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GSE SYSTEMS INC

FORM 10-K
(Annual Report)

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ____ to ____

Commission File Number 001-14785

GSE Systems, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**52-1868008**
(State of incorporation)	(I.R.S. Employer Identification Number)
1332 Londontown Blvd., Suite 200, Sykesville MD	**21784**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (410) 970-7800

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of each class	Name of each exchange on which registered
Common Stock, $.01 par value	NYSE MKT

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 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

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 ☐ (Do not check if a smaller reporting company)	Smaller reporting company ☒

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

The aggregate market value of Common Stock held by non-affiliates of the Registrant was $39,883,030 on June 30, 2016, the last business day of the Registrant's most recently completed second fiscal quarter, based on the closing price of such stock on that date of $2.23.

The number of shares outstanding of the registrant's Common Stock as of March 28, 2017 was 19,149,270 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, are incorporated by reference into Part III.

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* to be incorporated by reference from the Proxy Statement for the registrant's 2017 Annual Meeting of Shareholders.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS.

This report and the documents incorporated by reference herein contain "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act") that are based on management's assumptions, expectations and projections about us, and the industry within which we operate, and that have been made pursuant to the Private Securities Litigation Reform Act of 1995 reflecting our expectations regarding our future growth, results of operations, performance and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "continue", "estimate", "intend", "may", "plan", "potential", "predict", "expect", "should", "will" and similar expressions, or the negative of these terms or other comparable terminology, have been used to identify these forward-looking statements. These forward-looking statements may also use different phrases. These statements regarding our expectations reflect our current beliefs and are based on information currently available to us. Accordingly, these statements by their nature are subject to risks and uncertainties, including those listed under Item 1A Risk Factors, which could cause our actual growth, results, performance and business prospects and opportunities to differ from those expressed in, or implied by, these forward-looking statements. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. Except as otherwise required by federal securities law, we are not obligated to update or revise these forward looking statements to reflect new events or circumstances. We caution you that a variety of factors, including but not limited to the factors described below under Item 1A Risk Factors and the following, could cause our business conditions and results to differ materially from what is contained in forward-looking statements:

- changes in the rate of economic growth in the United States and other major international economies;
- changes in investment by the nuclear and fossil electric utility industry, the chemical and petrochemical industries, or the U.S. military;
- changes in the financial condition of our customers;
- changes in the regulatory environment;
- changes in project design or schedules;
- contract cancellations;
- changes in our estimates of costs to complete projects;
- changes in trade, monetary and fiscal policies worldwide;
- currency fluctuations;
- war and/or terrorist attacks on facilities either owned by our customers or our company, or where equipment or services are or may be provided;
- initiation, prosecution, or outcomes of future litigation;
- protection and validity of our trademarks and other intellectual property rights;
- increasing competition by foreign and domestic companies;
- compliance with our debt covenants;
- recoverability of claims against our customers and others; and
- changes in estimates used in our critical accounting policies.

Other factors and assumptions not identified above were also involved in the formation of these forward-looking statements and the failure of such other assumptions to be realized, as well as other factors, may also cause actual results to differ materially from those projected. Most of these factors are difficult to predict accurately and are generally beyond our control. You should consider the areas of risk described above and in Item 1A Risk Factors in connection with any forward-looking statements that may be made by us. You should not place undue reliance on any forward-looking statements. New factors emerge from time to time, and it is not possible for us to predict which factors will arise.

We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. You are advised, however, to consult any additional disclosures we make in proxy statements, quarterly reports on Form 10-Q and current reports on Form 8-K filed with the SEC.

Company Information Available on the Internet

Our Internet address is www.gses.com . We make available free of charge through our Internet site our annual reports on Form 10-K; quarterly reports on Form 10-Q; current reports on Form 8-K; proxy statements, and any amendment to those reports filed or furnished pursuant to the Exchange Act as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

PART I

ITEM 1. BUSINESS .

GSE Systems, Inc. ("GSE Systems", "GSE", the "Company", "we", "us" or "our"), a NYSE MKT company trading under the symbol GVP, is a world leader in real-time high-fidelity simulation, providing a wide range of simulation, training, and engineering solutions to the global power and process industries. We provide customers with simulation, engineering and plant services that help clients reduce risks associated with operating their plants, increase revenue through improved plant and employee performance, and lower costs through improved operational efficiency. In addition, we provide services that systematically help clients fill key vacancies in the organization on a short-term basis, primarily in the area of training professionals focused on regulatory compliance and certification in the nuclear power industry.

We execute projects globally with approximately 272 employees operating from offices in the U.S., China, India, Sweden and the United Kingdom. While the majority of revenue comes from the nuclear power market, we also serve the fossil, refining, chemical, and petrochemical markets.

GSE Systems was formed on March 30, 1994 to consolidate the simulation and related businesses of General Physics International Engineering & Simulation, S3 Technologies, and EuroSim, each separately owned and operated by GP Strategies Corporation, ManTech International Corporation, and Vattenfall AB, respectively. The Company completed its Initial Public Offering in 1995. Our operations also include engineering consulting in the utility, manufacturing, and construction industries and interactive computer-based tutorials and simulation software for the refining, chemical, and petrochemical industries, through our wholly-owned subsidiaries GSE Systems, Ltd. and GSE Performance Solutions, Inc., respectively.

On November 14, 2014, we acquired Hyperspring, LLC, an Alabama limited liability company. Hyperspring is a nuclear industry training and consulting firm that primarily provides highly skilled, high-value professionals to fill training and consulting positions on a contract basis for nuclear power plant operators. Hyperspring professionals provide training, operations and maintenance support including: generic fundamentals exams (GFES), accreditation training visit (ATV) preparation, senior reactor operator (SRO) certification, procedure development, work management, tagging/labeling, outage execution, planning/scheduling, corrective action, self-assessments and equipment reliability. Customers include TVA, Entergy, Southern Company, PSEG Nuclear LLC and NRG Energy Inc.

As of December 31, 2016, GSE Systems was the parent company of:

- GSE Performance Solutions, Inc., a Delaware corporation;
- GSE Power Systems, AB, a Swedish corporation;
- GSE Engineering Systems (Beijing) Co. Ltd., a Chinese limited liability company;
- GSE Systems, Ltd., a Scottish limited liability company;
- EnVision Systems (India) Pvt. Ltd., an Indian limited liability company; and
- Hyperspring, LLC, an Alabama limited liability company.

The Company has a 50% interest in General Simulation Engineering RUS LLC, a Russian closed joint-stock company, which we are currently in the process of shuttering. The Company accounts for this entity under the equity method of accounting.

Operating Segments

We operate through two reportable business segments: Performance Improvement Solutions and Nuclear Industry Training and Consulting. Each segment focuses on delivering solutions to customers within our targeted markets - primarily the power and process industries. Marketing and communications, accounting, finance, legal, human resources, information systems and other administrative services are organized at the corporate level. Business development and sales resources are generally aligned with each segment to support existing customer accounts and new customer development. The following is a description of our business segments:

- *Performance Improvement Solutions (approximately 68% of revenue)*

Our Performance Improvement Solutions segment primarily encompasses our power plant high-fidelity simulation solutions, as well as engineering solutions and interactive computer based tutorials/simulation focused on the process industry. This segment includes various simulation products, engineering services, and operation training systems delivered across the industries we serve: primarily nuclear and fossil fuel power generation, as well as the process industries. Our simulation solutions include the following: (1) simulation software and services, including operator training systems, for the nuclear power industry, (2) simulation software and services, including operator training systems, for the fossil power industry, and (3) simulation software and services for the process industries used to teach fundamental industry processes and control systems to newly hired employees and for ongoing workforce development and training. GSE and its predecessors have been providing these services since 1976.

- *Nuclear Industry Training and Consulting (approximately 32% of revenue)*

Nuclear Industry Training and Consulting provides highly specialized and skilled nuclear operations instructors and other consultants to the nuclear power industry. These employees work at our clients' facilities under client direction. Examples of these highly skilled positions are senior reactor operations instructors, procedure writers, work management specialists, planners and training material developers. This business is managed through our Hyperspring subsidiary. The business model, management focus, margins and other factors clearly separate this business line from the rest of the Company's product and service portfolio. Hyperspring has been providing these services since 2005.

Financial information is provided in Note 15 of the accompanying consolidated financial statements regarding our business segments and geographic operations and revenue.

Business Strategy, Industry Trends, Products and Services

Business Strategy

Our objective is to create a technology-enabled engineering, software and training services platform by capitalizing on near and long-term growth opportunities primarily in the nuclear industry. We offer our differentiated suite of products and services to adjacent markets such as fossil power and the process industries where our offerings are a natural fit with a clear and compelling value proposition for the market. Our primary growth strategy is twofold: (1) expand organically within our core markets by leveraging our market leadership position and drive increased usage and product adoption via new products and services, and (2) seek acquisitions to accelerate our overall growth in a manner that is complementary to our core business. To accomplish this, we will pursue the following activities:

Expand our total addressable market. Our focus on growth means introducing product capabilities or new product categories that create value for our customers and therefore expand our total addressable market. Currently we are working on initiatives to expand our solution offerings in both our business segments which may include, but not be limited to, the following: expanding our software product portfolio to the industries we serve with enhanced power and process simulation tools and systems that are complementary to our core offerings; delivering enhanced learning management systems/solutions; offering fully outsourced training solutions to our customers; adding work flow process improvement solutions; and tailoring operational reporting and business intelligence solutions to address the unique need of our end user markets.

Initiatives such as these will broaden our scope and enable us to engage more deeply with the segments we serve. Recently, we have delivered a compelling new solution, the GSE GPWR ™ Generic Pressurized Water Reactor simulation technology, proving that our modeling technology can be sold via traditional license terms and conditions to the nuclear industry ecosystem. We have both upgraded and expanded the EnVision library of simulation and eLearning tutorials for the process industries with specific new products for training clients in the upstream segment of the oil and gas industry. We continue to provide cutting edge training systems by adapting our technology to systems to meet the specific needs of customers such as U.S. government laboratories.

Pursue strategic acquisitions opportunistically. We intend to complement our organic growth strategy through selective acquisitions of other software, technical engineering, and nuclear oriented training, staffing and consulting service businesses, both domestic and international. We are focusing our efforts on acquisitions that would enhance our existing portfolio of products and services, strengthen our relationships with our existing customers, and potentially expand our footprint to include new customers in our core served industries. We have made several acquisitions since 2010 and believe the opportunity exists to acquire businesses that are complementary to ours, allowing us to accelerate our growth strategy.

In January 2011, we acquired a software company called EnVision Systems Inc., which provided interactive multi-media tutorials and simulation models, primarily to the process industries. We have integrated the technology assets from this acquisition and expanded the firm's application to other industries, and we intend to repeat this successful process. In 2014, we acquired Hyperspring, which enabled GSE to offer highly skilled nuclear operations and consulting know-how on site at a large segment of our client base on an operational basis providing essential services. This deepened our relationship with existing clients and won business for us at new client sites in the nuclear industry. This acquisition has proven to be synergistic, enabling cross selling domestically, and in 2015, expanding these services internationally for the first time.

Research and development (R&D). We invest in R&D in order to deliver unique solutions that add value to our end-user markets. We have delivered nuclear core and Balance-of-Plant modeling and visualization systems to the industry. To address the nuclear industry's need for more accurate simulation of both normal and accident scenarios, we provide our DesignEP ® and RELAP5-HD ® solutions. Our entire JADE ™ suite of simulation software, including industry leading JTOPMERET ® and JElectric ™ software, provides the most accurate simulation of Balance-of-Plant and electrical systems available to the nuclear and fossil plant simulation market. The significant enhancements we have made to our SimExec ® and OpenSim ™ platforms enables customers to be more efficient in the daily operation of their simulators. We are bringing SimExec ® and OpenSim ™ together into a next generation unified environment that will add new capabilities as requested by clients and driven by market need.

