

ACORN ENERGY, INC.
Form 10-K
March 18, 2013
Table of Contents

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, 2012

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

Edgar Filing: ACORN ENERGY, INC. - Form 10-K

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 ☒

Table of Contents

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. "

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 2012, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$139.3 million based on the closing sale price on that date as reported on the NASDAQ Global Market. As of March 7, 2013 there were 18,071,560 shares of Common Stock, \$0.01 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

None.

TABLE OF CONTENTS

	PAGE
<u>PART I</u>	
<u>Item 1. BUSINESS</u>	<u>1</u>
<u>Item 1A. RISK FACTORS</u>	<u>17</u>
<u>Item 1B. UNRESOLVED STAFF COMMENTS</u>	<u>32</u>
<u>Item 2. PROPERTIES</u>	<u>33</u>
<u>Item 3. LEGAL PROCEEDINGS</u>	<u>34</u>
<u>Item 4. MINE SAFETY DISCLOSURES</u>	<u>35</u>
<u>PART II</u>	
<u>Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES</u>	<u>36</u>
<u>Item 6. SELECTED FINANCIAL DATA</u>	<u>39</u>
<u>Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	<u>42</u>
<u>Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	<u>65</u>
<u>Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u>	<u>67</u>
<u>Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u>	<u>68</u>
<u>Item 9A. CONTROLS AND PROCEDURES</u>	<u>69</u>
<u>Item 9B. OTHER INFORMATION</u>	<u>70</u>
<u>PART III</u>	
<u>Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE</u>	<u>71</u>
<u>Item 11. EXECUTIVE COMPENSATION</u>	<u>75</u>
<u>Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u>	<u>92</u>
<u>Item 13. CERTAIN RELATIONSHIPS, RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE</u>	<u>94</u>

<u>Item 14.</u>	<u>PRINCIPAL ACCOUNTING FEES AND SERVICES</u>	<u>95</u>
-----------------	---	-----------

PART IV

<u>Item 15.</u>	<u>EXHIBITS AND FINANCIAL STATEMENT SCHEDULES</u>	<u>96</u>
-----------------	---	-----------

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™ and PointShield™ are trademarks of our DSIT Solutions Ltd. subsidiary. GridSense™, HighV™, Grid InSite™, DemandIQ™, PowerMonic™, Line IQ®, Transformer IQ®, Bushing IQ®, and DistributionIQ® are trademarks of our GridSense subsidiaries. LazerLok™ is a trademark of our US Seismic Systems, Inc. subsidiary. SmartService™, OmniView™, OmniLink™, and OmniScope™ are trademarks of our OmniMetrix subsidiary.

Table of Contents

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 help their customers achieve greater productivity, reliability, security and efficiency-factors which can lead to greater profitability. Specifically, DSIT provides security solutions from underwater threats to marine based energy assets; GridSense provides monitoring for all critical points along the electricity delivery system; OmniMetrix remotely monitors emergency back-up power generation systems to increase their reliability; and USSI supplies fiber optic sensing solutions to increase oil and gas production and lower costs.

Through our majority or wholly-owned operating subsidiaries we provided the following services and products in 2012:

- 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.
- 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 sensing systems for the energy, commercial security and defense markets worldwide.

During 2012, 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 activities in our OmniMetrix subsidiary. As OmniMetrix's activities were acquired in February 2012, there are no comparative results reported for these activities for periods prior to 2012.

Table of Contents

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. The financial results of OmniMetrix are included in our consolidated financial statements effective February 15, 2012. Accordingly, there are no comparative results reported for these activities for the periods ended December 31, 2010 and 2011.

	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)

	Year ended December 31, 2011					
	DSIT	OmniMetrix	GridSense	USSI	Acorn	Total
Revenues	\$10,493	\$—	\$7,119	\$1,316	\$—	\$18,928
Cost of Sales	6,809	—	3,792	1,414	—	12,015
Gross profit	3,684	—	3,327	(98)	—	6,913
Gross profit margin	35	%	47	% (7)%		37 %
R& D expenses, net of credits	568	—	1,370	1,057	—	2,995
Selling, general and administrative expenses	3,061	—	3,367	1,619	3,905	11,952
Operating income (loss)	\$55	\$—	\$(1,410)	\$(2,774)	\$(3,905)	\$(8,034)

	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
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)

	Three months ended December 31, 2011					
	DSIT	OmniMetrix	GridSense	USSI	Acorn	Total
Revenues	\$3,807	\$—	\$2,435	\$433	\$—	\$6,675
Cost of Sales	2,323	—	1,341	425	—	4,089
Gross profit	1,484	—	1,094	8	—	2,586
Gross profit margin	39	%	45	% 2	%	39 %
R& D expenses, net of credits	140	—	845	423	—	1,408
Selling, general and administrative expenses	686	—	802	461	1,394	3,343
Operating income (loss)	\$658	\$—	\$(553)	\$(876)	\$(1,394)	\$(2,165)

* Following further analysis of the recognition of certain revenues and costs of OmniMetrix, we have reclassified first, second and third quarter revenues and costs of sales to defer hardware revenues and cost of sales in accordance with the accounting for multiple elements and recognizing those costs over expected customer life rather than at the delivery of the monitoring unit.

Table of Contents

ENERGY & SECURITY SONAR SOLUTIONS – DSIT SOLUTIONS LTD.

DSIT Solutions Ltd., which is 84% owned by the Company, 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. During 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.
- 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 Acoustic Range (“MAR”) – The MAR 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 \$900,000 grant from the Israel-U.S. Binational Industrial Research and Development Foundation (“BIRD Foundation”). The grant was awarded for the joint development of the next generation integrated passive/active threat detection system for underwater site protection. The BIRD Foundation provides funding money for projects involving joint innovation and development between American and Israeli companies. The integrated passive/active underwater security system (PAUSS) that is the subject of this grant is potentially the most comprehensive system of its kind available. The advantages of combining the world's best passive and active sensors may lead to an underwater system that provides extremely efficient and effective coverage of all areas of a site. The combined system will be designed to provide a much greater probability

Table of Contents

of threat detection with a lower rate of false alarms for all types of threats. Work on the PAUSS project has begun, but continued development will require USSI to obtain certain export licenses from either the US Department of Commerce or State Department and whether such licenses can be obtained on a timely basis or terms cannot be determined.

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 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.

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 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, 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 currently negotiating with USSI a transfer of technology agreement whereby DSIT would receive from USSI an exclusive world-wide license to use USSI technology to provide systems, devices, installations and methods for monitoring ground sites, facilities, locations and perimeters and against land-based security threats for government and non-government customers for defense, security or military and safety applications. DSIT also 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. Whether the agreement with USSI can be concluded on acceptable terms and whether any necessary export licenses can be obtained in connection cannot be determined at this time. Further, we cannot determine the likelihood that we will be able to successfully commercialize products from these efforts.

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 (81% in 2012, 68% in 2011, 55% in 2010, 43% in 2009 and 15% in 2008). We expect this segment's non-Israel based revenues to drop off in 2013 to levels seen in 2010 and 2011. This is due to the inclusion in 2012's revenues of \$7.4 million from a \$12.3 million order received in late 2011 for AquaShield™ and PointShield™ DDS systems with an Asian customer. DSIT continues to invest considerable efforts to penetrate European,

Table of Contents

Asian, South American, U.S. and other 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, Eastern Europe and the U.S.

We believe that in 2013, we will see an increased flow of orders for our AquaShield™ DDS and PointShield™ DDS systems generated by customers realizing the potential threat to their coastal and offshore critical facilities as well as vessels, canals and water intakes. DSIT is currently in discussions with numerous potential energy, commercial and governmental customers who have shown interest in the company's underwater security systems.

In 2012, two customers accounted for approximately 78% of segment revenues (61% and 17%). These two customers, The State Border Service, Republic of Azerbaijan ("SBS") and the Indian Navy accounted for 38% and 11% , respectively (\$7.4 million and \$2.0 million) of Acorn's consolidated revenues in 2012. One of these customers also represented approximately 37% (approximately \$2.0 million) of Acorn's consolidated accounts receivable at December 31, 2012 which was received in the first quarter of 2013. 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 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.

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 2013.

