to market successfully to the oil and gas sector, and thus we intend to recruit personnel with ties to and experience in that industry. There can be no assurance that we will be able to recruit such personnel or that the terms on which we may be able to do so will be favorable to us.

Loss of the services of a few key employees could harm our operations.

We depend on key technical employees and sales personnel. The loss of certain personnel could diminish our ability to develop and maintain relationships with customers and potential customers. The loss of certain technical personnel could harm our ability to meet development and implementation schedules. The loss of key sales personnel could have a negative effect on sales to certain current customers. Although most of our significant employees are bound by confidentiality and non-competition agreements, the enforceability of such agreements cannot be assured. Our future success also depends on our continuing ability to identify, hire, train and retain other highly qualified technical and managerial personnel. If we fail to attract or retain highly qualified technical and managerial personnel in the future, our business could be disrupted.

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Our awards of stock options to employees may not have their intended effect.

A portion of our total compensation program for our executive officers and key personnel has historically included the award of options to buy our common stock or the common stock of our subsidiaries. If the price of our common stock performs poorly, such performance may adversely affect our ability to retain or attract critical personnel. In addition, any changes made to our stock option policies, or to any other of our compensation practices, which are made necessary by governmental regulations or competitive pressures could affect our ability to retain and motivate existing personnel and recruit new personnel.

Compliance with changing regulation of corporate governance, public disclosure and financial accounting standards may result in additional expenses and affect our reported results of operations.

Keeping informed of, and in compliance with, changing laws, regulations and standards relating to corporate governance, public disclosure and accounting standards, including the Sarbanes-Oxley Act, Dodd-Frank Act, as well as new and proposed SEC regulations and accounting standards, has required an increased amount of management attention and external resources. Compliance with such requirements may result in increased general and administrative expenses and an increased allocation of management time and attention to compliance activities.

New regulations related to conflict-free minerals may force us to incur additional expenses.

The SEC released final rules in August 2012 regarding mandatory disclosure by public companies of sourcing information related to their use of “conflict minerals” (tantalum, tin, tungsten and gold) originating in the Democratic Republic of Congo and adjoining countries. We were required to conduct specified due diligence activities for the 2013 calendar year, and will have to provide our first report in May 2014. A challenge to the rules filed by the National Association of Manufacturers and the U.S. Chamber of Commerce in the U.S. Court of Appeals for the District of Columbia was unsuccessful and the rules remain in force. We thus have determined that conflict minerals are necessary for the functionality of many of our products, and have taken, and will continue to undertake, prescribed steps to determine their origin. We anticipate that fulfilling our compliance obligations with the rules will continue to be both time consuming and potentially costly. Although the exact amount cannot be determined at this time, commentators have suggested compliance could cost companies like ours as much as several hundreds of thousands of dollars per year. Although our costs have been (and we expect will continue to be) substantially lower, we may also incur additional expenses related to any changes to our products we may decide are advisable based upon our due diligence findings, as well as increased supply costs as alternative supply sources may not be competitively priced.

We may not be able to successfully integrate companies which we may invest in or acquire in the future, which could materially and adversely affect our business, financial condition, future results and cash flow.

Part of our business model includes the acquisition of new companies either as new platform companies or complimentary companies for our subsidiaries. Although we do not presently foresee making such acquisitions in the near term unless they support our existing businesses, if we did so, any failure to effectively integrate any future acquisition's management into our controls, systems and procedures could materially adversely affect our business, results of operations and financial condition.

Our strategy is to continue to integrate any newly acquired companies and grow the businesses of all of our companies. Integrating acquisitions is often costly, and we may not be able to successfully integrate acquired companies with existing operations without substantial costs, delays or other adverse operational or financial consequences. Integrating acquired companies involves a number of risks that could materially and adversely affect

our business, including:

- failure of the acquired companies to achieve the results we expect;
- inability to retain key personnel of the acquired companies;
- dilution of existing stockholders;
- potential disruption of our ongoing business activities and distraction of our management;
- difficulties in retaining business relationships with suppliers and customers of the acquired companies;
- difficulties in coordinating and integrating overall business strategies, sales and marketing, and research and development efforts; and
- difficulties in establishing and maintaining uniform standards, controls, procedures and policies, including accounting controls and procedures.