We intend to continue to make prudent investments in R&D that first and foremost are driven by the market, and are complementary to advancing our growth strategy. Such investments in R&D may result in on-going enhancement of existing solutions as well as the creation of new solutions to serve our target markets, ensuring that we add greater value, in an easier to use fashion, than any alternative available to customers. GSE has pioneered a number of industry standards over our lifetime and will continue to be one of the most innovative companies in our industry. During the years ended December 31, 2016 and 2015, we have made R&D investments totaling $1.6 million and $3.1 million, respectively.

Strengthen and develop our talent . Our experienced employees and management team are our most valuable resources. Attracting, training, and retaining top talent is critical to our success. To achieve our talent goals, we intend to remain focused on providing our employees with entrepreneurial opportunities to increase client contact within their areas of expertise and to expand our business within our service offerings. We will also continue to provide our employees with training, personal and professional growth opportunities, performance-based incentives including opportunities for stock ownership, bonuses and competitive benefits as benchmarked to our industry and location(s).

Continue to deliver industry-recognized high quality services . We have developed a strong reputation for quality services based upon our industry-recognized depth of experience, ability to attract and retain quality professionals, and expertise across multiple service sectors. We have received many industry certificates and awards including being recognized for outstanding work on projects by Bechtel's Nuclear, Security & Environmental global business unit (NS&E) at the Bechtel Supply Chain Recognition awards in April 2016. In addition, we have a recognized high-value brand as one of the most respected providers of software and services to the industry, as evidenced by our marquee client base and significant market wins over the past year. A recently conducted survey of clients with projects underway and/or just delivered validates our brand with a Net Promoter Score of +65, a compelling score for an industrial technology and services company.

Expand international operations in selected markets. We believe there are additional opportunities for us to market our software and services to international customers, and to do so in a cost effective manner. For example, we believe partnerships with Value Added Resellers (VAR) could significantly expand our sales pipeline for the EnVision software suite. In 2016, we entered into a reseller agreement with an entity in the Middle East that has an established track record of success selling simulation and workforce development solutions to the process industries throughout the region. Such VARs may yield positive results for our pursuit of international nuclear opportunities globally (see industry trends below). We may explore the creation of appropriate joint ventures to target nuclear new-build programs in key growth regions.

Industry Trends

Industry need for building and sustaining a highly skilled workforce

We believe a critical ongoing challenge facing the industries we serve is access to, and continued development of, a highly trained and efficient workforce. This challenge manifests primarily in two ways: the increasing pace of the knowledge and experience lost as a significant percentage of the existing experienced workforce reaches retirement age over the next several years; and the fact that as new power plants come on-line, there is an increased demand for more workers to staff and operate those plants in addition to the plants in the existing fleet.

According to Power Engineering magazine (December 2014), in the United States every sector in the energy industry is expected to lose a large percentage of its workforce within the next few years as baby boomers retire on the traditional schedule. The power sector alone will be forced to replace more than 100,000 skilled workers by 2018 simply to replace those retiring. The Nuclear Energy Institute estimates that 39% of the nuclear workforce will be eligible to retire by 2018. As the nuclear industry expands its fleet and strains to maintain the high standards of training the existing workforce, existing plant simulator systems, which provide these training services, are operating 24 hours a day. With workers retiring and the need to backfill as well as expand the workforce for new units, certain operators are exploring the opportunity to de-bottleneck their existing simulator capabilities through the creation of dual reference simulators.

Globally, as more people increase their standard of living, their demand for power will increase, which in turn will require the on-going construction of power plants to meet this surging demand. Developing a skilled labor force to operate these plants and keeping their skills current and their certifications in compliance with regulatory requirements is a key challenge facing the global power industry. Similar challenges face the process industries.

Growing Global Power Demand and the Increasing Emphasis on Nuclear Power

World Energy Outlook 2015 projects that electricity demand will increase by more than 70% over the time period from 2013 to 2040. At the same time, countries globally are pledging to reduce greenhouse gas emissions despite this growth in demand for power. These trends are increasingly favorable to nuclear power. The United Kingdom illustrates this trend, with a recently announced energy policy that places a much greater reliance on nuclear power and unveiled plans for a new nuclear fleet, while slashing subsidies for solar energy and seeking to phase out coal fired power plants. With plans to build at least three new nuclear plants, the UK plans to add 16GWe of new nuclear capacity operating by 2030 according to World Nuclear Association.

There are currently 59 nuclear plants under construction in 14 countries, including 21 in China, seven in Russia, five in India and four in the United Arab Emirates according to the Nuclear Energy Institute. Four reactors are currently under construction in the U.S. including two for Southern Nuclear at the Vogtle, Georgia site and two at SCANA's VC Summer site. Tennessee Valley Authority's Watts Bar generating facility is up and running which represents a watershed for the US nuclear power industry. According to the World Nuclear Association, there are 164 reactors in 25 countries in specific phases of planning that will be operating by 2030. This pace of construction is surpassing the peak construction velocity of the 1970s and 1980s.

In addition to new plants, generating more power through enhanced plant performance - especially reducing unplanned outage time - is a critical objective for the nuclear power industry to meet growing global electricity demand. Capacity factors, also known as load factors, have been greater than 90% in the U.S. in five of the seven years from 2007 to 2013. The U.S. is recognized as the leader in load factor performance. The U.S. accounts for nearly one-third of the world's nuclear electricity, highlighting its importance as a market as well as its need for high levels of performance.

For the existing nuclear U.S. fleet, there is recognition that these plants are essential to meeting goals of reducing carbon emissions even as renewable energy sources are introduced. This recognition of the importance of nuclear providing zero-carbon baseload is demonstrated most recently by the state of New York's Clean Energy Standard that values the emission-free energy of New York's nuclear fleet and in so doing providing an emissions-free subsidy of 1.7¢/kWh. This subsidy helps ensure the state's existing nuclear plants remain economically viable in an era of low cost natural gas and even with wind and solar receiving a subsidy of 4.5¢/kWh. In addition, the Illinois Legislature on December 2, 2016, passed the Future Energy Jobs Bill, a measure that ensures the continued operation of the Clinton and Quad Cities nuclear power plants in that state. In a statement, the Nuclear Energy Institute said the bill's passage was a "remarkable moment" for the state and the nuclear industry. Gov. Bruce Rauner signed the bill into law on December 7, 2016. The Future Energy Jobs Bill provides Exelon and Commonwealth Edison with a $235 million annual credit for the carbon-free energy produced by the Clinton and Quad Cities nuclear plants. The actions of New York and Illinois starts a trend which may continue to states such as Ohio, Pennsylvania, New Jersey and Connecticut to recognize the value of zero carbon power produced by nuclear plants in those states. This would be similar to how the Renewable Portfolio Standard was rolled out across more than half the states in the US to recognize the benefits of zero carbon renewable power.

In regulated markets where the economy is growing, the nuclear fleet is profitable and expanding, with four reactors under construction in the southeast U.S. Longer term, the trends for nuclear power are favorable as well. The U.S. Department of Energy recently released a draft plan to double America's nuclear power capacity by 2050. The plan, dubbed "Vision 2050", promotes expanding America's nuclear capacity through advanced reactor designs including small and medium-size reactors.

As countries around the world recognize the importance of lowering carbon emissions from power generation, nuclear energy is an essential component of the solution. India and the UK have recently announced plans to significantly expand nuclear power generation capacity through new builds. China continues to aggressively build out its fleet. In Japan, the strategic importance of nuclear power had led the Institute of Energy and Economics to estimate that 19 of Japan's temporarily shut down reactors will restart before March 2018.

We believe GSE is well positioned to take full advantage of these strategic global and domestic trends by providing high fidelity simulation and training solutions to the global power and process industries.

Products and Services

Performance Improvement Solutions

To assist our clients in creating world-class internal training and engineering improvement processes, we offer a set of integrated and scalable products and services which provide a structured program focused on continuous skills improvement for experienced employees to engineering services, which include plant design verification and validation. We provide the right solution to solve our clients' most pressing needs.

For workforce development and training, students and instructors alike must have a high degree of confidence that their power plant simulator truly reflects plant behavior across the entire range of operations. To achieve this, GSE's simulation solution starts with the most robust engineering approach possible. Using state-of-the-art modeling tools combined with our leading nuclear power modeling expertise, GSE provides simulation solutions that achieve unparalleled fidelity and accuracy. The solutions that GSE provides are also known for ease of use, resulting in increased productivity by end-users. For these reasons, GSE has delivered more nuclear power plant simulators than any other company in the world.

For virtual commissioning, designers of first-of-a-kind plants or existing plants need a highly accurate dynamic simulation platform to model a wide variety of design assumptions and concepts from control strategies to plant behavior to human factors. Because new builds and upgrades to existing plants result in new technology being deployed, often involving the integration of disparate technologies for the first time, a high fidelity simulator allows designers to see the interaction between systems for the very first time. With our combination of simulation technology and expert engineering, GSE was chosen to build first-of-a-kind simulators for the AP1000, PBMR, and small modular reactors being built by NuScale, and mPower.

Examples of the types of simulators we sell include, but are not limited to, the following:

- **Universal Training Simulators:** These products complement the Self-Paced Training Tutorials by reinforcing what the student learned in the tutorial, putting it into practice on the Universal Simulator. The simulation models are high fidelity and engineering correct, but represent a typical plant or typical process, rather than the exact replication of a client's plant. We have delivered over 250 such simulation models to clients consisting of major oil companies and educational institutions.

- **Part-Task Training Simulators:** Like the Universal Simulators, we provide other unique training solutions such as a generic nuclear plant simulator and VPanel ® displays, which replicate control room hardware and simulator solutions specific to industry needs such as severe accident models to train on and aid in the understanding of events like the Fukushima Daiichi accident.

- **Plant-Specific Operator Training Simulators:** These simulators provide an exact replication of the plant control room and plant operations. They provide the highest level of realism and training and allow users to practice their own plant-specific procedures. Clients can safely practice startup, shutdown, normal operations, as well as response to abnormal events we all hope they never have to experience in real life. Since our inception, we have delivered nearly 450 plant-specific simulators to clients in the nuclear power, fossil power and process industries worldwide.

Nuclear Industry Training and Consulting

As our customers' experienced staff retire, access to experts that can help train existing and new employees in how to operate their plants is essential to ensure safe ongoing plant operations. In addition, training needs change over time and sometimes our clients require specialized courses. Industry needs instructors who can step in and use the client's training material. Finding professional instructors, who know the subject, can teach it and can adapt to the client's culture, is critical. GSE provides both qualified instructors and turnkey courses that work within the client's system and complement the training methods they already have in place. Examples of our training program courses are senior reactor operator certification, generic fundamentals training, and simulation supervisor training. In addition, we also provide expert support through consulting or turnkey projects for the training material upgrade and development, outage execution, planning and scheduling, corrective actions programs, and equipment reliability.

We bring together the collection of skills we have amassed over more than 40 years beginning with its traditional roots in custom high fidelity simulation and training solutions for the power industries, extended through the acquisition of specialized engineering capabilities, enhanced by the entry and intermediate level training solutions of EnVision and the extensive nuclear industry training and consulting services of Hyperspring.

Customers and Locations

For more than 40 years, we have been developing next-generation, custom training simulation technologies. Since we built the first commercial full-scope nuclear power plant simulator in 1971, we have completed more than 1,100 installations in 50 countries.

In 2016, approximately 33% of our revenue was generated from end-users outside the United States. A small representative list of our customer base includes: ABB Inc., American Electric Power, Bechtel Hanford National Laboratory, Duke Energy, EDF Energy (United Kingdom), Emerson Process Management, Exelon, Kärnkraftsäkerhet och Utbildning AB (Sweden), Korean Electric Power Company (Korea), PSEG Nuclear, Inc., Shangdong Nuclear Power Co. Ltd. (China), Siemens AG (Germany), State Nuclear Power Automation System Engineering Company (China), Savannah River Nuclear Solutions, LLC, Tennessee Valley Authority, US Department of Energy, and Westinghouse Electric Co.