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 19,000 square feet of space in the Tel Aviv metropolitan area under a lease that expired in August 2012. DSIT is currently continuing in these premises on a month-to-month basis and negotiating a lease extension with additional space for expanded production facilities. We believe that DSIT's premises will be sufficient to handle the anticipated increase in sales for the near future.

Table of Contents

SMART GRID DISTRIBUTION AUTOMATION – GridSense

In accordance with applicable accounting standards, we began consolidating the results of GridSense beginning May 12, 2010, the date we acquired the outstanding GridSense shares not previously owned by us. Prior to that date we accounted for our GridSense investment using the equity method.

GridSense develops and markets remote monitoring systems to electric utilities and industrial facilities worldwide. These systems, used in a wide range of utility applications including outage management, power quality monitoring, system planning, trouble shooting and proactive maintenance, and condition monitoring, provide transmission and distribution network operators with the intelligence to better and more efficiently conduct grid operations.

Due to increasing stresses on these systems, old and aging infrastructure and greater demands for power quality and reliability of supply, utilities are striving to modernize their electrical infrastructures with "SmartGrid" initiatives. Cost-effective and easily deployable, GridSense solutions provide critical components of the present and future grid. 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 has developed a range of offerings that addresses all the critical points of the electricity delivery system, including distribution and transmission lines, substations and transformers, and the point of electricity consumption.

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.

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, and power transformer bushings. 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 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.

Bushing IQ® - The Bushing IQ® is a continuous online system for monitoring power factor in high voltage capacitive bushings in all types of weather.

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.

GridSense products under current development include:

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.

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.

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.

Table of Contents

Customers and Markets

Strategically important markets include North America, South America, China 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. The penetration of this market in the relatively short time since GridSense established operations in the US has been made possible with the establishment of a manufacturer's representative network covering the region. Given the size of the North American utility market, sales from this territory are expected to grow, and we believe North America will eventually represent the largest portion of overall GridSense sales in the future. Unlike North America which is characterized by a large number of electricity suppliers over a vast geographic territory, the opportunities in South America, China and South Africa are focused on a small number of large electric utility operators. We are currently pursuing deployment opportunities in these aforementioned markets having already established relationships with local utilities and currently supporting pilots or evaluation trials.

GridSense has activities in other international markets but continues a measured and disciplined approach toward expansion. Validation of the market opportunity takes place before actual deployment of resources. GridSense mitigates its operational and financial risks by aligning itself with resellers that exhibit technical competency, established customer relationships and on-the-ground resources to support our offerings.

Within Australia where GridSense has an established sales team and support infrastructure, GridSense sells the PowerMonic™, Line IQ®, Transformer IQ® and Bushing IQ® range of products directly to electric utilities and industrial customers. Outside of Australia, GridSense utilizes a network of resellers, including rental companies, electrical engineering firms, distributors, independent manufacturers' representatives and agents. In North America, GridSense employs three sales professionals. 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. During 2012, GridSense entered into new pilot programs with 38 new customers. Currently, GridSense has over 45 ongoing pilot programs. Pilot programs consist of deployment of one or more products on a test basis. Such pilot programs generally last between three and eighteen months. We have no assurance that such pilot programs will ultimately result in large scale roll-out programs.

In 2012, GridSense also commercialized several new products including the LineIQ®60, LineIQ®35, HighV™Camera, DistributionIQ® and Grid InSite™.

In 2012, one customer (in Australia) accounted for approximately 15% (\$0.5 million) of GridSense's total revenues (31% of Australian operations based revenues). Three customers accounted for approximately 30% (\$0.6 million of GridSense's U.S. operations based revenues (\$1.9 million)). The balance of GridSense's revenues in 2012 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 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 three Australian patents and three U.S. patents, and has one patent pending in both Australia and the U.S. In addition, GridSense owns three patents in Canada, two in Europe, two in South Africa and one in Great Britain. Some of GridSense's know-how and technology may not be patentable. To protect its rights, GridSense generally requires

Table of Contents

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 Sydney, Australia and Sacramento, CA. The leased facility in Sydney covers 8,100 square feet while the leased facility in Sacramento has approximately 11,900 square feet. 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.

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.

OmniMetrix develops and markets wireless remote monitoring systems and services for two markets - stand-by power generators and cathodic protection for the gas pipeline industry. OmniMetrix manages the customer data acquired by the remotely installed devices in its data center, thereby delivering a sophisticated monitoring solution to customers large and small, with a wide range of technical sophistication. The majority of the company's business is in the U.S., however, its products and services are global in design and functionality. The company has to date had limited foreign sales, but is exploring opportunities in certain foreign markets and is involved with small pilot projects in the Caribbean and Africa.

Products & Services

Within the defined Power Generation and pipeline industries, OmniMetrix sells industry-specific remotely installed devices along with the ongoing data management function. While the details of the remote devices, and the types of data are quite different between these markets, the core processes are very similar, and share much common firmware and database functionality.

In the Power Generation ("PG") market, the company 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. It offers features to extract performance data from the most recent generations of machinery, along with the ability to be wired to old legacy generators with no performance data availability. In all cases, the G8500 family provides the ability to identify whether an emergency generator is capable of operating as expected.

The G8500 family is available in Cellular (GSM & CDMA), Satellite (Iridium) and Ethernet versions, allowing global functionality according to the customers' specific needs. GSM Cellular technology is used in more than 90% of the company's installations, due to its global availability and installation simplicity. Satellite connectivity is used primarily for extremely remote locations, and coastal areas where hurricanes are considered to be a consequential risk.

In 2012, the company designed and gained approval from PTCRB and AT&T for a new 4G data radio module, replacing the 2G technology used since 2007. This radio assures a long installed lifetime on the AT&T networks that dominate the US GSM landscape, and simultaneously dramatically lowers the cost of the radio subsystems. 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. The company's 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. In this space, devices called Rectifiers apply a "protection voltage" to the metal pipe, causing metallic ions to be attracted to the pipe, and preventing iron ion migration off into the soil (corrosion). 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.

Table of Contents

The OmniMetrix Computer Automated Test Station (CATS) is also used to measure the protection effectiveness on the pipeline. While the RM measures the performance of the rectifier at the point where it applies voltage to the pipeline, the CATS measures the effectiveness in a distributed form, providing data points along the pipeline segment powered by the rectifier. These devices assure that the pipeline is adequately protected at long distances from the rectifier. The data delivered by the CATS is a key component in the corrosion management programs at our pipeline customers.

Customers and Markets

In the PG market, OmniMetrix works primarily with and through dealers and distributors of the most common brands of generators. The company's monitors may be found installed on generators from original equipment manufacturers ("OEMs") such as Caterpillar, Kohler, Generac, Cummins, MTU Energy and other generator manufacturers. In this market, 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. Since they desire to be considered "experts in the field", the availability of the operational data supports their positioning in the eyes of their customers. This early delivery of operational data 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.

From the machine owner's perspective, the OmniMetrix product provides a powerful tool to be used in their constant effort to avoid failures. In their world, a generator failure will likely never be due to a physical failure such as a broken crankshaft. Their failures come from consumables such as batteries and fuel; consumables that can be monitored. 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. This transition to prognostics sets OmniMetrix apart from its competitors, who are still in the failure reporting phase of application development.

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 150,000 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 is beginning to explore the viability of certain international markets.

Historically, OmniMetrix viewed its hardware sales as a profit center and priced its units accordingly. Since our acquisition of OmniMetrix in February 2012, we expanded our sales staff and related activity with a goal towards increasing the number of monitors in the field. In the second half of 2012, we initiated an aggressive promotional campaign to sell its monitoring units to certain customers at minimal or no cost. Sales of OmniMetrix monitoring systems (both PG and CP) includes equipment, installation and monitoring services. Any revenues (and related costs) associated with sale of equipment and related installations are deferred until delivery, installation and customer acceptance is completed. Revenue and related costs with respect to the sale of equipment and related installations are then recognized over the estimated life of the customer relationship. Revenues from the prepayment of monitoring fees (generally paid 12 months in advance) are deferred when payment is received from the customer and is recognized as revenue over the monitoring service period. We expect that the cash flow impact of providing monitoring units at minimal or no cost will be somewhat offset by collecting up-front payment of first year monitoring fees which collectively generate a small cash flow gross profit. In subsequent years, upon renewal of the annual monitoring fee, we anticipate generating significant cash flows from such monitoring units.