In order to grow, one or more of our companies may decide to pursue growth through acquisitions, although we do not currently plan any significant acquisitions. Any significant acquisition by one or more of our operating companies could require

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substantial use of our capital and may require significant debt or equity financing. We anticipate the need to closely manage our cash for the foreseeable future and cannot provide any assurance as to the availability or terms of any such financing or its effect on our liquidity and capital resources.

We incur substantial costs as a result of being a public company.

As a public company, we incur significant legal, accounting, and other expenses in connection with our reporting requirements. The Sarbanes-Oxley Act of 2002, Dodd-Frank Act and the rules subsequently implemented by the Securities and Exchange Commission ("SEC") and NASDAQ, have required changes in corporate governance practices of public companies. These rules and regulations have already increased our legal and financial compliance costs and the amount of time and effort we devote to compliance activities. We expect that as a result of continued compliance with these rules and regulations, we will continue to incur significant legal and financial compliance costs. We continue to regularly monitor and evaluate developments with respect to these new rules with our legal counsel, but we cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. The conflict minerals reporting requirement discussed above is a direct consequence of our public status.

We may in the future become involved in litigation that may materially adversely affect us.

From time to time in the ordinary course of our business, we may become involved in various legal proceedings, including commercial, product liability, employment, class action and other litigation and claims, as well as governmental and other regulatory investigations and proceedings. Several law firms issued press releases for the apparent purpose of seeking clients to bring claims against us in connection with the impairment and restructuring charges we announced at OmniMetrix last fall, but to date no lawsuits have been filed against us. We believe we have abided by all applicable laws and would vigorously defend any such suits were they to be commenced. Any legal proceedings can be time-consuming, divert management's attention and resources and cause us to incur significant expenses. Because litigation is inherently unpredictable, the results of any such actions may have a material adverse effect on our business, operations or financial condition.

Goodwill and other intangible assets recorded in connection with our acquisitions is subject to impairment evaluations and as a result, we could be required to write off some or all of these intangibles, which may adversely affect our financial condition and results of operations.

In accordance with applicable accounting principles, goodwill is not amortized but is reviewed annually or more frequently for impairment and other intangibles are also reviewed if certain conditions exist. During the year ended December 31, 2013, we recorded impairments of \$1.9 million and \$4.8 million of goodwill and intangibles, respectively, associated with our OmniMetrix subsidiary. Any additional impairment of the value of recorded goodwill or other intangibles at any of our other subsidiaries will result in an additional charge against earnings which could materially adversely affect our reported results of operations and financial position in future periods.

While we have not reported any material weaknesses in internal controls over financial reporting in the past, we cannot assure you that material weaknesses will not be identified in the future. If our internal control over financial reporting or disclosure controls and procedures are not effective, there may be errors in our financial statements that could require a restatement or our filings may not be timely and investors may lose confidence in our reported financial information.

Section 404 of the Sarbanes-Oxley Act of 2002 requires us to evaluate the effectiveness of our internal control over financial reporting as of the end of each year, and to include a management report assessing the effectiveness of our internal control over financial reporting in each Annual Report on Form 10-K.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. Over time, controls may become inadequate because changes in conditions or deterioration in the degree of compliance with policies or procedures may occur. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

As a result, we cannot assure you that significant deficiencies or material weaknesses in our internal control over financial reporting will not be identified in the future. Any failure to maintain or implement required new or improved controls, or any difficulties we encounter in their implementation, could result in significant deficiencies or material weaknesses, cause us to fail

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to timely meet our periodic reporting obligations, or result in material misstatements in our financial statements. Any such failure could also adversely affect the results of periodic management evaluations regarding disclosure controls and the effectiveness of our internal control over financial reporting required under Section 404 of the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder. The existence of a material weakness could result in errors in our financial statements that could result in a restatement of financial statements, cause us to fail to timely meet our reporting obligations and cause investors to lose confidence in our reported financial information.