Hydrocarbon and chemical process customers include numerous large oil refineries and chemical plants such as BP (worldwide), Statoil ASA (Norway), Chevron, Emerson Process Management, Shell Oil Company (worldwide), and Total (Belgium).

Marketing and Sales

We market our products and services through a network of direct sales staff, agents and representatives, and strategic alliance partners. Market-oriented business and customer account teams define and implement specific campaigns to pursue opportunities.

In 2015 we launched a new website with improved navigation, a modern look and feel, and responsiveness to whatever type of device the viewer is using. We continue to have a proactive public relations program, issuing more non-financial press releases aimed at product development and delivery, as well as our role in numerous industry trade shows and technical conferences. We are active across numerous social media platforms to build a stronger presence across all media our clients use to find information about the Company, and providing useful information for each stage of the client's journey with the Company.

The Company's ability to support its multi-facility, international and/or multinational clients is facilitated by its network of offices and strategic partners in the U.S. and overseas. In addition to the offices located overseas, the Company's ability to conduct international business is enhanced by its multilingual and multicultural workforce. GSE has strategic relationships with system integrators and agents representing its interests in Bulgaria, Japan, Malaysia, Mexico, Singapore, South America, South Korea, Taiwan, Ukraine and various locations in the Gulf Coast Countries of the Middle East.

Competition

In the nuclear simulation market, we compete directly with firms primarily from Canada, France and the U.S., such as L-3 MAPPS Inc., a subsidiary of L-3 Communications (Canada), CORYS T.E.S.S (France) and Western Services Corporation. In the fossil simulation market, the Company competes with smaller companies in the U.S. and overseas. In the process industries the main competition comes from large Digital Control System/Automation companies such as Honeywell and Schneider. Competition for generalized engineering services, particularly those served from our office in the U.K., tend to be very locally oriented.

The Nuclear Industry Training and Consulting business services include training related products and services as well as staff augmentation solutions. The competition for training related services includes: GP Strategies, The Westwind Group, Professional Training Technologies, and Western Technical Services. The competition for staff augmentation includes: Absolute Consulting, CB&I, Planet Forward, and The Westwind Group.

Competitive Advantages

While there is competition in various industry niches, few companies in our space can combine our engineering, simulation and training expertise. None of our competitors serve the broader performance improvement market and few work across the broader energy markets of nuclear and fossil power plus petrochemicals.

Proprietary Software Tools . We developed a library of proprietary software tools including auto-code generators and system models that substantially facilitate and expedite the design, production and integration, testing and modification of software and systems. These tools are used to automatically generate the computer code and systems models required for specific functions commonly used in simulation applications, thereby enabling the Company or its customers to develop high-fidelity, real-time software quickly, accurately and at lower costs. The Company also has an expertise in being able to integrate 3 rd party engineering codes into the Company's simulation environment, thereby being able to offer some of the most sophisticated technical solutions in the market. The Company has a substantial library of Process-Specific Simulation models and eLearning Modules aimed at the oil and gas, refining and specialty chemicals market.

Industry Expertise . We are a leading innovator and developer of real-time software with more than 40 years of experience producing high-fidelity, real-time simulators. As a result, the Company has acquired substantial applications expertise in the energy and process industries. The Company employs a highly educated and experienced multinational workforce of approximately 272 employees, including approximately 100 engineers and scientists in fields such as chemical, mechanical and electrical engineering, applied mathematics and computer sciences, and approximately 85 instructors and plant operations staff specialists.

Unique Combination of Talent. Nobody in our market space brings together the sophistication of simulation technology with the engineering expertise, training expertise and visualization expertise to provide the holistic people and plant performance improvement solutions as well as we do.

Reputation for Customer Satisfaction. As part of its ISO-9000 Quality Program Certification, GSE measures customer satisfaction across numerous factors such as On-Time Delivery, Problem Solving, and Customer Communication. In each category measured we routinely exceed customer expectations .

Training Curricula . The Company has developed hundreds of detailed courses and simulator exercise material and specific industrial applications including oil and gas refining, gas-oil production, nuclear and combined cycle gas turbine power plant and desalination.

Our Nuclear Industry Training and Consulting business is mostly focused on training and operations support. Our trainers and consultants provide their services at the customer facilities which allow us to interface with our customers directly in the course of doing business versus having to periodically call on customers. Our proximity allows us a significant competitive advantage in that we can immediately offer solutions and therefore bypass lengthy bid processes.

Intellectual Property.

The Company depends upon its intellectual property rights in its proprietary technology and information. GSE maintains a portfolio of trademarks (both registered and unregistered), copyrights (both registered and unregistered), and licenses. While such trademarks, copyrights and licenses as a group are of material importance to the Company, it does not consider any one trademark, copyright, or license to be of such importance that the loss or expiration thereof would materially affect the Company. The Company relies upon a combination of trade secrets, copyright, and trademark law, contractual arrangements and technical means to protect its intellectual property rights. GSE distributes its software products under software license agreements that grant customers nonexclusive licenses for the use of its products, which are nontransferable. Use of the licensed software is restricted to designated computers at specified sites, unless the customer obtains a site license of its use of the software. Software and hardware security measures are also employed to prevent unauthorized use of the Company's software, and the licensed software is subject to terms and conditions prohibiting unauthorized reproduction of the software.

The Company does not own any patents. The Company believes that all of the Company's trademarks (especially those that use the phrase "GSE Systems") are valid and will have an unlimited duration as long as they are adequately protected and sufficiently used. The Company's licenses are perpetual in nature and will have an unlimited duration as long as they are adequately protected and the parties adhere to the material terms and conditions.

GSE has numerous registered U.S. trademarks: GSE Systems®, JTOPMERET®, RELAP5-HD®, TOTALVISION®, VPanel® and SimExec®. Some of these trademarks have also been registered in foreign countries. The Company also claims trademark rights to DesignEP™, Java Application and Development Environment (JADE)™, OpenSim™, PSA-HD™, RACS™, SimSuite Pro™, SmartTutor™, THOR™, and Xtreme I/S™.

In addition, the Company maintains federal statutory copyright protection with respect to its software programs and products, has registered copyrights for some of the documentation and manuals related to these programs, and maintains trade secret protection on its software products.

Despite these protections, the Company cannot be sure that it has protected or will be able to protect its intellectual property adequately, that the unauthorized disclosure or use of its intellectual property will be prevented, that others have not or will not develop similar technology independently, or, to the extent it owns any patents in the future, that others have not or will not be able to design around those patents. Furthermore, the laws of certain countries in which the Company's products are sold do not protect its products and intellectual property rights to the same extent as the laws of the United States.

Government Regulations.

Our operations are directly and indirectly affected by political developments and both domestic and foreign governmental regulations. We cannot determine the extent to which changing political priorities, new legislation, new regulations or changes in existing laws or regulations may affect our future operations, positively or negatively.

Industries Served.

The following chart illustrates the approximate percentage of the Company's 2016 and 2015 consolidated revenue by industries served:

	Years ended December 31,	
	2016	2015
Nuclear power	73%	71%
Fossil fuel power	17%	17%
Process	6%	7%
Other	4%	5%
Total	100%	100%

Backlog. As of December 31, 2016, we had approximately $73.2 million of total gross revenue backlog compared to $47.9 million as of December 31, 2015. Most of our contracts range from 9 to 24 months. With respect to our backlog, it includes only those amounts that have been funded and authorized and does not reflect the full amounts we may receive over the term of such contracts. Our backlog includes future expected revenue at contract rates, excluding contract renewals or extensions that are at the discretion of the client. We calculate backlog without regard to possible project reductions or expansions or potential cancellations unless and until such changes may occur.

Backlog is expressed in terms of gross revenue and, therefore, may include significant estimated amounts of third-party or pass-through costs to subcontractors and other parties. Because backlog is not a defined accounting term, our computation of backlog may not necessarily be comparable to that of our industry peers.

Employees. As of December 31, 2016, we had approximately 272 employees, which include approximately 188 in our Performance Improvement segment and 84 in our Nuclear Industry Training and Consulting segment. In addition we have approximately 100 licensed engineers and other advanced degreed professionals. Excluding our Hyperspring business, which consists primarily of contracted instructors, our employee attrition rate for 2016 among all staff was approximately 10%. To date, we have been able to locate and engage highly qualified employees as needed and we expect our growth efforts to be addressed through attracting top talent.

ITEM 1A. RISK FACTORS.

The following are some of the factors that we believe could cause our actual results to differ materially from historical results and from the results contemplated by the forward-looking statements contained in this report and other public statements made by us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. Most of these risks are generally beyond our control. If any of the risks or uncertainties described below, or any such other or additional risks and uncertainties actually occurs, our business, results of operations and financial condition could be materially and adversely affected. The following information should be read in conjunction with Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations and the consolidated financial statements and related notes under Item 8 - Financial Statements and Supplementary Data.

Our business is largely dependent on sales to the nuclear power industry. Any disruption in this industry would have a material adverse effect upon our revenue and profitability.

In 2016, 73% of our revenue was from customers in the nuclear power industry (71% in 2015). We expect to derive a significant portion of our revenue from customers in the nuclear power industry for the foreseeable future. Our ability to supply nuclear power plant simulators and related products and services is dependent on the continued operation of nuclear power plants and, to a lesser extent, on the construction of new nuclear power plants. A wide range of factors affect the continued operation and construction of nuclear power plants, including the political and regulatory environment, the availability and cost of alternative means of power generation, the occurrence of future nuclear incidents, such as the one which occurred at the Fukushima Daiichi nuclear plant in 2011, and general economic conditions. In addition, demand for our products and services may be affected by changes in the legal and regulatory environment within which the global nuclear power industry operates. Regulatory changes could materially affect demand for our products, the profitability of our service deliveries to nuclear power industry customers, and the overall efficacy of our current business model.

Our sales to foreign customers expose us to risks associated with operating internationally.

Sales of products and services to end users outside the United States accounted for approximately 33% of the Company's consolidated revenue in 2016 and 31% of consolidated revenue in 2015. Consequently, our businesses are subject to a variety of risks that are specific to international operations, including the following:

- export laws and regulations that could erode our profit margins or restrict exports;
- compliance with the U.S. Foreign Corrupt Practices Act and similar non-U.S. regulations such as the UK Bribery Act;
- the burden and cost of compliance with foreign laws, treaties and technical standards generally, as well as responding to changes in those regulations;
- contract award and funding delays;
- potential restrictions on transfers of funds;
- potential difficulties in accounts receivable collection;
- currency fluctuations, including costs and potentially limited availability of viable hedging options;
- import and export duties and value added or other taxes;
- transportation and communication delays and interruptions;
- difficulties involving strategic alliances and managing foreign sales agents or representatives;
- uncertainties arising from foreign local business practices and cultural considerations; and
- potential military conflicts and political risks.

While we have and will continue to adopt measures to reduce the potential impact of losses resulting from the risks of our foreign business, we cannot ensure that such measures will be adequate. During the years ended December 31, 2016 and 2015, we did not have revenues greater than 10% from any individual foreign country.

Nuclear Industry Training and Consulting revenue, results of operations, and cash flows may suffer upon the loss of a significant customer.

For the years ended December 31, 2016 and 2015, the following customers have provided more than 10% of this operating segment's revenues:

	Years ended December 31,	
	2016	2015
Tennessee Valley Authority (TVA)	32%	46%
PSEG Nuclear LLC	14%	25%
Entergy Corporation	22%	10%

The TVA provided 10.2% and 15.9% of our consolidated revenue for the years ended December 31, 2016 and 2015, respectively.