In the CP segment, OmniMetrix sells through partner companies that are full-time cathodic protection specialists. These companies assist the pipeline owners with corrosion prevention methods and programs. They also sell other CP components and test equipment.

The spider web of pipelines constituting transmission and distribution systems is broken into electrically isolated Cathodic Protection Areas (CPAs), each with a rectifier providing protection voltage. These CPAs typically consist of about ten miles of pipe. In the transmission market, this could be ten miles of large pipe running along the same right of way as an overhead power line. In the distribution market, the pipes are commonly smaller, lower pressure lines, with many branches to residential and industrial gas meters. In both cases, the electrical segmentation of CPAs allows the pipeline companies to better isolate protection failures. Smaller CPAs would provide better pipeline management opportunity, but the design benefits must be balanced against the cost of isolation and protection of fewer miles of pipe per CPA.

Virtually all natural gas is transported via underground pipes. Historically, steel pipes have been used due to the high

Table of Contents

pressures involved in transport. These pipes are at risk to both natural (rust, earthquake, soil heaving, etc.) and human (backhoe) damage, and high pressure leaks can cause catastrophic results. The U.S. Department of Transportation is involved in the regulation of the pipelines, and part of that regulation is the requirement for corrosion prevention programs. While the regulations do not call for wireless monitoring of the protection process, they do require monitoring and data collection, even if by men in trucks. The OmniMetrix SmartService™ program is built entirely around the concept of “Use Data, Not Trucks”.

In 2012, one customer in its PG segment accounted for approximately 24% (approximately \$220,000) of OmniMetrix's total revenues. The balance of OmniMetrix's revenues in 2012 were generally spread across a broad base of customers. The loss of 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.

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.

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. This level of technology and market commitment is completely unmatched. In 2013, OmniMetrix is planning the opening of its 24 x 7 Network Operation Center ("NOC"). With the NOC, OmniMetrix will couple its data analysis capabilities with an active call center environment, giving its customers a new level of support.

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

Table of Contents

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 several patented devices and processes, and additional applications 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 6,000 square feet of office and production space in the Bristol Industrial Park located in Buford, Georgia under a lease that expires on December 31, 2013. OmniMetrix has entered into a lease at another location for its expected expansion located in Hamilton Mill Business Park in Buford, GA. This new space is approximately 21,000 square feet and will accommodate the anticipated growth in the business. The new lease will expire on the later of December 31, 2019 or six years after our move-in date. OmniMetrix expects to move its operations and activities in mid 2013.

ENERGY AND SECURITY SENSOR SYSTEMS - US SEISMIC SYSTEMS, INC.

In accordance with applicable accounting standards, we began consolidating the results of US Seismic Systems, Inc. ("USSI") beginning February 23, 2010, the date we effectively acquired USSI. USSI is a Delaware corporation based in Chatsworth, California which was established in October 2007. In a series of investments, option exercises and exchanges of shares beginning in November 2009 through February 2013, we acquired both common and preferred stock of USSI. We currently own approximately 95.0% 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 the energy market. In addition, USSI supplies similar systems to the security (both commercial and defense) markets. 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 provide its users with a competitive advantage over those relying on existing sensor technology. 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. USSI has demonstrated the highest performance down-hole seismic sensor system systems in the oil and gas industry. 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 high temperature capable seismic sensors available today for use in the oil and gas industry. USSI delivers this leading-edge performance with its proprietary sensor designs and interrogator hardware/software package. Following successful oilfield demonstrations with multiple clients, USSI has received first time orders for systems from these clients and is in the process of producing initial systems for delivery in the first half of 2013. We believe that these initial systems are a prelude to much larger follow-on orders following an analysis period by the customer. USSI has also sold fiber optic perimeter security systems in Canada, Latin America and the Middle East.

Table of Contents

Hydrofrac (microseismic) monitoring. There is a fundamental shift underway within the oil and gas industry as 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. Out of over 20,000 wells fracked annually in the U.S., less than 3% are monitored using micro-seismic techniques in large part due to high cost, poor reliability and high temperature restrictions. Leading industry participants tell USSI that they will monitor 100% of frac jobs if equipment cost can be reduced by 75%, which we believe is achievable by utilizing USSI fiber optic sensor systems. According to a recent survey of decision makers within the petroleum operating companies engaged in hydraulic fracture and fracture mapping services by the well-known oilfield research firm Welling & Co., 73% of respondents dissatisfied with their frac jobs attributed it to a failure to understand the subsurface. We believe, there is only one way to improve understanding of the subsurface, that is via seismic monitoring with sensors specifically designed to detect and locate microseismic events. Potential market size for USSI is very large based upon \$0.5 million to \$1.0 million per monitoring system. USSI's fiber optic sensors can provide the ability to monitor the fracking process to improve production efficiency and minimize potential environmental damage at a fraction of the cost of competing technology.

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 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. The system utilizes sophisticated signal processing techniques to screen out false alarms, and will detect, pinpoint and notify any attempts to infiltrate a facility.

The USSI security sensing system features low noise, high sensitivity, and high dynamic range, providing a true reproduction of acoustic signals, and clearly defined, independent sensing zones. We believe the USSI buried fiber optic sensing system has the lowest noise floor of any competing fiber optic perimeter security system. This advantage enables the USSI system to detect in-ground disturbance signals that may be very weak or that occur at much larger distances. In addition, the USSI system is unique in its ability to detect and classify multiple simultaneous events on single or multiple zones. This capability is important in that it prevents a potential intruder from foiling the system by masking an intrusion attempt by simultaneously applying loud noise at an alternate location. Certain of these products are already in use by customers.

Customers and Markets

In the period since our acquisition of USSI in February 2010, it has recorded total revenues of approximately \$3.2 million (\$0.4 million in 2010, \$1.3 million in 2011 and \$1.5 million in 2012). Although the revenue to date remains small, USSI has received numerous initial orders for its products and services following successful proof-of-concept trial projects and is in the process of delivering these initial systems over the next six months. Each of these proof-of-concept trial projects are believed to have the potential for annual multi-million dollar follow-up orders.

Energy. USSI targets its products into the oilfield geophysics market, which has a \$12 billion annual market size, of which approximately \$10 billion is for seismic acquisition and processing activities, and approximately \$2 billion is for equipment such as seismic sources and sensors. USSI's sensor systems fall into the oilfield geophysical equipment market, and its potential customers are primarily the oilfield service companies. The leading oilfield service companies are Schlumberger, Halliburton, Baker Hughes, CGG Veritas and BGP.

According to a recent report, three companies account for about 90% of the Oilfield Geophysical Equipment market. Sercel, S.A, a subsidiary of Compagnie Generale de Geophysique-Veritas (CGGVeritas) represents approximately 50% of the market, ION Geophysical Corporation represents approximately 30% and Oyo Geospace Corporation represents about 10%. The majority of their equipment is currently used for marine seismic and land (surface) seismic applications, with downhole seismic and microseismic making up only about 10%. USSI is initially pursuing the downhole seismic and microseismic market as these are the least mature, but the fastest growing markets. USSI believes the size of this market can grow to in excess of \$1 billion as the microseismic monitoring percentage of unconventional oil and gas wells increases from today's 2-3% to 50%. After addressing these markets, USSI plans to pursue the larger, more mature marine and land seismic markets.

Table of Contents

Security. As a result of the attacks of September 11, the United States and many of its international partners have embarked on a massive, long-term effort to enhance the security of their homelands. Waging a cost effective campaign to enhance homeland security demands new, highly developed technologies. USSI's all fiber optic security systems are an example of one of those technologies. For these applications, what is needed is an unobtrusive sensor system that will allow military forces and/or border security personnel to monitor long stretches of territory from protected sites at extended standoff ranges.

According to Homeland Security Research Corporation ("HSRC"), a consulting firm, the U.S. Homeland Security-Homeland Defense market is larger and is growing faster than many realize. HSRC forecasts it to grow from \$69 billion in 2010 to \$85 billion by 2014. USSI's potential customers are the large and small commercial security system integrators, government organizations such as the U.S. Department of Homeland Security, and large government contractors such as Boeing, Northrop Grumman, Lockheed Martin, and Raytheon as well as leading commercial system integrators such as ADT Ltd. (a subsidiary of Tyco International Ltd.), Protection One, Inc., and Monitronics, International, Inc.