If we are unable to protect our intellectual property, or our intellectual property protection efforts are unsuccessful, others may duplicate our technology.

Our operating companies rely on a combination of patents, trademarks, copyrights, trade secret laws and restrictions on disclosure to protect our intellectual property rights. Our ability to compete effectively will depend, in part, on our ability to protect our proprietary technology, systems designs and manufacturing processes. The ability of others to use our intellectual property could allow them to duplicate the benefits of our products and reduce our competitive advantage. We do not know whether any of our pending patent applications will be issued or, in the case of patents issued, that the claims allowed are or will be sufficiently broad to protect our technology or processes. Further, a patent issued covering one use of our technology may not be broad enough to cover uses of that technology in other business areas. Even if all our patent applications are issued and are sufficiently broad, they may be challenged or invalidated or our competitors may independently develop or patent technologies or processes that are equivalent or superior to ours. We could incur substantial costs in prosecuting patent and other intellectual property infringement suits and defending the validity of our patents and other intellectual property. While we have attempted to safeguard and maintain our property rights, we do not know whether we have been or will be completely successful in doing so. These actions could place our patents, trademarks and other intellectual property rights at risk and could result in the loss of patent, trademark or other intellectual property rights protection for the products, systems and services on which our business strategy partly depends. Furthermore, it is not practical from a cost/benefit perspective to file for patent or trademark protection in every jurisdiction where we now or in the future may conduct business. In those territories where we do not have the benefit of patent or trademark protections, our competitors may be able to prevent us from selling our products or otherwise limit our ability to advertise under our established product names and we may face risks associated with infringement litigation as discussed below.

We rely, to a significant degree, on contractual provisions to protect our trade secrets and proprietary knowledge. These trade secrets either cannot be protected by patent protection or we have determined that seeking a patent is not in our interest. These agreements may be breached, and we may not have adequate remedies for any breach. Our trade secrets may also be known without breach of such agreements or may be independently developed by competitors.

Third parties may claim that we are infringing their intellectual property, and we could suffer significant litigation or licensing expenses or be prevented from selling products and services if these claims are successful. We also may incur significant expenses in affirmatively protecting our intellectual property rights.

In recent years, there has been significant litigation involving patents and other intellectual property rights in many technology-related industries and we believe that the industries in which certain of our subsidiaries operate have a significant amount of patent activity. Third parties may claim that the technology or intellectual property that we incorporate into or use to develop, manufacture or provide our current and future products, systems or services infringe, induce or contribute to the infringement of their intellectual property rights, and we may be found to infringe, induce or contribute to the infringement of those intellectual property rights and may be required to obtain a license to use those rights. We may also be required to engage in costly efforts to design our products, systems and services around the intellectual property rights of others or incur additional marketing costs if we are prevented from using existing product names. The intellectual property rights of others may cover some of our technology, products,

systems and services. In addition, the scope and validity of any particular third party patent may be subject to significant uncertainty.

Litigation regarding patents or other intellectual property rights is costly and time consuming, and could divert the attention of our management and key personnel from our business operations. The complexity of the technology involved and the uncertainty of intellectual property litigation increase these risks. Claims of intellectual property infringement might also require us to enter into costly royalty or license agreements or to indemnify our customers. However, we may not be able to obtain royalty or license agreements on terms acceptable to us or at all. Any inability on our part to obtain needed licenses could delay or prevent the development, manufacture and sale of our products, systems or services. We may also be subject to significant damages or injunctions against development, manufacture and sale of our products, systems or services. We also may be required to incur significant time and expense in pursuing claims against companies we believe are infringing or have misappropriated our intellectual property rights.

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It can be difficult or expensive to obtain the insurance we need for our business operations.

As part of our business operations, we maintain insurance both as a corporate risk management strategy and to satisfy the requirements of many of our contracts. Insurance products are impacted by market fluctuations and can become expensive and sometimes very difficult to obtain. There can be no assurance that we can secure all necessary or appropriate insurance at an affordable price for the required limits. Our failure to obtain such insurance could lead to uninsured losses that could have a material adverse effect on our results of operations or financial condition, or cause us to be out of compliance with our contractual obligations. Two of our subsidiaries, USSI and GridSense, do business in California, which is known to experience earthquake activity. Insurance coverage for earthquake-related damage is expensive and neither company presently maintains earthquake policies.