Hyperspring may lose a significant customer if any existing contract with such customer expires without being extended, renewed, renegotiated or is terminated by the customer prior to expiration, to the extent such early termination is permitted by the contract. A number of Hyperspring's contracts are typically subject to expiration during each year, and they may lose any of these contracts if they are unable to extend, renew or renegotiate the contracts. The loss of any significant customer would adversely affect Hyperspring's revenue, results of operations, and cash flows.

Our expense levels are based upon our expectations as to future revenue, and we may be unable to adjust spending to compensate for a revenue shortfall. Accordingly, any revenue shortfall would likely have a disproportionate effect on our operating results.

Our revenue was $53.1 million and $56.8 million for the years ended December 31, 2016 and 2015, respectively. We had operating income of $1.6 million and an operating loss of $4.1 million for the years ended December 31, 2016 and 2015, respectively. Our operating results have fluctuated in the past and may fluctuate significantly in the future as a result of a variety of factors, including purchasing patterns, timing of new products and enhancements by us and our competitors, and fluctuating global economic conditions. Since our expense levels are based in part on our expectations as to future revenue and includes certain fixed, pre-negotiated, and prepaid costs, we may be unable to adjust spending in a timely manner to compensate for any revenue shortfall and such revenue shortfalls would likely have a disproportionate adverse effect on our operating results.

Our backlog is subject to unexpected adjustments and cancellations and may not be a reliable indicator of future revenues or earnings.

Backlog represents products or services that our customers have committed by contract or purchase order to purchase from us which have not yet been delivered or recognized as revenue. Our backlog as of December 31, 2016 and 2015 was $73.2 million and $47.9 million, respectively. There can be no assurance that the revenues projected in our backlog will be realized or, if realized, will result in profits. Because of project cancellations or changes in project scope and schedule, we cannot predict with certainty when or if backlog will be performed. In addition, even where a project proceeds as scheduled, it is possible that contracted parties may default and fail to pay amounts owed to us or poor project performance could increase the cost associated with a project. Delays, suspensions, cancellations, payment defaults, scope changes and poor project execution could materially reduce or eliminate the revenues and profits that we actually realize from projects in backlog. Reductions in our backlog due to cancellation or modification by a customer or for other reasons may adversely affect, potentially to a material extent, the revenues and earnings we actually receive from contracts included in our backlog. Many of the contracts in our backlog provide for cancellation fees in the event customers cancel projects. These cancellation fees usually provide for reimbursement of our out-of-pocket costs, revenues for work performed prior to cancellation and a varying percentage of the profits we would have realized had the contract been completed. However, we typically have no contractual right upon cancellation to the total revenues reflected in our backlog. Projects may remain in our backlog for extended periods of time. If we experience significant project terminations, suspensions or scope adjustments to contracts reflected in our backlog, our financial condition, results of operations and cash flows may be adversely impacted.

We are currently a party to multiple fixed price contracts and will continue to enter into similar contracts in the future. If we are not able to accurately estimate or control costs on such projects, the profitability of such projects could be reduced.

A significant portion of our revenue is attributable to contracts entered into on a fixed price basis, which allow us to benefit from cost savings, but we carry the burden of cost overruns. If our initial estimates are incorrect regarding our costs of performance under these contracts, or if unanticipated circumstances arise, we could experience cost overruns which would result in reduced profits or even result in net losses on these contracts. Our financial condition is dependent upon our ability to maximize our earnings from our contracts. Lower earnings or losses caused by cost overruns could have a negative impact on our financial results.

Under time and materials contracts, we are paid for labor at negotiated hourly billing rates and for certain expenses. Under cost-reimbursable contracts, which are subject to a contract ceiling amount, we are reimbursed for allowable costs and are paid a fee, which may be fixed or performance based. However, if our costs exceed the contract ceiling or are not allowable under the provisions of the contract or applicable regulations, we may not be able to obtain reimbursement for all such costs even under a time and materials contract.

Our inability to successfully estimate and manage costs on each of these contract types may materially and adversely affect our financial condition.

Our simulation business is dependent on product innovation and research and development, which costs are incurred prior to realization of revenue for new products and improvements.

We believe that our success will depend in large part on our ability to maintain and enhance our current product line, develop new products, maintain technological competitiveness and meet an expanding range of customer needs. Our product development activities are aimed at the development and expansion of our library of software modeling tools, the improvement of our display systems and workstation technologies, and the advancement and upgrading of our simulation technology. The life cycles for software modeling tools, graphical user interfaces, and simulation technology are variable and largely determined by competitive pressures and the evolution of software and standards that may be controlled by third parties. Consequently, we will need to continue to make significant investments in research and development to enhance and expand our capabilities in these areas and to maintain our competitive advantage. We cannot control, and we may be unable to predict accurately, the development and evolution of these competitive pressures and external software and standards.

We use derivative instruments in the normal course of our business which could result in financial losses and exposure to other risks that negatively impact our net income (loss) and business operational efficiency.

We periodically enter into forward foreign exchange contracts to manage market risks associated with the fluctuations in foreign currency exchange rates on foreign-denominated trade receivables. We could recognize financial losses as a result of volatility in the market values of these contracts or if a derivative instrument counterparty fails to perform. We attempt to minimize credit exposure by limiting counterparties to internationally recognized financial institutions, but even these counterparties are subject to default and contract risk and this risk is beyond our control. Additionally, we may need or wish to avail ourselves of other forms of hedging or derivative instruments in the future depending on our business needs, and these other types of derivative instruments may be subject to the same and other risk, and may not be available to us on a cost-effective or risk-controlled basis, if at all. The unavailability of viable and cost effective risk management, hedging, or similar instruments now or in the future could adversely impact our business operational efficiency or results.

We issue performance, advance payment, and bid bonds in the normal course of our business which could result in financial losses that negatively impact our net income (loss).

We may be required to issue performance, advance payment, and bid bonds to our customers and potential customers as a normal part of our business activities. Our customers may have the ability to draw upon these performance bonds in the event we fail to cure a material breach of the contract within 30 days of receiving notice from the customer regarding the nature of the breach. As of December 31, 2016, we had issued advance payment and performance bonds on four contracts totaling $1.0 million, all of which have been cash collateralized; the largest of these performance bonds was for $0.5 million. Although we expect no material breaches to occur on these contracts, if such a breach were to occur and we failed to cure such breach, we could incur a loss of up to $1.0 million.

We rely upon our intellectual property rights for the success of our business; however, the steps we have taken to protect our intellectual property may be inadequate.

Although we believe that factors such as the technological and creative skills of our personnel, new product developments, frequent product enhancements and reliable product maintenance are important to establishing and maintaining a technological leadership position, our business depends, in part, on the strength of our intellectual property rights in our proprietary technology and information. We rely upon a combination of trade secret, copyright, and trademark law, contractual arrangements and technical means to protect our intellectual property rights. We enter into confidentiality agreements with our employees, consultants, joint venture and alliance partners, customers and other third parties that are granted access to our proprietary information, and limit access to and distribution of our proprietary information. There can be no assurance, however, that we have protected or will be able to protect our proprietary technology and information adequately, that the unauthorized disclosure or use of our proprietary information will be prevented, that others have not or will not develop similar technology or information independently, or, to the extent we own any patents in the future, that others have not or will not be able to design around those future patents. Furthermore, the laws of certain countries in which our products are sold do not protect our products and intellectual property rights to the same extent as the laws of the United States. Our inability to protect our intellectual property rights from infringement, dilution, or loss could make it more difficult for us to generate revenue from the offer, licensure, and sale of our products and services and could enable third parties to compete with us more effectively

The industries in which we operate are highly competitive. This competition may prevent us from raising prices at the same pace at which our costs increase.

Our businesses operate in highly competitive environments with both domestic and foreign competitors, many of whom have substantially greater financial, marketing and other resources than we do. The principal factors affecting competition in our industries include price, technological proficiency, ease of system configuration, product reliability, applications expertise, engineering support, local presence and financial stability. We believe competition in the simulation fields may further intensify in the future as a result of advances in technology, consolidations and strategic alliances among competitors, increased costs required to develop new technology and the increasing importance of software content in systems and products. As our business has a significant international component, changes in the value of the dollar could adversely affect our ability to compete internationally and could reduce our profitability on international business opportunities that we do win.

We may encounter difficulties in effectively integrating acquired businesses.

As part of our business strategy, we have acquired, and intend to acquire, companies with compatible or related products. These acquisitions will be accompanied by the risks commonly encountered in acquisitions of companies, which include, among other things:

- potential exposure to unknown liabilities of the acquired companies;
- higher than anticipated acquisition costs and expenses;
- difficulty and expense of assimilating the operations and personnel of the companies, especially if the acquired operations are geographically distant or culturally different;
- potential disruption of our ongoing business and diversion of management time and attention;
- failure to maximize our financial and strategic position by the successful incorporation of acquired technology;
- difficulties in adopting and maintaining uniform standards, controls, procedures and policies;
- loss of key employees and customers as a result of changes in management; and
- possible dilution to our shareholders.

We may not be successful in overcoming these risks or any other problems encountered in connection with any of our acquisitions, and if we are not successful, our financial results may be materially impacted.

We are dependent on our management team, and the loss of or the inability to attract and retain one or more key employees or groups could harm our business and prevent us from implementing our business plan in a timely manner.

Our future success is substantially dependent on the continued services and continuing contributions of our executive officers and other key personnel. Our Nuclear Industry Training and Consulting business segment is particularly dependent on key personnel and their key strategic relationships. The loss of the services of any of our executive officers or other key personnel could harm our business. Our future success also depends on our ability to continue to attract, retain, and motivate highly skilled employees. If we are not able to attract and retain key skilled personnel, our business could be harmed.

A failure to attract and retain technical personnel could reduce our revenue and our operational effectiveness.

There is a continuing demand for qualified technical personnel in the industries within which we operate. We believe that our future growth and success will depend upon our ability to attract, train and retain such personnel. Our design and development efforts depend on hiring and retaining qualified technical personnel. An inability to attract or maintain a sufficient number of technical personnel could have a material adverse effect on our contract performance or on our ability to capitalize on market opportunities.

The nuclear power industry, our largest customer group, is associated with a number of hazards which could create significant liabilities.

Our business could expose us to third party claims with respect to product, environmental and other similar liabilities. Although we have sought protection from these potential liabilities through a variety of legal and contractual provisions as well as through liability insurance, the effectiveness of such protections has not been fully tested. Certain of our products and services are used by the nuclear power industry primarily in operator training. Although our contracts for such products and services typically contain provisions designed to protect us from potential liabilities associated with such use, there can be no assurance that we would not be materially adversely affected by claims or actions which may potentially arise due to factors that may be outside of our direct control.

Cyber security incidents could disrupt business operations, result in the loss of critical and confidential information, and adversely impact our reputation and results of operations.

Global cyber security threats can range from uncoordinated individual attempts to gain unauthorized access to our information technology (IT) systems to sophisticated and targeted measures known as advanced persistent threats. While we employ comprehensive measures to prevent, detect, address and mitigate these threats (including access controls, data encryption, vulnerability assessments, continuous monitoring of our IT networks and systems and maintenance of backup and protective systems), cyber security incidents, depending on their nature and scope, could potentially result in the misappropriation, destruction, corruption or unavailability of critical data and confidential or proprietary information (our own or that of third parties) and the disruption of business operations. The potential consequences of a material cyber security incident include reputational damage, litigation with third parties, diminution in the value of our investment in research, development and engineering, loss of intellectual property, and increased cyber security protection and remediation costs, which in turn could adversely affect our competitiveness and results of operations.

Third-party claims that we allegedly infringe the intellectual property rights of others may be costly to defend or settle and could damage our business.