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 sensor arrays using existing technology cost \$4M to \$6M per system. The equivalent USSI downhole system sells for a fraction (typically one-third to one-fifth) 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 200°C 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.

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

Security Systems. USSI's competition in the security market comes from well established companies utilizing conventional (leaky-coax cable) technology and relatively new companies utilizing fiber optic technology. Both technologies can be mounted to a fence or buried around a perimeter. The leading competitors using conventional technology are Southwest Microwave Inc., and Magal Security Systems, Ltd. The leading fiber optic competitors are Future Fibre Technologies Pty Ltd., FiberSensys Inc., Sensoptics Ltd., and Senstar Corporation.

Existing conventional technology, which has been installed in tens of thousands of locations, has multiple drawbacks. These drawbacks include susceptibility to electromagnetic interference ("EMI"), radio frequency interference ("RFI") and lightning. The traditional geophones that are part of existing conventional technology consist of a moving coil of wires around a stationary magnet. If EMI from an outside magnetic field is introduced, it will interfere with the geophone's performance. If RFI from a radio (or cell phone, or other wireless device) is transmitting near a system that contains existing conventional technology, it could interfere with the system's performance as well. Furthermore, it is expensive to install and maintain the existing conventional technology, requiring multiple electronics boxes and unreliable batteries in the field. These problems with existing conventional technology led to the emergence of fiber optic-based security systems. The problems with the competing fiber optic security

Table of Contents

systems include an inability to detect multiple simultaneous events, low sensitivity (10 to 100 times less sensitive than USSI technology), and low signal fidelity (making it difficult to distinguish false alarms).

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 six U.S. patents and one U.S. trademark. Currently, there are 17 patent applications and two trademark applications pending with the US Patent and Trademark Office. Most of the patent applications have also been nationalized for examination in foreign countries.

Facilities

USSI's activities are conducted in approximately 21,000 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 April 2015. We believe USSI's facilities are sufficient for expected expanding production requirements over the next six to twelve months. However, 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.

BACKLOG

As of December 31, 2012, our backlog of work to be completed and the amounts expected to be completed in 2013 were as follows (amounts in millions of U.S. dollars):

	Backlog at December 31, 2012	Amount expected to be completed in 2013
DSIT Solutions	\$9.6	\$8.8
GridSense	1.2	1.2
OmniMetrix	1.7	1.2
USSI	1.0	1.0
Total	\$13.5	\$12.2

RESEARCH AND DEVELOPMENT EXPENSE, NET

Research and development expense recorded for the years ended December 31, 2010, 2011 and 2012 for each of our consolidated subsidiaries is as follows (amounts in thousands of U.S. dollars):

Years ended December 31,		
2010	2011	2012

Edgar Filing: ACORN ENERGY, INC. - Form 10-K

DSIT Solutions	\$323	\$568	\$1,048
GridSense *	259	1,370	1,624
OmniMetrix**	—	—	341
USSI ***	383	1,057	3,577
Total	\$965	\$2,995	\$6,590

Table of Contents

* GridSense was acquired on May 12, 2010. Accordingly, the research and development expense recorded with respect to GridSense relates only to the period after its acquisition.

** 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.

*** USSI was effectively acquired on February 23, 2010. Accordingly, the research and development expense recorded with respect to USSI relates only to the period after its acquisition.

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

EMPLOYEES

At December 31, 2012, we employed a total of 218 employees, including 193 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, 2012				
	U.S	Australia	Israel	Europe	Total
DSIT Solutions	—	—	62	—	62
GridSense	34	22	—	—	56
OmniMetrix	27	—	—	—	27
USSI	43	—	—	—	43
Acorn*	4	—	—	1	5
Total	108	22	62	1	193

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

	Full-time employee count at December 31, 2012			
	Production, Engineering and Technical Support	Marketing and Sales	Management, Administrative and Finance	Total
DSIT Solutions	49	3	10	62
GridSense	42	9	5	56
OmniMetrix	13	8	6	27
USSI	37	1	5	43
Acorn*	—	—	5	5
Total	141	21	31	193

* Acorn's full-time employee count includes Richard Rimer, Vice-Chairman of the Board of Acorn who provided full-time consulting activities for the Company. See Item 11 EXECUTIVE COMPENSATION - Compensation of Directors.

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 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

Table of Contents

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 20 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.

Table of Contents

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.

Despite the gain on our sale of CoaLogix in 2011, we have a history of operating losses, and have used significant amounts of cash to fund our operating activities over the years. In 2010, 2011 and 2012, we had operating losses of \$6.5 million, \$8.0 million and \$20.7 million, respectively. Cash used in operating activities of continuing operations in 2010, 2011 and 2012 was \$6.3 million, \$7.8 million and \$22.2 million, respectively.

In addition, we may continue to pursue additional acquisitions and investment opportunities and expect to continue to support at least a portion of the financing needs of our subsidiaries. While we currently have enough cash on hand to fund our operations for the next 12 months, we may need additional funds to finance future investment and acquisition 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 investment/acquisition strategy in order to continue to pursue our corporate goals.

We believe that our current cash plus the cash generated from operations and borrowing from available lines of credit, if necessary, will provide more than sufficient liquidity to finance the operating activities of Acorn and the operations of its operating subsidiaries at their current level of operations for the foreseeable future and for the next 12 months in particular. In order to position ourselves to take advantage of potential market expansion or complimentary acquisitions for our existing businesses, we are contemplating whether and on what terms we may offer additional securities for sale in the future. We currently expect that we may conduct such an offering sometime during 2013, the amount and terms of which cannot be determined at this time.

The ongoing instability in global credit and financial markets could materially and adversely affect our business and results of operations.

The ongoing global financial crisis may limit our ability to access the capital markets at a time when we would like, or need, to raise capital, which could have an impact on our ability to react to changing economic and business conditions. Accordingly, if the global financial crisis and current economic downturn continue or worsen, our business, results of operations and financial condition could be materially and adversely affected.

There can be no assurance that we will continue to declare cash dividends.

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 intend to continue to pay such dividends subject to capital availability and periodic determinations by our Board of Directors that cash dividends are in the best interest of our stockholders and are in compliance with all laws and agreements of Acorn applicable to the declaration and payment of cash dividends. Future dividends may be affected by, among other factors:

- our views on potential future capital requirements for investments in our subsidiaries;
- use of cash to consummate acquisition transactions;

- stock repurchase programs;
- changes in federal and state income tax laws or corporate laws; and
- changes to our business model.

Our dividend payments may change from time to time, and we cannot provide assurance that we will continue to declare dividends in any particular amounts or at all. A reduction in our dividend payments could have a negative effect on our stock price.

Table of Contents

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 and other key personnel. In particular, our success depends on the continued efforts of John A. Moore, our CEO, Benny Sela, CEO of DSIT, Lindon Shiao, CEO of GridSense, Deena Redding, CEO of OmniMetrix and Jim Andersen, CEO of USSI and other key management level employees. The loss of the services of any of these key employees 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. Although to date we have been successful in retaining the services of senior management and have entered into employment agreements with them, members of our senior management may terminate their employment agreements without cause and with various notice periods. We may also not be able to locate or employ on acceptable terms qualified replacements for our senior management or key employees if their services were no longer available.

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.

Our Vice President of External Relations assists in certain legislative and other governmental relations matters - such activities and the activities of other personnel may be deemed to be lobbying efforts.

To the extent that our Vice President of External Relations engages in activities that constitute “lobbying” under federal, state, or local laws, we have to register him and possibly ourselves and one or more of our subsidiaries under such applicable laws. In addition, some states have so-called procurement lobbying rules that require sales personnel who interact with governmental officials in certain sales activities to register as lobbyists as well. Lobbying laws typically require periodic financial and other reports to be timely made and prohibit some types of contributions, gifts and other expenditures by lobbyists and their affiliates. Any failure to register or to comply with the applicable regulations could subject us, our employees and officers and directors to civil or criminal penalties. We intend to comply with such laws.