We may in the future be involved in product liability and product warranty claims relating to the products we manufacture and distribute that, if adversely determined, could adversely affect our financial condition, results of operations, and cash flows. Product liability claims can be expensive to defend and can divert the attention of management and other personnel for significant periods, regardless of the ultimate outcome. Claims of this nature could also have a negative impact on customer confidence in our products and our company. While insurance can mitigate some of this risk, due to our current size and limited operating history, we have been unable to obtain product liability insurance with significant coverage limits. Our customers may not accept the terms we have been able to procure and seek to terminate our existing contracts or cease to do business with us.

The timing and amount of revenue generated both from new customer orders and backlog fulfillment are subject to substantial volatility

Recognition of revenue from sales to certain customers can be subject to delays beyond our control, such as timing of the receipt of component parts (particularly at USSI with respect to cables), change orders issued by the customer and delays in customers' scheduled installation dates (primarily at GridSense and DSIT), all of which we generally accommodate at no cost to the customer as part of our marketing efforts to them for repeat business.

Concentrations of credit risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist principally of cash and cash equivalents, short-term deposits, restricted deposits and accounts receivable. The Company's cash, cash equivalents and restricted cash deposits were deposited with U.S., Israeli and Australian banks and other financial institutions and amounted to \$17.6 million at December 31, 2013. The Company uses major banks and brokerage firms to invest its excess cash, primarily in money market funds. The counterparty to the Company's restricted deposits are two major Israeli banks. The Company does not believe there is significant risk of non-performance by these counterparties. Related credit risk would result from a default by the financial institutions or issuers of investments to the extent of the recorded carrying value of these assets. Approximately 33% of the accounts receivable at December 31, 2013, were due from two customers which pay their receivables over usual credit periods. Credit risk with respect to the balance of trade receivables is generally diversified due to the number of entities comprising the Company's customer base. Approximately 77% of the balance in unbilled revenue at December 31, 2013 was due from four customers that when billed, pay their trade receivables over usual credit periods. Credit risk with respect to the remaining balance of unbilled revenue is generally diversified due to the number of entities comprising our customer base.

Results from our past successful sales of subsidiary companies may not be repeated

In the past, we have sold certain former subsidiaries (Comverge and CoaLogix) at a profit, but there can be no assurance that we will be able to repeat these successes with one or more of our current subsidiaries. We invest in

companies before they have a meaningful history of revenues and whether we can operate these entities successfully or realize any profit on our investments in them cannot be determined.

We are subject to examination of our income tax returns by the IRS and other tax authorities.

Our U.S. Federal income tax returns for the years ended December 31, 2011 through December 31, 2012 are currently under examination by the IRS. We believe this audit primarily relates to our net operating loss carryback which resulted in our recently received tax refund of approximately \$1.7 million. If the IRS were to disallow a portion of our tax losses our net operating losses for future years may be reduced. In addition, the examination could result in other positions we have taken being challenged by the IRS. We regularly assess the likelihood of an adverse outcome resulting from such examinations to determine the adequacy of our deferred tax asset valuation account. As of December 31, 2013, based on the technical merits of our tax return filing positions, we believe that the benefit of such positions should be sustained upon the resolution of our audit resulting in no significant impact on our consolidated financial position and the results of operations and cash flows.

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RISKS RELATED TO USSI

USSI has a limited operating history.

USSI was formed in November 2007 and has a limited operating history. Most of its products are at the development stage and substantial time, effort and financial resources will be required to complete development of its products, fund the cost of customer evaluations and ramp up its production and sales infrastructure. USSI's operations are subject to all of the risks inherent in the establishment of a new business enterprise, especially one that is dependent on developing new products for the oil and gas industries. The likelihood of USSI's success should be considered in light of the problems, expenses, difficulties, complications and delays frequently encountered in connection with establishing a new business such as uncertainty in product development, uncertainty in market acceptance of its products, competition, and changes in business strategy. USSI has no assurance that it will be successful in its business activities.