We cannot be certain that our software and services do not infringe issued patents, copyrights, trademarks or other intellectual property rights of third parties. We may be subject to legal proceedings and claims from time to time, including claims of alleged infringement of intellectual property rights of third parties by us or our licensees concerning their use of our software products and integration technologies and services. Third parties may bring claims of infringement against us. Because our software is integrated with our customers' networks and business processes, as well as other software applications, third parties may bring claims of infringement against us, as well as our customers and other software suppliers, if the cause of the alleged infringement cannot easily be determined.

Claims of alleged infringement may have a material adverse effect on our business and may discourage potential customers from doing business with us on acceptable terms, if at all, even if they are ultimately adjudicated to have no merit, dismissed, or settled. Defending against claims of infringement may be time-consuming and may result in substantial costs and diversion of resources, including our management's attention to our business. Furthermore, a party making an infringement claim could secure a judgment that requires us to pay substantial damages. A judgment could also include an injunction or other court order that could prevent us from selling our software or require that we re-engineer some or all of our products. Claims of intellectual property infringement also might require us to enter costly royalty or license agreements. We may be unable to obtain royalty or license agreements on terms acceptable to us or at all. Our business, operating results and financial condition could be harmed significantly if any of these events were to occur, and the price of our common stock could be adversely affected. In addition, we have agreed, and may agree in the future, to indemnify certain of our customers against claims that our software infringes upon the intellectual property rights of others. Although we carry general liability insurance, our current insurance coverage may not apply to, and likely would not protect us entirely or at all from, liability that may be imposed under any of the types of claims described above.

We are subject to a wide variety of laws and regulations.

Our businesses are subject to regulation by U.S. federal and state laws and foreign laws, regulations and policies. Changes to laws or regulations may require us to modify our business objectives if existing practices become more restricted, subject to escalating costs or prohibited outright. Particular risks include regulatory risks arising from federal laws, such as laws regarding export of sensitive technologies or technical information. Our business and the industries in which we operate are also at times being reviewed or investigated by regulators, which could lead to enforcement actions, fines and penalties or the assertion of private litigation claims and damages.

Provisions in our corporate documents and Delaware law could delay or prevent a change in control of our company, even if that change may be considered beneficial by some stockholders.

The existence of some provisions of our certificate of incorporation and bylaws and Delaware law could discourage, delay or prevent a change in control of our company that a stockholder may consider favorable. These include provisions:

- providing that our Board of Directors fixes the number of members of the board and fills all vacancies on the Board of Directors;
- providing for the division of our Board of Directors into three classes with staggered terms;
- limiting who may call special meetings of stockholders;
- prohibiting stockholder action by written consent, thereby requiring stockholder action to be taken at a meeting of the stockholders;
- establishing advance notice requirements for nominations of candidates for election to our Board of Directors or for proposing matters that can be acted on by stockholders at stockholder meetings;
- establishing supermajority vote requirements for certain amendments to our certificate of incorporation and bylaws;
- limiting the right of stockholders to remove directors; and
- authorizing the issuance of "blank check" preferred stock, which could be issued by our Board of Directors to increase the number of outstanding shares and thwart a takeover attempt.

In addition, we are subject to Section 203 of the Delaware General Corporation Law, which may have an anti-takeover effect with respect to transactions not approved in advance by our Board of Directors, including discouraging takeover attempts that might result in a premium over the market price for shares of our common stock.

We believe these provisions protect our stockholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our Board of Directors and by providing our Board of Directors with more time to assess any acquisition proposal, and are not intended to make our company immune from takeovers. However, these provisions apply even if the offer may be considered beneficial by some stockholders and could delay or prevent an acquisition that our Board of Directors determines is not in the best interests of our company and our stockholders.

We have identified a material weakness in our internal control over financial reporting which could, if not remediated, result in additional material misstatements in our consolidated financial statements.

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act. As disclosed in Item 9A, management identified a material weakness in our internal control over financial reporting related to revenue recognition due to inadequate design and operation. A material weakness is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. As a result of this material weakness, our management concluded that our internal control over financial reporting was not effective based on criteria set forth by the Committee of Sponsoring Organization of the Treadway Commission in Internal Control — An Integrated Framework. We are actively engaged in developing a remediation plan designed to address this material weakness. If our remedial measures are insufficient to address the material weakness, or if additional material weaknesses or significant deficiencies in our internal control are discovered or occur in the future, our consolidated financial statements may contain material misstatements and we could be required to restate our financial results.

A sustained decline in the price of our common stock or weaker than forecasted operating results could result in write-downs of goodwill and capitalized software development costs.

In conjunction with business acquisitions, we record goodwill at fair value and review its fair value for impairment annually as of December 31, or on an interim basis if impairment indicators are present, such as a significant reduction in our market capitalization, significant declines in operating performance or disruptions to the business that could reduce our future cash flow. On November 14, 2014, we recorded $5.6 million of goodwill related to our acquisition of Hyperspring. We tested our goodwill at the reporting unit level as of December 31, 2016 and 2015, and there was no indication of impairment. We can provide no assurance that we will not have an impairment charge in future periods as the result of changing conditions. See Note 2 to our consolidated financial statements for information regarding our goodwill.

We capitalize certain computer software development costs and, accordingly, the capitalized costs are reported on our balance sheet. Capitalization of computer software development costs begins upon the establishment of technological feasibility. Capitalization ceases and amortization of capitalized costs begins when the software product is commercially available for general release to customers. Amortization of capitalized computer software development costs is included in cost of revenue and is determined using the straight-line method over the remaining estimated economic life of the product, typically three years. On an annual basis, and more frequently as conditions indicate, we assess the status of our development programs and the recoverability of the unamortized software development costs by estimating the net undiscounted cash flows expected to be generated by the sale of the product. If the undiscounted cash flows are not sufficient to recover the unamortized software costs we will write-down the investment to its estimated fair value based on the future undiscounted cash flows. The excess of any unamortized computer software costs over the related net realizable value is written down and charged to operations.

Treatment of goodwill and capitalized software development costs in the current and future accounting periods may have an impact on the value of the company, results of operations, and price of our common stock.

Our ability to use our net operating loss (NOL) carryforward and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards, and other pre-change tax attributes (such as research tax credits) to offset its post-change income or tax liabilities may be limited. We may experience ownership changes in the future as a result of shifts in our stock ownership. As a result, if we earn net taxable income, our ability to use our pre-change NOL carryforwards to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us.

ITEM 1B. UNRESOLVED STAFF COMMENTS .

None.

ITEM 2. PROPERTIES .

The Company is headquartered in a facility in Sykesville, Maryland (approximately 43,000 square feet). The lease for this facility expires on June 30, 2023. As of December 31, 2016, the Company subleased approximately 1,000 square feet of the facility.

In addition, the Company leases office space domestically in Huntsville, Alabama and internationally in Beijing, China, Chennai, India, Nyköping, Sweden and Stockton-On-Tees, England. The Company leases these facilities for terms ending between 2016 and 2023.

ITEM 3. LEGAL PROCEEDINGS .

The Company and its subsidiaries are from time to time involved in ordinary routine litigation incidental to the conduct of its business. The Company and its subsidiaries are not a party to, and its property is not the subject of, any material pending legal proceedings that, in the opinion of management, are likely to have a material adverse effect on the Company's business, financial condition or results of operations.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART II

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

The Company's common stock is listed on the NYSE MKT Stock Exchange, where it trades under the symbol "GVP". The following table sets forth, for the periods indicated, the high and low sale prices for the Company's common stock reported by the NYSE MKT Stock Exchange for each full quarterly period within the two most recent fiscal years:

2016

Quarter	High	Low
First	$ 2.92	$ 2.00
Second	$ 2.67	$ 2.07
Third	$ 2.89	$ 2.16
Fourth	$ 3.70	$ 2.66

2015

Quarter	High	Low
First	$ 1.75	$ 1.45
Second	$ 1.74	$ 1.39
Third	$ 1.63	$ 1.32
Fourth	$ 2.45	$ 1.36

On March 28, 2017, there were 19,149,270 shares of common stock outstanding, which was held by approximately 820 holders of record. The Company has never declared or paid a cash dividend on its common stock. The Company currently intends to retain future earnings to finance the growth and development of its business and, therefore, does not anticipate paying any cash dividends in the foreseeable future on its common stock.

The Company believes factors such as quarterly fluctuations in results of operations and announcements of new products by the Company or by its competitors may cause the market price of the common stock to fluctuate, perhaps significantly. In addition, in recent years the stock market in general, and the shares of technology companies in particular, have experienced extreme price fluctuations. The Company's common stock has also experienced a relatively low trading volume, making it further susceptible to extreme price fluctuations. These factors may adversely affect the market price of the Company's common stock.

ITEM 6. SELECTED FINANCIAL DATA .

This information is not required for smaller reporting companies.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS .

We are a world leader in real-time high-fidelity simulation, providing a wide range of simulation, training, and engineering solutions to the global power and process industries; providing customers with simulation, engineering and plant services that help clients reduce risks associated with operating their plants, increase revenue through improved plant and employee performance, and lower costs through improved operational efficiency. We also provide services that systematically help clients fill key vacancies in the organization on a short-term basis, primarily in the area of training professionals focused on regulatory compliance and certification in the nuclear power industry.

We execute projects globally with approximately 272 employees operating from offices in the U.S., China, India, Sweden and the United Kingdom. While the majority of revenue comes from the nuclear power market, we also serve the fossil, refining, chemical, and petrochemical markets.

GSE Systems was formed on March 30, 1994, to consolidate the simulation and related businesses of General Physics International Engineering & Simulation, S3 Technologies, and EuroSim, each separately owned and operated by GP Strategies Corporation, ManTech International Corporation, and Vattenfall AB, respectively. The Company completed its Initial Public Offering in 1995. Our operations now also include engineering consulting in the utility, manufacturing, and construction industries and interactive computer-based tutorials and related simulation models primarily for the refining, chemical, and petrochemical industries, through our wholly-owned subsidiaries GSE Systems, Ltd. and GSE Performance Solutions, Inc., respectively.

Through our Hyperspring subsidiary, we provide highly skilled, high-value professionals to fill training and consulting positions on a contract basis for nuclear power plant operators. Hyperspring professionals provide training, operations and maintenance support including: generic fundamentals exams (GFES), accreditation training visit (ATV) preparation, senior reactor operator (SRO) certification, procedure development, work management, tagging/labeling, outage execution, planning/scheduling, corrective action, self-assessments and equipment reliability. Customers include TVA, Entergy, Southern Company, PSEG Nuclear LLC and NRG Energy Inc.

Results of Operations.

The following table sets forth the results of operations for the periods presented expressed as a percentage of revenue.

($ in thousands)	Years ended December 31,			
	2016	**%**	**2015**	**%**
Revenue	$ 53,101	100.0%	$ 56,803	100.0%
Cost of revenue	37,857	71.3%	42,406	74.7%
Write-down of capitalized software development costs	-	0.0%	1,538	2.7%
Gross profit	15,244	28.7%	12,859	22.6%
Operating expenses				
Selling, general and administrative	11,127	21.0%	12,735	22.4%
Research and development	1,380	2.6%	1,482	2.6%
Restructuring charges	490	0.9%	1,791	3.2%
Depreciation	383	0.7%	493	0.9%
Amortization of definite-lived intangible assets	289	0.5%	494	0.9%
Total operating expenses	13,669	25.7%	16,995	29.9%
Operating income (loss)	1,575	3.0%	(4,136)	(7.3%)
Interest income, net	85	0.1%	88	0.2%
Loss on derivative instruments, net	(18)	0.0%	(40)	(0.1%)
Other income (expense), net	130	0.2%	(146)	(0.3%)
Income (loss) before income taxes	1,772	3.3%	(4,234)	(7.5%)
Provision for income taxes	350	0.7%	471	0.8%
Net income (loss)	$ 1,422	2.7%	$ (4,705)	(8.3%)

Comparison of the Years Ended December 31, 2016 to December 31, 2015.