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. Assuming the rules remain effective, we will be required to conduct specified due diligence activities for the 2013 calendar year, and provide our first report in May 2014. Recently, a challenge to the rules was 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. The outcome of such litigation cannot be determined, but if the rules remain in force in substantially their current form, we will have to determine whether conflict minerals are necessary for the functionality of any of our products, and if so, undertake steps to determine their

Table of Contents

origin. We anticipate that fulfilling our compliance obligations with the rules will 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 we anticipate that our costs will 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 such as OmniMetrix in February 2012 or complimentary companies for our subsidiaries. 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 our 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 our 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
- the difficulty of 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. Any significant acquisition by one or more of our operating companies could require substantial use of our capital and may require significant debt or equity financing. We 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.

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. Such matters can be time-consuming, divert management's attention and resources and cause us to incur significant expenses. Furthermore, 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 recorded in connection with our acquisitions is subject to mandatory annual impairment evaluations and as a result, we could be required to write off some or all of this goodwill, 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. While we have not recorded an impairment of

Table of Contents

goodwill during the years ended December 31, 2012 or 2011, during the year ended December 31, 2010, we recorded a \$5.0 million impairment of goodwill associated with our former Coreworx subsidiary following our decision to stop funding it and an impairment of \$1.2 million associated with our GridSense segment. Any additional impairment of the value of goodwill 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 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

Table of Contents

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.

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.

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.

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 \$27.0 million at December 31, 2012. 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 37% of the accounts receivable at December 31, 2012, were due from one customer which pays its 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 70% of the balance in unbilled revenue at December 31, 2012 was due from two

Table of Contents

customers that when billed, pay their trade receivables over usual credit periods. Credit risk with respect to the 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.

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.

Hostilities in the Middle East region may slow down the Israeli high-tech market and may harm DSIT's operations.

DSIT's operations are conducted in Israel. Accordingly, political, economic and military conditions in Israel may directly affect DSIT. Any increase in hostilities in the Middle East involving Israel could weaken the Israeli hi-tech market, which may result in a deterioration of the results DSIT's operations. In addition, an increase in hostilities in Israel could cause serious disruption to DSIT's operations if acts associated with such hostilities result in any serious damage to its offices or those of its customers or harm to its personnel. 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 2012 the NIS strengthened in relation to the U.S. dollar by 2.3%.

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 2012, approximately 70% of DSIT's revenues were concentrated in two customers. These customers are expected to continue to make up a significant portion of DSIT's revenues and cash flow for 2013. 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.

DSIT is dependent on meeting milestones to provide cash flow for its operations.

DSIT's operations place a great reliance on it meeting project milestones in order to generate cash flow to finance its operations. Should DSIT encounter difficulties in meeting significant project milestones, resulting cash flow difficulties could have a material adverse effect on its operations.

DSIT must at times provide significant guarantees in order to secure projects. These guarantees are often collateralized by restricted deposits.

Some of the projects DSIT performs require significant performance and/or bank guarantees. At December 31, 2012, DSIT had \$2.6 million of performance and bank guarantees outstanding. In addition, DSIT had on deposit at two Israeli banks

Table of Contents

approximately \$0.8 million collateralizing some of these guarantees. These deposits are restricted and, accordingly, DSIT cannot use these funds for operations until the guarantees which are being collateralized are released. At times, this can create cash flow difficulties which could have a material adverse effect on its operations.

In addition, DSIT may not always be able to supply such guarantees or restricted deposits without financial assistance from Acorn. If Acorn needs to provide financial guarantees for DSIT, Acorn may not have sufficient funds available to it to invest in other emerging ventures or take advantage of opportunities available to it in a timely manner.

If DSIT is unable to keep pace with rapid technological change, its results of operations, financial condition and cash flows may suffer.

Some of DSIT's solutions are characterized by rapidly changing technologies and industry standards and technological obsolescence. DSIT's competitiveness and future success depends on its ability to keep pace with changing technologies and industry standards on a timely and cost-effective basis. A fundamental shift in technologies could have a material adverse effect on its competitive position. A failure to react to changes in existing technologies could materially delay DSIT's development of new products, which could result in technological obsolescence, decreased revenues, and/or a loss of market share to competitors. To the extent that DSIT fails to keep pace with technological change, its revenues and financial condition could be materially adversely affected.

DSIT is dependent on a number of suppliers who provide it with components for some of its products.

A number of DSIT's suppliers provide it with major components for some of its products for the Energy & Security Sonar Solutions segment. Some of these components are long-lead items. If for some reason, the suppliers cannot provide DSIT with the component when it is needed and DSIT cannot easily find substitute suppliers on similar terms, DSIT may have increased costs and/or delays in delivering a product to a customer and incur penalties and lose customer confidence. In addition, project delays can also slow down revenue recognition and our financial condition could be materially adversely affected. While DSIT is constantly attempting to develop secondary suppliers for these components, it can provide no assurance that it will be successful in doing so on acceptable terms.

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

Some of DSIT's current and potential competitors have longer operating histories, significantly greater resources and broader name recognition than it does. As a result, these competitors may have greater credibility with DSIT'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 which would allow them to respond more quickly to new or emerging technologies or changes in customer requirements.

DSIT is negotiating with USSI a transfer of technology agreement whereby DSIT would receive from USSI an exclusive world-wide license to use USSI technology to provide systems, devices, installations and methods for monitoring ground sites, facilities, locations and perimeters and against land-based security threats for government and non-government customers for defense, security or military and safety applications.

DSIT is currently investing significant amounts of capital in creating the infrastructure to support the transfer of technology and any final agreement with USSI may involve significant payments to USSI for the license to use the USSI technology. We have no assurance that the transfer of technology will be completed within the expected time frame or budget currently anticipated, or that we will be able to obtain any necessary export licenses from the US authorities on acceptable terms or at all. We further have no assurance that following the completion of the transfer of technology, that DSIT will successfully be able to integrate it into its portfolio of products and be able to

commercialize the applications.

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.

Work on the PAUSS project has begun, but continued development will require USSI to obtain certain export licenses from either the U.S. Department of Commerce or State Department and whether such licenses can be obtained on a timely basis or terms cannot be determined. The BIRD Foundation grant is designated to cover 50% of the development costs of the project over a period of two years. Payment of the grant is dependent on continued progress being made in accordance with a contractually agreed upon time-line. Furthermore, we have no assurance that the development of these systems will be completed within the

Table of Contents

expected time frame or budgets. We further have no assurance that if DSIT successfully develops these systems, that DSIT will successfully be able to commercialize the applications.

RISKS RELATED TO GRIDSENSE

GridSense has incurred net losses and may never achieve sustained profitability.

GridSense incurred net losses for the years ended December 31, 2010, 2011 and 2012. We believe that GridSense will reduce its losses in 2013; however, we can provide no assurance that GridSense will generate sufficient revenues and cash flow to allow it to become profitable or to sustain profitability or to have positive cash flows.

GridSense will need additional financing to grow and finance its operations

In 2012, we invested \$5.3 million in GridSense and GridSense signed a Loan and Security Agreement with a bank and received a \$1.0 million line-of-credit. However, we expect that GridSense will continue to require working capital support in 2013 to finance its operations in 2013 as it works to grow its revenues (through March 1, 2013, we have invested an additional \$450,000 (out of a committed 2013 investment of \$1.5 million - see Liquidity and Capital Resources) in GridSense. We have no assurance whether and to what extent GridSense will have access to the entire \$1.0 million facility given that the availability is subject to a calculated borrowing base as well as certain financial and other covenants.

Additional support to GridSense may be in the form of an additional or expanded bank line, new investment by others, additional investment by Acorn, or a combination of the above. We have no assurance that such additional support will be available in sufficient amounts, in a timely manner and on acceptable terms. The availability and amount of any additional investment from Acorn may be limited by the investment and working capital needs of our corporate activities and other operating companies.

GridSense's products and services may not gain market acceptance or competitors may introduce offerings that surpass those of GridSense.

The primary market for GridSense's products and services is rapidly evolving which means that the level of acceptance of products and services that have been released recently or that are planned for future release by the marketplace is not certain. If the markets for GridSense's products and services fail to develop, develop more slowly than expected or become subject to intense competition, its business will suffer. As a result, GridSense may be unable to:

(i) successfully market its current products and services, (ii) develop new products, services and enhancements to current products and services, (iii) complete customer installations on a timely basis or (iv) complete products and services currently under development. If GridSense's products and services are not accepted by its customers or by other businesses in the marketplace, GridSense's business and operating results will be materially affected. In addition, we can provide no assurance that GridSense will be successful in deriving significant revenue growth through its current strategy and marketing initiatives.