USSI has incurred net losses and may never achieve sustained profitability; it must monitor and potentially adjust expenses to keep them aligned with anticipated activities.

Since its inception, USSI has had annual operating losses. USSI expects to continue to have operating losses for the year ending December 31, 2014 and possibly beyond (depending on revenue levels) as a result of increased operating expenses required to resolve key technical issues primarily related to peripheral technology needed to field a full system such as high temperature/high pressure seals, downhole fiber optic connectors and downhole clamps. The time and effort required to qualify these peripheral components delayed our ability to ship trial products to customers and ultimately to field a commercial product, both of which limited our ability to generate revenue in 2013. USSI can provide no assurance that it will ultimately generate sufficient revenues to allow it to become profitable, to sustain profitability or to have positive cash flows. We previously ramped up manufacturing capabilities and staff in anticipation of order volumes we expected would occur during the second half of 2013. Due to the issues described above, those expectations were not realized prior to the end of 2013. We are proactively monitoring operating expenses to ensure that they are in line with our current and expected near term activities and will make adjustments if necessary. We may also make strategic hires of additional personnel with experience in the oil and gas industry to assist with our penetration into this complex market.

USSI will need additional financing to grow its business and finance its operations.

In the period since Acorn's initial investment in November 2009 through December 2012, we invested \$14.75 million directly in USSI. In 2013 we invested another \$6.0 million in USSI under two stock purchase agreements and advanced an additional \$1.4 million in contemplation of another stock purchase agreement. We anticipate investing an additional \$4.7 million in USSI during 2014 (of which \$1.3 million has already been transferred), which may increase over the course of the year depending on developments at the company. While USSI has an agreement with a bank for a \$1.5 million line-of-credit (which amount may increase to \$2.0 million if USSI meets certain conditions - see Liquidity), we have no assurance whether and to what extent USSI will have access to its entire bank facility as its availability is subject to certain financial and other covenants. We have no assurance that USSI's future capital needs will not exceed the amount of the credit line or the amounts Acorn is able to provide to USSI, or that USSI will generate sufficient cash flow in the future to fund its operations in the absence of additional funding sources. Furthermore, we may need to raise additional funds to fund USSI if revenues fail to meet or if costs exceed projections or to fund a rapid expansion to meet product demand, respond to competitive pressures or acquire complementary products, businesses or technologies. If additional funds are raised through issuance of Acorn equity

or debt convertible into Acorn equity this will dilute Acorn stockholders. If the funds are raised through the direct issuance of USSI equity or convertible debt securities to third parties, Acorn's percentage ownership of USSI would be reduced.

In addition, should additional funds be needed, there can be no assurance that additional financing will be available on acceptable terms. If funds are not available, or are not available on acceptable terms, USSI may not be able to fund its operations, make the investments needed to grow its business or respond to competitive pressures or take advantage of unanticipated acquisition opportunities. Accordingly, this could materially and adversely affect USSI's business, results of operations and financial condition.

USSI is a small company with limited resources compared to some of its current and potential competitors, which may hinder its ability to compete effectively.

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Some of USSI's current and potential competitors have longer operating histories, significantly greater resources and broader name recognition than does USSI. As a result, these competitors may have greater credibility with USSI's existing and potential customers. They also may be able to adopt more aggressive pricing policies and devote greater resources to the development, promotion and sale of their products than can USSI to its products, which would allow them to respond more quickly than USSI to new or emerging technologies or changes in customer requirements.

USSI's products require additional development and design; recent evaluation trials have shown us that the products will require additional customer evaluation and approval before we can expect commercial orders.