Revenue. Revenue for the year ended December 31, 2016, totaled $53.1 million, which was 6.5% less than the $56.8 million of revenue for the year ended December 31, 2015. The decrease in revenue was primarily driven by the Company's focus on winning higher margin contracts versus lower margin, higher revenue contracts. This resulted in an improvement in our gross profit as a percent of revenue for the year ended December 31, 2016, compared to the same period of 2015.

(in thousands)	Year ended December 31, 2016	Year ended December 31, 2015
Revenue:		
Performance Improvement Solutions	$ 35,474	$ 37,074
Nuclear Industry Training and Consulting	17,627	19,729
Total revenue	$ 53,101	$ 56,803

Performance Improvement Solutions revenue decreased 4.3% from $37.1 million to $35.5 million for the years ended December 31, 2015 and 2016, respectively. We recorded total Performance Improvement Solutions orders of $63.7 million and $36.8 million for the years ended December 31, 2016 and 2015, respectively.

For the year ended December 31, 2016, Nuclear Industry Training and Consulting r evenue totaled $17.6 million compared to revenue of $19.7 million during the year ended December 31, 2015. Nuclear Industry Training and Consulting orders totaled $15.8 million and $19.2 million for the years ended December 31, 2016 and 2015, respectively.

The decrease in revenues for both, the Performance Improvement Solutions and Nuclear Industry Training and Consulting segments was driven by the Company's focus on winning higher margin contracts versus lower margin, higher revenue contracts .

At December 31, 2016, the Company's backlog was $73.2 million: $68.8 million for the Performance Improvement Solutions segment and $4.4 million for the Nuclear Industry Training and Consulting segment. Performance Improvement Solutions backlog increased 64.2% from $41.9 million and Nuclear Industry Training and Consulting backlog decreased 26.7% from $6.0 million, respectively, as of December 31, 2015. The decrease in Nuclear Industry Training and Consulting backlog was primarily due to the timing of orders received from a large customer. During December 2015, a $2.1 million order was received from this customer whereas a $2.5 million order was not received from this customer until January 2017.

Write-down of capitalized software development costs. The Company makes ongoing evaluations of the recoverability of its capitalized software projects. During the third quarter of 2015, the Company's CEO conducted a review of the Company's organizational and cost structures and software development plans. As a result of this review, the Company has terminated further development of its Enterprise Data Management (EDM) system and concluded that the capitalized software development costs relating to EDM were no longer recoverable. Accordingly, in the three months ended September 30, 2015, GSE recorded a $1.5 million write-down of software development costs which was the full capitalized balance of the EDM configuration management system.

Gross profit. Gross profit was $15.2 million, or 28.7%, for the year ended December 31, 2016 compared to $14.4 million, or 25.3%, for the year ended December 31, 2015, excluding the $1.5 million write-down of software development costs.

($ in thousands)	Years ended December 31,			
	2016	%	2015	%
Gross profit:				
Performance Improvement Solutions	$ 12,644	35.6%	$ 11,995	32.4%
Nuclear Industry Training and Consulting	2,600	14.8%	2,402	12.2%
Consolidated gross profit excluding write-down	15,244	28.7%	14,397	25.3%
Write-down of capitalized software development costs	-	0.0%	(1,538)	(2.7%)
Consolidated gross profit	$ 15,244	28.7%	$ 12,859	22.6%

The Performance Improvement Solutions segment had gross profit of $12.6 million, or 35.6%, for the year ended December 31, 2016 compared to $12.0 million, or 32.4%, for the year ended December 31, 2015, excluding the $1.5 million write-down of software development costs. For the years ended December 31, 2016 and 2015, the Nuclear Industry Training and Consulting segment had gross margin of 14.8% and 12.2%, respectively. The increase in gross profit in 2016 is primarily driven by the Company's focus on entering into higher margin contracts versus lower margin, higher revenue contracts .

Selling, general and administrative expenses. Selling, general and administrative (SG&A) expenses totaled $11.1 million and $12.7 million for the years ended December 31, 2016 and 2015, respectively. Fluctuations in the components of SG&A spending were as follows:

($ in thousands)	Years ended December 31,			
	2016	%	2015	%
Selling, general and administrative expenses:				
Corporate charges	$ 7,287	65.5%	$ 5,994	47.1%
Business development	3,004	27.0%	4,659	36.5%
Contingent consideration	(207)	(1.9%)	849	6.7%
Other	1,043	9.4%	1,233	9.7%
Total	$ 11,127	100.0%	$ 12,735	100.0%

Corporate charges increased $1.3 million primarily due to a $0.6 million increase in compensation expense and $0.5 million increase in one-time consulting fees to facilitate the transition and upgrade to the Finance operations.

Business development charges decreased $1.7 million mainly due to the Company's cost reduction efforts initiated in the second half of fiscal year 2015.

Contingent consideration decreased $1.1 million primarily due to a $0.6 million fair value adjustment to reduce the contingent consideration liability related to the Hyperspring acquisition and a $0.5 million decrease in accretion of the liability. The contingent consideration liability expires in November 2017 with the final payment expected to be made in January 2018.

Other charges primarily comprise facility charges, which decreased $190,000 during fiscal year 2016.

Research and development. Research and development costs consist primarily of software engineering personnel and other related costs. Research and development costs, net of capitalized software, totaled $1.4 million and $1.5 million for the years ended December 31, 2016 and 2015, respectively. Before capitalization of software development costs, research and development totaled $1.6 million and $3.1 million for the years ended December 31, 2016 and 2015, respectively. The $1.5 million decrease is primarily due to the completion of a large project in 2015 and a more targeted research and development strategy undertaken by the new management team.

Restructuring charges. Restructuring charges totaled $490,000 and $1.8 million for the years ended December 31, 2016 and 2015, respectively. The decrease of $1.3 million is primarily due to the Company's restructuring activities during 2015. In the third quarter of 2015, the Board of Directors of the Company approved restructuring actions for the Company's worldwide operations. Restructuring charges primarily include severance expense, facility closing costs, and other restructuring costs. The restructuring actions were designed to deliver reductions in overhead costs and selling, general, and administrative expenses and create operating efficiencies throughout the Company.

Depreciation. Depreciation expense totaled $383,000 and $493,000 for the years ended December 31, 2016 and 2015, respectively.

Amortization of definite-lived intangible assets. Amortization expense related to definite-lived intangible assets totaled $289,000 and $494,000 for the years ended December 31, 2016 and 2015, respectively. The fiscal year 2016 decrease is primarily due to lower amortization of customer-related intangible assets that were recorded in conjunction with the Hyperspring acquisition in 2014.

Loss on derivative instruments, net. The Company periodically enters into forward foreign exchange contracts to manage market risks associated with the fluctuations in foreign currency exchange rates on foreign-denominated trade receivables. As of December 31, 2016, the Company had foreign exchange contracts outstanding of approximately 281.4 million Japanese Yen, 0.6 million Australian Dollars 0.5 million Canadian Dollars, and 0.1 million Euro at fixed rates. The contracts expire on various dates through December 2018. The Company had not designated the contracts as hedges and recognized a gain on the change in the estimated fair value of the contracts of $51,000 for the year ended December 31, 2016.

At December 31, 2015, the Company had foreign exchange contracts outstanding of approximately 2.1 million Euro, 1.3 million Canadian Dollars, 0.5 million Pounds Sterling, and 0.4 million Australian Dollars at fixed rates. The contracts expired on various dates through January 2017. The Company had not designated the contracts as hedges and recognized a loss on the change in the estimated fair value of the contracts of $6,000 for the year ended December 31, 2015.

The estimated net fair values of the contracts at December 31, 2016 and 2015 was a net asset of $121,000 and $64,000, respectively. The amounts were recorded on the consolidated balance sheets as follows:

(in thousands)	December 31, 2016	December 31, 2015
Asset derivatives		
Prepaid expenses and other current assets	$ 57	$ 115
Other assets	84	6
	141	121
Liability derivatives		
Other current liabilities	(20)	(57)
Other liabilities	-	-
	(20)	(57)
Net fair value	$ 121	$ 64

The foreign currency denominated contract receivables that are related to the outstanding foreign exchange contracts at December 31, 2016 are remeasured at the end of each period into the functional currency using the current exchange rate at the end of the period. For the years ended December 31, 2016 and 2015, the Company incurred losses of $69,000 and $34,000, respectively, from the remeasurement of such contract receivables.

Other income (expense), net. The Company recognized $130,000 of other income, net and $146,000 of other expense, net for the years ended December 31, 2016 and 2015, respectively.

The increase in other income is primarily due to $140,000 Value Added Tax refund received by the Company's Chinese subsidiary during fiscal year 2016, as well as $107,000 of equity losses and a $126,000 impairment charge that was recorded in the prior year related to the Company's equity method investment in IntelliQlik, LLC (IntelliQlik).

On November 14, 2014, in conjunction with the Hyperspring acquisition, the Company invested $250,000 for a 50% interest in IntelliQlik. During the year ended December 31, 2015, the Company recognized equity losses of $107,000 on its investment in IntelliQlik. IntelliQlik is developing a software platform for online learning and learning management for the energy market. The Company was obligated to contribute an additional $250,000 should IntelliQlik attain certain development milestones by September 30, 2015. Based on a review of the software platform as of September 30, 2015, the Company concluded that the required development milestones had not been met and did not contribute the additional $250,000 investment. The Company wrote-off the remaining $126,000 balance of its IntelliQlik investment in the third quarter 2015.

Provision for Income Taxes. The Company files tax returns in the United States federal jurisdiction and in several state and foreign jurisdictions. Because of the net operating loss carryforwards, the Company is subject to U.S. federal and state income tax examinations from years 1997 and forward and is subject to foreign tax examinations by tax authorities for years 2009 and forward. Open tax years related to state and foreign jurisdictions remain subject to examination but are not considered material to our financial position, results of operations or cash flows.

The Company's tax expense in 2016 was $350,000, representing an annual effective tax rate of 19.8%, and consisted of $6,000 of state income taxes, $4,000 of foreign income taxes from the Company's foreign subsidiaries, $200,000 of foreign income tax liabilities, and a $146,000 deferred tax liability relating to the tax amortization of goodwill that cannot be offset by deferred tax assets because the anticipated reversal of the deferred tax liability is outside of the anticipated reversal of the deferred tax assets. These were offset by a $6,000 benefit for foreign income tax withholdings on several non-U.S. contracts. The annual effective tax rate differed from the federal income tax rate of 34% primarily due to favorable effects of the change in the valuation allowance and lower foreign tax jurisdictions, unfavorable effects of permanent differences, true-ups, and uncertain tax positions.

The Company's tax expense in 2015 was $471,000, representing an annual effective rate of (11.1%) and consisted of $12,000 state income taxes, $110,000 foreign income taxes from the Company's foreign subsidiaries, $221,000 of foreign income tax liabilities, and $146,000 deferred tax liability relating to the tax amortization of goodwill that cannot be offset by deferred tax assets because the anticipated reversal of the deferred tax liability is outside of the anticipated reversal of the deferred tax assets. These were offset by an $18,000 benefit for foreign income tax withholdings on several non-U.S. contracts. The annual effective rate differed from the federal income tax rate of 34% due primarily to favorable effects of the change in the valuation allowance, permanent differences, and unfavorable effects of uncertain tax positions.

An uncertain tax position taken or expected to be taken in a tax return is recognized in the consolidated financial statements when it is more likely than not (i.e., a likelihood of more than fifty percent) that the position would be sustained upon examination by tax authorities that have full knowledge of all relevant information. A recognized tax position is then measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Interest and penalties related to income taxes are accounted for as income tax expense.