GridSense's products are subject to regulatory approvals.

Numerous regulations govern the manufacture and sale of GridSense's products in the United States and other countries where GridSense intends to market its products. Such regulation bears upon the approval of manufacturing techniques, testing procedures and approval for the manufacturing and sale of GridSense's products, including advertising and labeling.

Any failure or delay in obtaining regulatory approvals would adversely affect our ability to market our products. Furthermore, product approvals may be withdrawn if problems occur following initial marketing or if compliance with regulatory standards is not maintained. The failure, delay or withdrawal of a previously given regulatory approval could materially adversely affect our revenues, cash flows and financial position.

Sales to utilities are generally characterized by long sales cycles.

GridSense's sales are largely dependent on the sales cycle of electric utilities which is typically long and requires much technical and application support. The purchasing cycle for a utility may involve an evaluation trial or pilot, analysis of data and results, review of competitor's offerings and smaller scale deployments, before a purchasing decision is made. For large orders, some utilities are required to solicit competitive bids from other vendors which can contribute significantly more time and result in lost sales opportunities. At best, the sales cycle can take several months and in certain circumstances it can be a multi-year process. Delays in securing purchase orders can materially adversely affect our revenues, cash flows and financial condition.

Table of Contents

GridSense is attempting to broaden its revenue base by expanding into the North American market.

GridSense is currently recording a significant portion of its revenue from sales generated in Australia (more than 45% in both 2011 and 2012 and more than 60% for the 2010 calendar year). GridSense believes that growth and profitability will require additional expansion of sales in other markets, most notably the North American market. To the extent that GridSense is unable to expand sales into other markets in a timely and cost-effective manner, its business, operating results and financial condition could be materially adversely affected. In addition, even with the successful recruitment of additional personnel and international resellers, there can be no assurance that GridSense will be successful in maintaining or increasing international market demand for its products.

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

GridSense has operations in both the U.S. and Australia. Its Australian operations are subject to the volatility of the Australian dollar vis-à-vis the U.S. dollar (in 2012, the Australian dollar strengthened by 2.2%, in 2011 the Australian dollar was virtually unchanged vis-a-vis the U.S. dollar while in 2010, the Australian dollar strengthened by 13.3%). While risks are somewhat mitigated by the fact that GridSense's Australian operation's sales and expenses are primarily denominated in Australian dollars, currency fluctuations may impact the translation of certain balance sheet items, affect the economics of manufacturing and ultimately affect its financial performance. During 2012, GridSense transferred substantially all of its production lines to the U.S. in order to minimize costs in Australian dollars. GridSense does not employ specific strategies, such as the use of derivative instruments or hedging, to manage its foreign currency exchange rate exposures.

GridSense's market is subject to rapidly changing technologies.

GridSense markets its products in a field where electronics and software/firmware dominate. This fast changing area may generate unknown methods of detecting and monitoring disturbances that could render GridSense's technology inferior, resulting in GridSense's results of operations being materially adversely affected. GridSense does, however, closely monitor trends and changes in technologies and customer demand that could adversely impact its competitiveness and overall success.

GridSense is subject to vigorous competition with very large competitors that have substantially greater resources and operating histories.

Some of GridSense's competitors in the markets it serves are larger, better capitalized and have greater resources than GridSense. As GridSense grows and penetrates markets where larger companies have been established, it may experience a reduced rate of growth due to competitive forces. Competition from these competitors may have a material adverse effect on our operations, including a potential reduction in operating margins and a loss of potential business. Some competitors such as Power Delivery Product, Sentient and Cooper have products that directly compete with GridSense at comparable price points and features.

GridSense development costs and marketing costs to penetrate the market related to Grid InSite™ may be more than previously estimated.

GridSense is currently in the process of developing Grid InSite™. This product allows customers to monitor their networks on a system hosted by GridSense. While development costs expended to date are in line with expectations, we have no assurance that the final Grid InSite™ product will be completed within the expected time frame or budget currently anticipated. We further have no assurance that following the development of Grid InSite™, that GridSense will successfully be able to integrate it into its portfolio of products and be able to commercialize the applications. Furthermore, Grid InSite™ may require different organizational skillset and resources to penetrate the market. In

contrast to GridSense's traditional way of selling hardware and equipment, Grid InSite™ may give the company an opportunity to sell services and generate recurring revenue streams over time. This model may require upfront investment by the company which will be recovered through subscription revenue collected overtime. As with any new product introduction there is always a risk in pace of adoption by customers. Grid InSite™ represents a new and unconventional way to sell to utilities. While the GridSense believes that there is a market for hosted software solutions it is unknown how utilities will accept this new method of procuring services.

RISKS RELATED TO OMNIMETRIX

OmniMetrix has incurred net losses since our acquisition and may never achieve sustained profitability.

OmniMetrix incurred a net loss of \$2.6 million in 2012 since our acquisition of it and used \$2.2 million of cash in its operations. We believe that OmniMetrix will continue to report losses in 2013 and have negative cash from operations. We can

Table of Contents

provide no assurance that OmniMetrix will be able to generate sufficient revenues and cash flow to allow it to become profitable or to eventually sustain profitability or to have positive cash flows.

OmniMetrix current business model is predicated on the penetration rate of its PG monitoring units into the PG market.

OmniMetrix currently provides its PG monitoring units at minimal or no costs to certain customers in order to accelerate the penetration rate. Accordingly, it does not cover its hardware costs on these units and depends on these customers maintaining their monitoring service connections to fund the company's future working capital needs. This new business model has not yet been proven to be sustainable. If the pace of demand for these PG units is greater than our expectations, OmniMetrix will need additional working capital to finance its inventory requirements. If the pace of the demand for these PG units is below our expectations, the service monitoring revenue received from these units may not be enough to cover the fixed expenses of the company.

An increase in customer terminations would negatively affect our business by reducing OmniMetrix revenue or requiring us to spend more money to grow our customer base.

OmniMetrix's rate of customer terminations, or average customer "churn" in the 2012 period since our acquisition of them was 1%. Our churn rate could increase in the future if customers are not satisfied with our service. Other factors, including increased competition from other providers, alternative technologies, and adverse business conditions may also influence our churn rate.

If we have an increase in our churn rate, we will have to acquire new customers on an ongoing basis just to maintain our existing level of customers and revenues. As a result, marketing expenditures are an ongoing requirement of our business. If our churn rate increases, we will have to acquire even more new customers in order to maintain our existing revenues. We incur significant costs to acquire new customers, and those costs are an important factor in determining our net profitability. Therefore, if we are unsuccessful in retaining customers or are required to spend significant amounts to acquire new customers, our revenue could decrease and our operating results could be affected.

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

Some of OmniMetrix's current and potential competitors have significantly greater resources and broader name recognition than it does. As a result, these competitors may have greater credibility with OmniMetrix'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 which would allow them to respond more quickly to new or emerging technologies or changes in customer requirements.

OmniMetrix may not be able to access sufficient capital to support growth.

Since our acquisition of OmniMetrix in February 2012, we invested \$2.5 million to support their growth and working capital needs. OmniMetrix is dependent on Acorn's ability and willingness to provide funding to support its business and growth strategy. We have committed to an additional investment of \$3.0 million to OmniMetrix in 2013 (see Liquidity and Capital Resources). OmniMetrix will be competing with other Acorn subsidiaries for access to Acorn capital and credit support. Whether Acorn will have the resources necessary to provide funding, or whether alternative funds, such as third-party loans, will be available at the time and on terms acceptable to Acorn and OmniMetrix cannot be determined.

Additional support to OmniMetrix may be in the form of a bank line, new investment by others, additional investment by Acorn, or a combination of the above. OmniMetrix is currently in discussions with a bank to provide working capital financing. We have no assurance that such additional support will be available in sufficient amounts, in a timely manner and on acceptable terms. The availability and amount of any additional investment from Acorn may be limited by the investment and working capital needs of our corporate activities and other operating companies.

OmniMetrix is dependent on the services of certain key personnel.