USSI's products are undergoing technical refinement in order to meet customer needs. In addition, USSI's products may require additional engineering and upgrades in conjunction with market developments as well as specific customer needs. In connection with recent customer trials, USSI has experienced various design challenges that have negatively impacted product performance. Although feedback from several customers indicates that the data read from our sensors meets or exceeds our quality claims, several customers have requested improvements regarding the blocking of water from entering the fiber optic cable (primarily a solution to prevent a crack in the fiber optic cable from allowing water to penetrate the entire array), noise cancellation (a process to eliminate the impact of ambient noise on frac detection) and improved clamping mechanisms to improve vector fidelity (the ability to identify the location of a fracture point with precision). We believe that we have provided or are close to achieving solutions responsive to each of these concerns, however, the need to resolve these technical issues has delayed product shipment beyond the time frame we had previously anticipated. In the interim, customers continue to rely on existing competing technology, primarily conventional retrievable downhole sensors. Where these systems are not capable of sustained performance (i.e., in high temperature, long-term deployments), well owners are simply foregoing monitoring. There can be no assurance that USSI will be successful in developing and refining its products and future technological difficulties could adversely affect its business, results of operations and financial condition.

The announced full-scale test will be the first time our product has been deployed in deep depth high temperature well for microseismic monitoring and we may not have the same survivability or performance as experienced in our lab testing.

While we have conducted successful laboratory experiments exposing our sensors to high temperatures over extended periods of time with no loss of performance, we cannot predict whether real well conditions will produce a different result and any loss of sustainability or performance could negatively impact the customer's and other interested parties' acceptance of our products.

USSI has not yet proved its ability to manufacture its products in commercial quantities.

In order to be successful, USSI's products must be manufactured in commercial quantities at an acceptable cost and must meet customer quality specifications. We believe that USSI's space and manufacturing capabilities at its current facilities in Chatsworth, California are sufficient to handle a large increase in sales for the future. USSI implemented an internal ISO 9001 quality management system that has been certified by an independent, internationally recognized audit agency. Without such certification, USSI would not be able to become an approved production supplier to the major oil companies and oilfield service companies. USSI has increased its production staff and has developed proprietary automated manufacturing/assembly stations for its products which to date have been only partially implemented. USSI has also implemented inventory control and tracking systems necessary to support larger scale production, but such systems have either not yet been fully tested or are not yet fully operational. In addition to adding internal staffing and resources, USSI may consider potential opportunities to acquire third party manufacturing capacity through acquisition or contract manufacturing arrangements, and whether or when we will find such arrangements on terms acceptable to USSI cannot be determined. Whether such systems and the personnel with the skills to effectively operate them can be put in place to meet customer orders on a timely and high quality basis can

also not be determined. Failure to do so could result in delays or failures in meeting customer demand, resulting in a loss of customer confidence and orders. Such difficulties could materially and adversely affect the business, results of operations and financial condition of USSI.

Even if USSI is able to field a commercial a product, there can be no assurance that customers will purchase it. One of our goals for USSI, assuming that we can prove that our tool works, is demonstrating its value to, and obtaining orders from, customers. Leading industry participants previously indicated to us that they would monitor all their frac jobs if equipment cost can be reduced by 75% below the cost of monitoring with the traditional technology (which we believe is achievable by utilizing USSI fiber optic sensor systems). Based on our current understanding of the marketplace and customer constraints, we cannot predict the pace or rate of adoption. We remain optimistic, however, that the market for advanced seismic monitoring will nevertheless be sizable based upon current pricing of \$250,000 (for a 10-level system) to \$1.0 million for a larger (40-level) monitoring system. USSI is investigating the possibility of implementing a rental fleet or adopting other strategies to accelerate the pace of adoption but no assurance can be given that these efforts will be successful.

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USSI is dependent on suppliers who provide it with key components for some of its products.

USSI's products incorporate "state of the art" technologies. As such, in many cases there are a limited number of suppliers of key components. In particular, USSI currently relies on a single source for the supply of one of the basic circuit boards used in its high-end interrogators for some of its technologically advanced product offerings. USSI has licensed alternative interrogator technology that is much more advanced from Northrop Grumman that was initially developed for large-scale U.S. Navy fiber optic sonar applications and intends to field its own high performance interrogator during the first half of 2014. Any development delays could materially and adversely affect USSI's business, results of operations and financial condition. Where possible, USSI attempts to develop secondary back-up suppliers for key components. USSI also relies upon a single supplier for the fiber optic cables used in its systems. Due to the increasing demand for fiber optic cables in the oil & gas industry, USSI is experiencing longer lead times in obtaining these cables for its products, which could delay future shipments. Therefore, USSI intends to develop and qualify a second source for these cables, however, there can be no assurance as to whether or when such efforts will be successful.