As of December 31, 2016 and 2015, the Company recorded tax liabilities, including interest and penalties, for certain foreign tax contingencies of $665,000 and $413,000, respectively. During the years ended December 31, 2016 and 2015, the Company accrued additional interest and penalties related to the Company's foreign uncertain tax positions of $78,000 and $167,000, respectively.

The Company has a full valuation allowance on its U.S., U.K., Swedish, and Chinese net deferred tax assets at December 31, 2016.

Critical Accounting Policies and Estimates.

In preparing the Company's consolidated financial statements, management makes several estimates and assumptions that affect the Company's reported amounts of assets, liabilities, revenues and expenses. Those accounting estimates that have the most significant impact on the Company's operating results and place the most significant demands on management's judgment are discussed below. For all of these policies, management cautions that future events rarely develop exactly as forecast, and the best estimates may require adjustment.

Revenue Recognition. The Company recognizes revenue through (1) fixed price contracts on the sale of uniquely designed systems containing hardware, software and other materials which apply mainly to the Performance Improvement Solutions segment as well as (2) time and material contracts primarily through Nuclear Industry Training and Consulting support and service agreements.

In accordance with U.S. generally accepted accounting principles (U.S. GAAP), our Performance Improvement Solutions segment accounts for revenue under fixed-price contracts using the percentage-of-completion method. This methodology recognizes revenue and earnings as work progresses on the contract and is based on an estimate of the revenue and earnings earned to date, less amounts recognized in prior periods. The Company bases its estimate of the degree of completion of the contract by reviewing the relationship of costs incurred to date to the expected total costs that will be incurred on the project. Estimated contract earnings are reviewed and revised periodically as the work progresses, and the cumulative effect of any change in estimate is recognized in the period in which the change is identified. Estimated losses are charged against earnings in the period such losses are identified. The Company recognizes revenue arising from contract claims either as income or as an offset against a potential loss only when the amount of the claim can be estimated reliably and realization is probable and there is a legal basis of the claim.

Uncertainties inherent in the performance of contracts include labor availability and productivity, material costs, change order scope and pricing, software modification and customer acceptance issues. The reliability of these cost estimates is critical to the Company's revenue recognition as a significant change in the estimates can cause the Company's revenue and related margins to change significantly from the amounts estimated in the early stages of the project.

As the Company recognizes revenue under the percentage-of-completion method, it provides an accrual for estimated future warranty costs based on historical and projected claims experience. The Company's long-term contracts generally provide for a one-year warranty on parts, labor and any bug fixes as it relates to customized software embedded in the systems.

The Company's system design contracts do not normally provide for post contract support (PCS) in terms of software upgrades, software enhancements or telephone support. In order to obtain PCS, the customers must normally purchase a separate contract. Such PCS arrangements are generally for a one-year period renewable annually and include customer support, unspecified software upgrades, and maintenance releases. The Company recognizes revenue from these contracts ratably over the life of the agreements.

Revenue from the sale of software licenses without other elements in the contract and which do not require significant modifications or customization for the Company's modeling tools are recognized when the license agreement is signed, the license fee is fixed and determinable, delivery has occurred, and collection is considered probable. We utilize written contracts as a means to establish the terms and conditions by which our products support and services are sold to our customers. Delivery is considered to have occurred when title and risk of loss have been transferred to the customer, which generally occurs after a license key has been delivered electronically to the customer.

The Company also recognizes revenue from the sale of software licenses from contracts with multiple deliverables. These software license sales are evaluated under ASC 985-605, *Software Revenue Recognition* . Contracts with multiple element arrangements typically include, but are not limited to, components such as installation, training, licenses, maintenance, and PCS listed in the contract. The Company has established that vendor specific objective evidence (VSOE) does not exist for all elements sold together with its software license sales. If a PCS or professional services element exists in the software license arrangement, revenue is recognized ratably over the longest service period. If no PCS or professional services element exists in the arrangement, revenue is deferred until the last undelivered element is delivered.

The Company recognizes revenue under time and materials contracts primarily from Nuclear Industry Training and Consulting and certain cost-reimbursable contracts. Revenue on time and material contracts is recognized as services are rendered and performed. Under a typical time-and-materials billing arrangement, customers are billed on a regularly scheduled basis, such as biweekly or monthly. Any unbilled amounts are typically billed the following month. Under cost-reimbursable contracts, which are subject to a contract ceiling amount, we are reimbursed for allowable costs and paid a fee, which may be fixed or performance based. However, if costs exceed the contract ceiling or are not allowable under the provisions of the contract or applicable regulations, we may not be able to obtain reimbursement for all such costs.

I mpairment of Intangible Assets, including Goodwill. We review goodwill for impairment annually as of December 31 and whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. We test goodwill at the reporting unit level. A reporting unit is an operating segment, or one level below an operating segment, as defined by U.S. GAAP. As of December 31, 2016, the Company's $5.6 million goodwill balance was related to our Nuclear Industry Training and Consulting segment, which arose from the acquisition of Hyperspring in November 2014.

Accounting Standards Update (ASU) 2011-08, *Intangibles — Goodwill and Other (Topic 350): Testing Goodwill for Impairment* (ASU 2011-08) permits an entity to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. An entity is not required to perform step one of the goodwill impairment test for a reporting unit if it is more likely than not that its fair value is greater than its carrying amount (Step 0). If the Step 0 test indicates the fair value of a reporting unit is less than its carrying value, then additional impairment testing is required in accordance with the provisions of ASC 350, *Intangibles — Goodwill and Other* .

If it is determined that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, a two-step impairment test is required. In the first step, we compare the fair value of each reporting unit to its carrying value. If the fair value of the reporting unit exceeds the carrying value of the net assets assigned to that unit, goodwill is not impaired and we are not required to perform further testing. If the carrying value of the net assets assigned to the reporting unit exceeds the fair value of the reporting unit, then we must perform the second step of the impairment test in order to determine the implied fair value of the reporting unit's goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit's assets and liabilities in a manner similar to a purchase price allocation, with any residual fair value allocated to goodwill. If the carrying value of a reporting unit's goodwill exceeds its implied fair value, then we record an impairment loss equal to the difference.

At December 31, 2016 and 2015, we performed a quantitative step one goodwill impairment test and concluded that it was more likely than not the fair values of each of our reporting units exceeded their respective carrying values.

Determining the fair value of a reporting unit is judgmental in nature and involves the use of significant estimates and assumptions. These estimates and assumptions include revenue growth rates and operating margins used to calculate projected future cash flows, risk-adjusted discount rates, future economic and market conditions and determination of appropriate market comparables. We base our fair value estimates on assumptions we believe to be reasonable but that are unpredictable and inherently uncertain. Actual future results may differ from those estimates. In addition, we make certain judgments and assumptions in allocating shared assets and liabilities to determine the carrying values for each of our reporting units. The timing and frequency of our goodwill impairment tests are based on an ongoing assessment of events and circumstances that would indicate a possible impairment. We will continue to monitor our goodwill and intangible assets for impairment and conduct formal tests when impairment indicators are present.

Capitalization of Computer Software Development Costs. In accordance with U.S. GAAP, the Company capitalizes computer software development costs incurred after technological feasibility has been established, but prior to the release of the software product for sale to customers. Once the product is available to be sold, the Company amortizes the costs, on a straight line method, over the estimated useful life of the product, which is typically three years. As of December 31, 2016, the Company has net capitalized software development costs of $1.0 million. On an annual basis, and more frequently as conditions indicate, the Company assesses the recovery of the unamortized software development costs by estimating the net undiscounted cash flows expected to be generated by the sale of the product. If the undiscounted cash flows are not sufficient to recover the unamortized software costs the Company will write-down the investment to its estimated fair value based on future discounted cash flows. The excess of any unamortized computer software costs over the related net realizable value is written down and charged to operations. Significant changes in the sales projections could result in an impairment with respect to the capitalized software that is reported on the Company's consolidated balance sheets.

During the third quarter of 2015, the Company's CEO conducted a review of the Company's organizational and cost structures and software development plans. As a result of this review, the Company terminated further development of its EDM system and concluded that the capitalized software development costs relating to EDM were no longer recoverable. Accordingly during the third quarter of 2015, GSE recorded a $1.5 million write-down of software development costs which was the full capitalized balance of the EDM configuration management system.

Valuation of Contingent Consideration for Business Acquisitions. Acquisitions may include contingent consideration payments based on future financial measures of an acquired company. Contingent consideration is required to be recognized at fair value as of the acquisition date. We estimate the fair value of these liabilities based on financial projections of the acquired companies and estimated probabilities of achievement. We believe our estimates and assumptions are reasonable; however, there is significant judgment involved. At each reporting date, the contingent consideration obligation will be revalued to estimated fair value and changes in fair value subsequent to the acquisition will be reflected in income or expense in the consolidated statements of operations, and could cause a material impact to our operating results. Changes in the fair value of contingent consideration obligations may result from changes in discount periods and rates, changes in the timing and amount of revenue and/or earnings estimates and changes in probability assumptions with respect to the likelihood of achieving the various earn-out criteria.

Deferred Income Tax Valuation Allowance. Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the consolidated financial statements. Management makes a regular assessment of the realizability of the Company's deferred tax assets. In making this assessment, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future taxable income of the Company in making this assessment. A valuation allowance is recorded to reduce the total deferred income tax asset to its realizable value. As of December 31, 2016, the Company's largest deferred tax asset of $7.9 million primarily relates to a U.S. net operating loss carryforward of $18.6 million which expires in various amounts between 2020 and 2035. The amount of U.S. loss carryforward which can be used by the Company each year is limited due to changes in the Company's ownership which occurred in 2003. Thus, a portion of the Company's loss carryforward may expire unutilized. We believe that the Company will achieve profitable operations in future years that will enable the Company to recover the benefit of its net deferred tax assets. However, other than a portion of the net deferred tax assets that are related to the Company's Indian subsidiary, the recovery of the net deferred tax assets could not be substantiated by currently available objective evidence. Accordingly, the Company has established a $10.5 million valuation allowance for its net deferred tax assets.

Liquidity and Capital Resources.

As of December 31, 2016, GSE had cash and cash equivalents of $21.7 million compared to $11.1 million at December 31, 2015.

Cash provided by operating activities. For the year ended December 31, 2016, net cash provided by operating activities totaled $10.2 million. Significant changes in the Company's assets and liabilities for the year ended December 31, 2016 included:

- A $6.1 million increase in the Company's contracts receivable. The Company's trade receivables, net of the allowance for doubtful accounts, increased from $9.7 million at December 31, 2015 to $13.3 million at December 31, 2016. The Company's unbilled receivables increased by $2.3 million to $5.6 million at December 31, 2016. The increase in trade and unbilled receivables is primarily due to a significant customer contract that was executed during 2016 and the timing of contracted billing milestones of the Company's other current projects.

- A $1.2 million increase in prepaid expenses and other assets, primarily due to increased inventory purchases to support a large project that was signed during the first quarter of fiscal year 2016.

- A $12.3 million increase in billings in excess of revenue earned. The increase is primarily due to a significant customer contract that was executed during 2016 in which we collected approximately $7 million in advanced billings.

For the year ended December 31, 2015, net cash provided by operating activities totaled $1.0 million. Significant changes in the Company's assets and liabilities during the year ended December 31, 2015 included:

- A $2.5 million decrease in the Company's contracts receivable. The Company's trade receivables, net of the allowance for doubtful accounts, decreased from $10.8 million at December 31, 2014 to $9.7 million at December 31, 2015. The Company's unbilled receivables decreased by $1.7 million to $3.3 million at December 31, 2015. The decrease in trade and unbilled receivables was due to the timing of contracted billing milestones of the Company's current projects.

- A $0.5 million increase in prepaid expenses and other assets

- A $0.9 million decrease in accounts payable, accrued compensation and accrued expenses

- A $0.6 million decrease in billings in excess of revenue earned. The decrease is due to the timing of contracted billing milestones of the Company's current projects.