OmniMetrix's success is largely dependent on the skills, experience and efforts of its senior management team and other key personnel. In particular, its success depends on the continued efforts of Deena Redding, its CEO, and Harold Jarrett, its CTO who is both a founder and its most experienced engineer. The loss of the services of either of these key employees could materially harm OmniMetrix's business, financial condition, future results and cash flow. OmniMetrix does not maintain "key person" life insurance policies on its employees other than for Mr. Jarrett. Although to date OmniMetrix has been successful in retaining the

Table of Contents

services of senior management and has entered into employment agreements with Ms. Redding and Mr. Jarrett, they may terminate their employment agreements without cause and with various notice periods. OmniMetrix may also not be able to locate or employ on acceptable terms qualified replacements for its senior management or key employees if their services were no longer available.

OmniMetrix has substantially increased its personnel count and related expense since our acquisition and whether sales can support the increased overhead cannot be determined.

Following Acorn's acquisition of OmniMetrix, the number of employees grew from 12 to 27 during 2012; in particular it increased the sales team to a total of 8 full time professionals. Although the sales team's compensation is partially commission-based, it still incurs fixed base compensation and both variable and fixed employee benefit expenses. Whether future operations can support the increased personnel costs cannot yet be determined and in the interim, operating expenses are expected to significantly out pace revenues.

OmniMetrix sells equipment and services which monitor third-party products, thus its revenues are dependent on the continued sales of such third-party products.

OmniMetrix's end-user customer base is comprised exclusively of parties who have chosen to purchase either generators or cathodic protection systems. OmniMetrix has no ability to control the rate at which new generators or CP protection systems are acquired. When purchases of such products decline, the associated need for OmniMetrix's products and services is expected to decline as well.

If OmniMetrix is unable to keep pace with changing market or customer-mandated product and service improvements, OmniMetrix's results of operations and financial condition may suffer.

Many of OmniMetrix's existing products may require ongoing engineering and upgrades in conjunction with market developments as well as specific customer needs. There can be no assurance that OmniMetrix will continue to be successful in its engineering efforts regarding the development of its products and future technological difficulties could adversely affect its business, results of operations and financial condition.

The cellular networks used by OmniMetrix are also subject to periodic technical updates that may require corresponding updates to, or replacement of, OmniMetrix's monitoring equipment.

Cellular networks have evolved over time to offer more robust technical capabilities in both voice and data transmission. At the present time, the changes from the so-called "2G" to "3G" and "4G" service have resulted in only limited service interruptions. OmniMetrix anticipates, however, that as these new capabilities come online, it will be necessary to have equipment that can readily interface with the newer cellular networks to avoid negative impacts on customer service. Not all of the costs associated with OmniMetrix's corresponding equipment upgrades can be passed on to customers and the increased expenses are expected to have a negative impact on OmniMetrix's operating results.

A substantial portion of OmniMetrix's revenues are expected to be generated not from product sales, but from periodic monitoring fees and thus it is continually exposed to risks associated with its customers' financial stability.

OmniMetrix sells on-going monitoring services to both PG and CP customers. It is therefore dependent on these customers continuing to timely pay service fees on an on-going basis. If a significant portion of these fees are not renewed from year-to-year, OmniMetrix can expect to experience deterioration in its financial condition.

OmniMetrix's ability to provide, and to collect revenues from, monitoring services is dependent on the reliability of cellular networks not controlled by OmniMetrix.

OmniMetrix provides monitoring services through the use of cellular technology utilizing the networks of third-party providers. These providers generally do not warrant their services to either OmniMetrix or the end users and any dropped transmissions could result in the loss of customer renewals and potential claims against OmniMetrix. While OmniMetrix uses contractual measures to limit its liability to customers, there is no assurance that such limitations will be enforced or that customers will not cancel monitoring services due to network issues.

OmniMetrix's business is dependent on its ability to reliably store and manage data, but there can be no guarantee that it has sufficient capabilities to mitigate potential data loss in all cases.

Table of Contents

The efficient operation of OmniMetrix's business is dependent on its information technology systems. In addition, OmniMetrix's ability to assist customers in analyzing data related to the performance of such customers' power and cathodic protection monitoring systems is an important component of its customer value proposition. OmniMetrix utilizes off-site data servers, housed within a commercial data center utilizing accepted data and power monitoring and protection processes, but whether a data loss can be avoided cannot be assured in every case. OmniMetrix's information technology systems are vulnerable to damage or interruption from natural disasters, sabotage (including theft and attacks by computer viruses or hackers), power outages; and computer systems, Internet, telecommunications or data network failure. Any interruption of OmniMetrix's information technology systems could result in decreased revenue, increased expenses, increased capital expenditures, customer dissatisfaction and potential lawsuits, any of which could have a material adverse effect on its results of operations and financial condition.

OmniMetrix is currently dependent on a single subcontractor for the assembly of its products for large bulk orders. OmniMetrix's ability to deliver its products to its customers on a timely basis is dependent on the production processes of its selected subcontractor. Financial or production difficulties by such subcontractor following the placement of a large order could have a negative impact on OmniMetrix's ability to deliver its products timely and cause a loss of customer confidence. Although more than one subcontractor is qualified to produce OmniMetrix components, OmniMetrix may not be able to successfully make a change in a timely manner or on acceptable terms. Any difficulties OmniMetrix encounters as a result of its reliance on this subcontractor could have a material adverse effect on its operations and financial condition.

Current OmniMetrix internal systems are not robust enough to sustain our anticipated growth and we will face challenges in implementing new systems and training users while maintaining our culture and product standards

Since we acquired OmniMetrix, the workforce has increased substantially and our product platform has expanded to include preventative analytics. We are in the process of moving into a new office and assembly facility and if our sales plans meet anticipated goals, both our hardware sales volume and customer monitoring contracts will increase, placing greater demands on both personnel and financial reporting systems. We have recently hired a chief information officer to help us expand and update the necessary information technology (IT) platform and we are working internally to refine our sales, procurement and customer service functions. Whether we will be able to successfully keep pace with anticipated growth cannot be determined, and our failure to properly execute on the infrastructure initiatives we have underway could materially and negatively impact our financial performance if we are unable to meet customer demands. While we believe our current financial reporting systems are adequate, we are also transitioning to more automated procedures and any failure during the transition or otherwise in implementing new accounting software could result in our inability to provide timely and accurate financial information.

RISKS RELATED TO USSI

USSI has a limited operating history.

USSI was formed in November 2007 and has a limited operating history. Many of its products are at a research and development stage and substantial time, effort and financial resources will be required before it can become profitable. 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 and security 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.

Since its inception, USSI has had annual operating losses. USSI expects to continue to have operating losses for the year ending December 31, 2013 and possibly beyond as a result of increased operating expenses required to commence manufacturing and production and to expand its sales and marketing operations. 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.

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 have invested \$14.75 million directly in USSI. In February 2013, we committed to an additional investment of \$5.0 million in USSI (see Recent Developments). While USSI has reached agreement with a bank for a \$1 million line-of-credit in 2012, we have no assurance that USSI's future capital needs will not exceed the amount of the credit line or the amounts of Acorn's new investment commitment

Table of Contents

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 have no assurance whether and to what extent USSI will have access to the entire \$1.0 million bank facility given that the availability is subject to certain financial and other covenants. USSI may need to raise additional funds if revenues fail to meet 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 the direct issuance of equity or convertible debt securities to third parties, Acorn's percentage ownership of USSI may be reduced.

In addition, should additional funds be needed, there can be no assurance that additional financing will be available on terms acceptable to USSI. If funds are not available, or are not available on acceptable terms, USSI may not be able to fund its growth, 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.

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.

If USSI is unable to keep pace with technological change, USSI's results of operations, financial condition and cash flows may suffer.

Many of USSI's products are in the research and development stage. In addition, some of USSI's existing products may require additional engineering and upgrades in conjunction with market developments as well as specific customer needs. There can be no assurance that USSI will continue to be successful in its engineering efforts regarding the development of its products and future technological difficulties could adversely affect its business, results of operations and financial condition.

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 the specifications required by the customers regarding quality. We believe that USSI's space and manufacturing capabilities at its current facilities in Chatsworth, California to be sufficient to handle a large increase in sales for the future. USSI has increased its production staff and has purchased automation, 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 any will exist 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.

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 development of its high-end interrogators for some of its technologically advanced product offerings. USSI has licensed very advanced technology from Northrop Grumman that was initially developed for U.S. Navy fiber optic sonar applications and intends to field its own high performance interrogator in 2013. While USSI is confident that it will be able to introduce the new interrogator in 2013, 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's targeted customers may be reluctant to try its alternative solution despite its increased reliability and lower cost.