USSI's targeted customers may be reluctant to try its alternative solution despite its increased reliability and lower cost; we also face competition from suppliers of other solutions who may have superior resources.

Potential customers may elect to continue to use the existing expensive and less reliable technologies given their familiarity of the existing products in the market. Budget constraints at our customers may also limit the level of adoption even by customers who recognize the value of our solutions. The competition in USSI's markets may have superior resources and marketing ability which could lead to potential customers selecting existing products or other new products over USSI's solutions. While USSI continues to develop its products and invest in marketing efforts accordingly, there is no assurance that USSI's products will be preferred in the market place relative to competitors with superior overall resources. If the market place does not adopt USSI's products as anticipated, USSI's business, results of operations and financial condition could be materially and adversely affected.

Failure to accurately forecast costs of future fixed-priced contracts could reduce USSI's margins.

USSI's current proof-of-concept projects which generally produce negative gross margins due to non-recurring engineering design costs ("NRE") associated with the proof-of-concept are expected to lead to follow-on projects on a fixed price basis. USSI has been following this strategy to ensure it retains ownership of all of the key intellectual property needed to field such systems. When working on a fixed-price basis, USSI expects to undertake to deliver solutions to a customer's specifications or requirements for a particular project. The profits from these projects are expected to primarily be determined by USSI's success in correctly estimating and thereafter controlling project costs. Costs may in fact vary substantially as a result of various factors, including underestimating costs, difficulties with new technologies and economic and other changes that may occur during the term of the contract. If, for any reason, USSI's costs are substantially higher than expected, USSI may incur losses on such fixed-price contracts.

USSI may lose sales if it is unable to obtain government authorization to export its products.

The export of some of USSI's products may be subject to export controls imposed by the U.S. government and administered by the U.S. Departments of State and Commerce. In certain instances, these regulations may require pre-shipment authorization from the administering department. For products subject to the Export Administration Regulations ("EAR") administered by the Department of Commerce's Bureau of Industry and Security, the requirement for a license is dependent on the type and end use of the product, the final destination and the identity of the end user. All USSI products that are exported are subject to EAR; however, most of USSI's equipment is considered

EAR99. EAR99 items generally consist of low-technology consumer goods and do not require a license in many situations. However, if USSI were to attempt to export an EAR99 item to an embargoed country, to an end-user of concern (as defined by the U.S. Department of Commerce) or in support of a prohibited end-use (as defined by the U.S. Department of Commerce), USSI would be required to obtain a license.

Exports of certain USSI products may also be subject to the International Traffic in Arms Regulations (“ITAR”) regulations administered by the Department of State’s Directorate of Defense Trade Controls and may require a license.

Certain possible exports of products and technical data by USSI to DSIT in connection with the PAUSS project and related projects will require either an EAR or ITAR license and it cannot be determined at this time if licenses will issue at all, on a timely basis or on acceptable terms.

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Obtaining export licenses generally can be difficult and time-consuming. Failure to obtain export licenses could significantly reduce our revenue and materially adversely affect USSI's business, financial condition and results of operations. Compliance with U.S. government regulations may also subject USSI to additional fees and costs. The absence of comparable restrictions on competitors in other countries may adversely affect USSI's competitive position.

Limited Protection of Proprietary Technology; Risks of Infringement.

USSI's success is heavily dependent upon its internally developed technology. USSI has filed patents covering the specific use and novel inventions developed internally. To further protect its proprietary rights, USSI relies on a combination of patent, trade secret, nondisclosure and other contractual restrictions. As part of its confidentiality procedures, USSI enters into nondisclosure agreements with its employees, as well as select consultants and strategic partners and USSI limits access to, and distribution of, its designs and proprietary information. Despite these efforts, USSI may be unable to effectively protect its proprietary rights. In addition, the expense associated with the enforcement of USSI's proprietary rights may be substantial.