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. The competition in USSI's markets may have superior resources and marketing ability which could lead to potential customers selecting existing products over USSI's products. 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

Table of Contents

place relative to the competition 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. 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 proposed 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.

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 limit 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 OUR SECURITIES

Our stock price is highly volatile.

The market price of our common stock has fluctuated substantially in the past and is likely to continue to be highly volatile and subject to wide fluctuations. During 2012, our common stock has closed at prices as low as \$6.35 and as high as \$12.84 per share. Fluctuations in our stock price may continue to occur in response to various factors, many of which we cannot control, including:

• general economic and political conditions and specific conditions in the markets we address, including the continued volatility in the energy industry and the general economy;

Table of Contents

•quarter-to-quarter variations in our operating results;
•announcements of changes in our senior management;
•the gain or loss of one or more significant customers or suppliers;
•announcements of technological innovations or new products by our competitors, customers or us;
•the gain or loss of market share in any of our markets;
•changes in our dividend policy;
•changes in accounting rules;
•changes in investor perceptions; or
•changes in expectations relating to our products, plans and strategic position or those of our competitors or customers.

In addition, the market prices of securities of energy related companies have been and remain volatile. This volatility has significantly affected the market prices of securities of many companies for reasons frequently unrelated to the operating performance of the specific companies.

Our share price may decline due to the large number of shares of our common stock eligible for future sale in the public market including shares underlying warrants and options.

Almost all of our outstanding shares of common stock are, or could upon exercise of options or warrants would become, eligible for sale in the public market as described below. Sales of a substantial number of shares of our common stock in the public market, or the possibility of these sales, may adversely affect our stock price.

As of March 7, 2013, 18,071,560 shares of our common stock were issued and outstanding. As of that date we had 23,000 warrants outstanding and exercisable with a weighted average exercise price of \$3.68 and 1,008,188 options outstanding and exercisable with a weighted average exercise price of \$4.40 per share, which if exercised would result in the issuance of additional shares of our common stock. In addition to the options noted above, at March 1, 2013, 324,670 options are outstanding, but have not yet vested and are not yet exercisable.

Table of Contents

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

32

Table of Contents

ITEM 2. PROPERTIES

Our corporate activities are conducted in approximately 3,900 square feet of office space in Wilmington, Delaware under a lease that expires in July 2017. The lease provides for annual rent of approximately \$69,400 in the first year with the annual rent increasing by approximately \$3,900 per year. We are also responsible for any incremental increases in operating expenses (primarily utilities) over a base year amount.

Our DSIT subsidiary's activities are conducted in approximately 19,000 square feet of space in the Tel Aviv, Israel metropolitan area under a lease that expired in August 2012. DSIT is currently continuing in these premises on a month-to-month basis and negotiating a lease extension with additional space for expanded production facilities. The expanded facilities would cover approximately 22,000 square feet. The current annual rent is approximately \$218,000. It is expected that under the new lease agreement, the annual rent would increase to approximately \$276,000.

GridSense operates facilities in West Sacramento, CA and Sydney, Australia. The West Sacramento office is approximately 11,900 square feet and its annual rent is approximately \$116,000. The lease agreement expires in February 2016. The annual rent at the West Sacramento office increases 2% per year. The Sydney office occupies approximately 8,100 square feet of office, testing laboratory, production and warehouse space. The lease in Sydney expires in July 2013. The annual rent is approximately \$90,000 and is subject to annual increases based on the Australian CPI index. For its Sydney office, GridSense expects to be able to negotiate new lease terms not materially different from the existing lease terms.

OmniMetrix's activities are currently conducted in approximately 6,000 square feet of office and production space in Bristol Industrial Park located in Buford, Georgia under a lease that expires on December 31, 2013. OmniMetrix has entered into a lease at another location for its expected expansion located in the Hamilton Mill Business Park in Buford, GA. This new space is approximately 21,000 square feet and will accommodate the anticipated growth in the business. The lease is for a seven year term which commenced on January 1, 2013 and provides for annual rent of approximately \$24,000 in the first year (the first six months are rent-free) and annual rents ranging from approximately \$97,000 to \$109,000 in the second through seventh years. The new lease will expire December 31, 2019. OmniMetrix expects to move its operations and activities in mid 2013. The lease also provides for the landlord of the property leased to OmniMetrix to participate in up to \$175,000 of tenant improvements to the property. OmniMetrix expects to expend approximately \$350,000 for improvements to the property.

USSI's activities are conducted in approximately 21,000 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 April 2015. The annual rent at this facility is approximately \$150,000.

Table of Contents

ITEM 3. LEGAL PROCEEDINGS

None.

34

Table of Contents

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

35

Table of Contents

PART II

ITEM MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND
5. ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is currently traded on the NASDAQ Global Market under the symbol "ACFN". The following table sets forth, for the periods indicated, the high and low reported sales prices per share of our common stock on NASDAQ.

	High	Low
2011:		
First Quarter	\$4.37	\$3.56
Second Quarter	4.16	3.46
Third Quarter	5.72	4.07
Fourth Quarter	6.30	4.64
2012:		
First Quarter	\$10.87	\$6.35
Second Quarter	12.84	8.00
Third Quarter	10.27	8.09
Fourth Quarter	8.99	7.24

As of March 7, 2013, the last reported sales price of our common stock on the Nasdaq Global Market was \$6.74, there were 116 record holders of our common stock and we estimate that there were approximately 3,800 beneficial owners of our common stock.

Dividends

The Company paid cash dividends on its common stock during the years ended December 31, 2011 and 2012 as follows:

Record Dates	Payment Dates	Per Share
Year ended December 31, 2011		
November 16, 2011	November 28, 2011	\$0.035
Total		\$0.035
Year ended December 31, 2012		
December 30, 2011*	January 9, 2012	\$0.050
February 20, 2012	March 1, 2012	\$0.035
May 15, 2012	June 1, 2012	\$0.035
August 17, 2012	September 4, 2012	\$0.035
November 15, 2012	December 3, 2012	\$0.035
Total		\$0.190

* Special dividend

Table of Contents

Our decision to pay similar dividends in the future will be affected by our future results of operations, financial position, business, changes to applicable tax laws and regulations, and the various other factors that may affect our overall business, including those set forth in "Risk Factors." Accordingly, we cannot assure you that in the future we will continue to pay comparable dividends, or any dividends at all.

We have adopted a Dividend Reinvestment Plan ("DRIP "). We have offered up to 600,000 shares of our common stock for purchase under the DRIP. The DRIP provides participants the ability to invest all or a portion of cash dividends on their Acorn shares in additional shares of the Company's common stock. We are currently issuing shares under the DRIP directly at a 5% discount from the market price. The DRIP is administered by the Company's stock transfer agent. Through December 31, 2012, we have issued 22,734 shares of common stock under the DRIP.

Table of Contents

PERFORMANCE GRAPH

The following stock price performance graph compares the cumulative total return of the Company's Common Stock during the period December 31, 2007 to December 31, 2012, to the cumulative total return during such period of (i) the NASDAQ Composite Index and (ii) the Russell 2000 Index. The graph assumes that the value of the investment in our Common Stock and each index (including reinvestment of dividends) was \$100.00 on December 31, 2007.

Table of Contents

ITEM 6. SELECTED FINANCIAL DATA

The selected consolidated statement of operations data for the years ended December 31, 2010, 2011 and 2012 and consolidated balance sheet data as of December 31, 2011 and 2012 has been derived from our audited Consolidated Financial Statements included in this Annual Report. The selected consolidated statement of operations data for the years ended December 31, 2008 and 2009 and the selected consolidated balance sheet data as of December 31, 2008, 2009 and 2010 has been derived from our unaudited consolidated financial statements not included herein.

This data should be read in conjunction with our Consolidated Financial Statements and related notes included herein and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Table of Contents

Selected Consolidated Statement of Operations Data:

	For the Years Ended December 31,				
	2008	2009	2010	2011	2012
	(in thousands, except per share data)				
Revenues	\$8,267	\$9,219	\$14,244	\$18,928	\$19,419
Cost of sales	5,600	5,264	8,200	12,015	