RISKS RELATED TO DSIT SOLUTIONS

Failure to accurately forecast costs of fixed-priced contracts could reduce DSIT's margins.

When working on a fixed-price basis, DSIT undertakes to deliver software or integrated hardware/software solutions to a customer's specifications or requirements for a particular project. The profits from these projects are primarily determined by DSIT's success in correctly estimating and thereafter controlling project costs. Costs may in fact vary substantially as a result of various factors, including underestimating costs, difficulties with new technologies and economic and other changes that may occur during the term of the contract. If, for any reason, DSIT's costs are substantially higher than expected, it may incur losses on fixed-price contracts.

We recognize revenues on construction contracts using the percentage-of-completion method of accounting. Under the percentage-of-completion method of accounting, we record revenue as work on the contract progresses. The cumulative amount of revenues recorded on a contract at a specified point in time is that percentage of total estimated revenues that man-months incurred to date bear to estimated man-months. Accordingly, contract revenues and total cost estimates are reviewed and revised as the work progresses. Adjustments are reflected in contract revenues in the period when such estimates are revised. Estimates are based on management's reasonable assumptions and experience, but are only estimates. Variation of actual results from assumptions on an unusually large project or on a number of average size projects could be material. We are also required to immediately recognize the full amount of the estimated loss on a contract when estimates indicate such a loss. Such adjustments and accrued losses could result in reduced profitability, which would negatively impact our cash flow from operations.

Conditions in Israel may affect our operations.

Political, economic and military conditions in Israel directly affect our operations. Since the establishment of the State of Israel, a number of armed conflicts have taken place between Israel and its Arab neighbors. An ongoing state of hostility, varying in degree and intensity has led to security and economic problems for Israel. For a number of years there have been continuing hostilities between Israel and the Palestinians including with the Islamic movement Hamas in the Gaza Strip, which have adversely affected the peace process and at times have negatively influenced Israel's economy as well as its relationship with several other countries. Israel also faces threats from Hezbollah militants in Lebanon, from the government of Iran and other potential threats from neighboring countries, some of whom have recently undergone or are undergoing significant political changes, such as Egypt and Syria. In recent years there has also been a change in the relations between Israel and Turkey. These political, economic and military conditions in Israel could have a material adverse effect on our business, financial condition, results of operations and future

growth. Furthermore, the mandatory military commitments of some DSIT personnel may temporarily impact our ability to produce our products on a timely basis if such personnel are called into service in connection with hostilities or otherwise.

Exchange rate fluctuations could increase the cost of DSIT's operations.

A majority of DSIT's sales are based on contracts or orders which are in U.S dollars or are in New Israeli Shekels ("NIS") linked to the U.S. dollar. At the same time, most of DSIT's expenses are denominated in NIS (primarily labor costs) and are not linked to any foreign currency. The net effect of a devaluation of the U.S. dollar relative to the NIS is that DSIT's costs in dollar terms increases more than its revenues. DSIT enters into forward contracts to try to mitigate its exposures to exchange rate fluctuations; however, we can provide no assurance that such controls will be implemented successfully. In 2013 the NIS strengthened in relation to the U.S. dollar by 7.0%.

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DSIT is substantially dependent on a small number of customers and the loss of one or more of these customers may cause revenues and cash flow to decline.

In 2013, approximately 40% of DSIT's total revenues were concentrated in two customers. One of these customers is expected to continue to make up a significant portion of DSIT's revenues and cash flow for 2014. DSIT is expecting to complete a project for the second customer in mid-2014. While DSIT does expect future follow on orders from this customer, the timing and amounts cannot be predicted. DSIT's recently announced project for the supply, operation and support of an advanced underwater acoustic monitoring system effectively replaces the abovementioned projected scheduled for completion in 2014 in the company's backlog of projects. A significant reduction of future orders or delay in milestone payments from any of these customers could have a material adverse effect on the performance of DSIT.

Reduction in Israeli government spending or changes in priorities for defense products may adversely affect our earnings.

The Israeli Ministry of Defense is a significant customer of DSIT. The Israeli government may reduce its expenditures for defense items or change its defense priorities in the com