Cash provided by (used in) investing activities. For the year ended December 31, 2016, net cash generated by investing activities was $2.1 million.

The Company made capital expenditures of $79,000 and capitalized software development costs of $245,000 for the year ended December 31, 2016. The net amount of cash released as collateral for standby letters of credit, bank guarantees and foreign currency contracts was $2.4 million for the year ended December 31, 2016.

For the year ended December 31, 2015, net cash used in investing activities was $1.2 million.

The Company made capital expenditures of $277,000 and capitalized software development costs of $1.6 million for the year ended December 31, 2015. The net amount of cash restricted as collateral for standby letters of credit, bank guarantees and foreign currency contracts was $654,000 for the year ended December 31, 2015.

Cash used in financing activities. For the year ended December 31, 2016, net cash used in financing activities totaled $1.2 million.

During the year ended December 31, 2016, the Company made payments of $1.4 million to the former owners of Hyperspring, respectively, in accordance with the governing purchase agreement.

For the year ended December 31, 2015, net cash used in financing activities totaled $2.0 million.

During the year ended December 31, 2015, the Company made payments totaling $500,000 and $1.2 million to the former shareholders of EnVision and Hyperspring, respectively, in accordance with the governing purchase agreement.

The Company also paid down $339,000 of the Hyperspring working capital line of credit during the year ended December 31, 2015.

Credit Facilities

Branch Banking and Trust Bank (BB&T)

We previously had a Master Loan and Security Agreement and Revolving Credit Note with BB&T that provided a $7.5 million revolving line of credit for the purpose of issuing stand-by letters of credit and providing working capital. Working capital advances accrued interest at a rate equal to the Wall Street Journal Prime Rate of Interest, floating with a floor of 4.5%. As collateral for any borrowings, the Company granted a first lien and security interest in all of the assets of the Company, including but not limited to, accounts receivable, proceeds and products, intangible assets, trademarks, patents, intellectual property, machinery and equipment. The agreement also required certain cash collateral and compliance with certain restrictive covenants.

In connection with the Citizen's Bank credit facility noted below, this agreement was modified in December 2016 to terminate the revolving line of credit, but maintain the outstanding letter of credit through February 17, 2017.

At December 31, 2016 and 2015, the Company had $1.1 million and $3.6 million held in a cash collateral account, respectively.

As of December 31, 2016, the Company was in compliance with its financial covenants.

Citizen's Bank

In December 2016, the Company entered into a new three-year, $5.0 million revolving line of credit facility with Citizen's Bank to fund general working capital needs, including acquisitions. The available credit facility is reduced for any issued and outstanding letters of credit and working capital advances. Working capital advances bear interest of LIBOR plus 2.25% per annum and letter of credit fees are 1.25% per annum. The Company is not required to maintain a restricted cash collateral account at Citizen's Bank for outstanding letters of credit and working capital advances. The credit facility agreement is subject to standard financial covenants and reporting requirements.

2017 Liquidity Outlook

At December 31, 2016, the Company had cash and cash equivalents of $21.7 million and $1.1 million of restricted cash.

In December 2016, the Company entered into a new $5.0 million revolving line of credit facility with Citizen's Bank to replace the existing $7.5 million revolving line of credit facility with BB&T. The available credit facility is reduced for any issued and outstanding letters of credit and working capital advances. Working capital advances bear interest of LIBOR plus 2.25% and letter of credit fees are 1.25% per annum. The Company is not required to maintain a restricted cash collateral account at Citizen's Bank for outstanding letters of credit and working capital advances. The credit facility agreement is subject to standard financial covenants and reporting requirements. This new credit facility provides the Company with additional flexibility to pursue its strategic initiatives and continue to expand the business.

The Company entered 2017 with $73.2 million of backlog; $43.9 million of which is expected to convert to revenue in 2016. The Company anticipates that its normal operations will generate sufficient liquidity and working capital to fund its consolidated operations during the next twelve months without additional financing.

Undistributed Foreign Earnings

As of December 31, 2016 and 2015, the Company's consolidated cash and cash equivalents totaled $21.7 million and $11.1 million, respectively, including cash and cash equivalents held at non-U.S. entities totaling $4.2 million and $4.1 million, respectively. The Company has foreign operating subsidiaries located in China, United Kingdom, Sweden, and India. A deferred tax asset has been recorded with respect to the undistributed earnings in Sweden in the amount of $109,000. The Company has two foreign subsidiaries located in China and the United Kingdom with accumulated deficits. The Company has one foreign subsidiary located in India that has undistributed earnings of $644,000 at December 31, 2016. If the Company were to repatriate these earnings it would incur taxes of approximately $331,000. The foreign subsidiaries in China, United Kingdom and India have undistributed earnings that are considered indefinitely reinvested as of December 31, 2016, to fund the Company's ongoing international operations.

Foreign Exchange.

A portion of the Company's international sales revenue has been and may be received in a currency other than the currency in which the expenses relating to such revenue are paid. Accordingly, the Company periodically enters into forward foreign exchange contracts to manage the market risks associated with the fluctuations in foreign currency exchange rates.

Off-balance Sheet Obligations.

The Company has no off-balance sheet obligations as of December 31, 2016, except for its operating lease commitments and outstanding letters of credit and surety bonds.

Other Matters.

Management believes inflation has not had a material impact on the Company's operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not required of a smaller reporting company.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA .

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Report of Independent Registered Public Accounting Firm

Board of Directors and Stockholders
GSE Systems, Inc.
Sykesville, Maryland

We have audited the accompanying consolidated balance sheets of GSE Systems, Inc. as of December 31, 2016 and 2015 and the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of GSE Systems, Inc. at December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2016 **,** in conformity with accounting principles generally accepted in the United States of America.

/s/ BDO USA, LLP
McLean, Virginia
March 28, 2017

PART I - FINANCIAL INFORMATION
Item 1. Financial Statements

GSE SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	December 31,	
ASSETS	**2016**	**2015**
Current assets:		
Cash and cash equivalents	$ 21,747	$ 11,084
Restricted cash	1,140	1,771
Contract receivables, net	18,863	13,053
Prepaid expenses and other current assets	2,052	2,499
Total current assets	43,802	28,407
Equipment, software and leasehold improvements	6,759	7,003
Accumulated depreciation	(5,527)	(5,407)
Equipment, software and leasehold improvements, net	1,232	1,596
Software development costs, net	982	1,145
Goodwill	5,612	5,612
Intangible assets, net	454	775
Long-term restricted cash	-	1,779
Other assets	1,574	47
Total assets	$ 53,656	$ 39,361
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 923	$ 699
Accrued expenses	2,437	2,262
Accrued compensation	2,624	2,431
Billings in excess of revenue earned	21,444	9,229
Accrued warranty	1,137	1,614
Current contingent consideration	2,105	2,647
Other current liabilities	716	825
Total current liabilities	31,386	19,707
Contingent consideration	-	1,085
Other liabilities	1,149	201
Total liabilities	32,535	20,993
Commitments and contingencies	-	-
Stockholders' equity:		
Preferred stock $.01 par value, 2,000,000 shares authorized, no shares issued and outstanding	-	-
Common stock $.01 par value, 30,000,000 shares authorized, 20,433,608 shares issued and 18,834,697 shares outstanding in 2016, 19,510,770 shares issued and 17,911,859 shares outstanding in 2015	204	195
Additional paid-in capital	75,120	73,481
Accumulated deficit	(49,427)	(50,849)
Accumulated other comprehensive loss	(1,777)	(1,460)
Treasury stock at cost, 1,598,911 shares	(2,999)	(2,999)
Total stockholders' equity	21,121	18,368
Total liabilities and stockholders' equity	$ 53,656	$ 39,361

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

GSE SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Years ended December 31,	
	2016	2015
Revenue	$ 53,101	$ 56,803
Cost of revenue	37,857	42,406
Write-down of capitalized software development costs	-	1,538
Gross profit	15,244	12,859
Operating expenses		
Selling, general and administrative	11,127	12,735
Research and development	1,380	1,482
Restructuring charges	490	1,791
Depreciation	383	493
Amortization of definite-lived intangible assets	289	494
Total operating expenses	13,669	16,995
Operating income (loss)	1,575	(4,136)
Interest income, net	85	88
Loss on derivative instruments, net	(18)	(40)
Other income (expense), net	130	(146)
Income (loss) before income taxes	1,772	(4,234)
Provision for income taxes	350	471
Net income (loss)	$ 1,422	$ (4,705)
Basic earnings (loss) per common share	$ 0.08	$ (0.26)
Diluted earnings (loss) per common share	$ 0.08	$ (0.26)

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

GSE SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Years ended December 31,	
	2016	**2015**
Net income (loss)	$ 1,422	$ (4,705)
Foreign currency translation adjustment	(317)	(229)
Comprehensive income (loss)	$ 1,105	$ (4,934)

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

GSE SYSTEMS, INC, AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock		Additional Paid-in	Accumulated	Accumulated Other Comprehensive	Treasury Stock		
	Shares	Amount	Capital	Deficit	Loss	Shares	Amount	Total
Balance, January 1, 2015	19,487	$ 195	$ 72,917	$ (46,144)	$ (1,231)	(1,599)	$ (2,999)	$ 22,738
Stock-based compensation expense	-	-	526	-	-	-	-	526
Common stock issued for options exercised	14	-	23	-	-	-	-	23
Common stock issued for services provided	10	-	15	-	-	-	-	15
Foreign currency translation adjustment	-	-	-	-	(229)	-	-	(229)
Net loss	-	-	-	(4,705)	-	-	-	(4,705)
Balance, December 31, 2015	19,511	$ 195	$ 73,481	$ (50,849)	$ (1,460)	(1,599)	$ (2,999)	$ 18,368
Stock-based compensation expense	-	-	1,399	-	-	-	-	1,399
Common stock issued for options exercised	458	4	829	-	-	-	-	833
Common stock issued for RSUs vested	465	5	(5)	-	-	-	-	-
Vested RSU shares withheld to pay taxes	-	-	(584)	-	-	-	-	(584)
Foreign currency translation adjustment	-	-	-	-	(317)	-	-	(317)
Net income	-	-	-	1,422	-	-	-	1,422
Balance, December 31, 2016	20,434	$ 204	$ 75,120	$ (49,427)	$ (1,777)	(1,599)	$ (2,999)	$ 21,121

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

GSE SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Years ended December 31,	
	2016	2015
Cash flows from operating activities:		
Net income (loss)	$ 1,422	$ (4,705)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Write-down of capitalized software development costs	-	1,538
Depreciation	383	493
Amortization of definite-lived intangible assets	289	494
Amortization of capitalized software development costs	408	341
Change in fair value of contingent consideration	(207)	849
Stock-based compensation expense	1,550	541
Loss on equity method investments	-	233
Loss on derivative instruments, net	18	40
Deferred income taxes	123	171
Loss on sale of equipment, software, and leasehold improvements	3	-
Changes in assets and liabilities:		
Contract receivables, net	(6,078)	2,530
Prepaid expenses and other assets	(1,249)	(501)
Accounts payable, accrued compensation and accrued expenses	961	(947)
Billings in excess of revenue earned	12,257	(552)
Accrued warranty	(465)	171
Other liabilities	737	320
Net cash provided by operating activities	10,152	1,016
Cash flows from investing activities:		
Capital expenditures	(79)	(277)
Proceeds from sale of assets	30	-
Capitalized software development costs	(245)	(1,610)
Restrictions of cash as collateral under letters of credit	-	(1,222)
Releases of cash as collateral under letters of credit	2,408	1,876
Net cash provided by (used in) investing activities	2,114	(1,233)
Cash flows from financing activities:		
Payments on line of credit	-	(339)
Proceeds from issuance of common stock on the exercise of stock options	833	23
RSUs withheld to pay taxes	(584)	-
Contingent consideration payments to Hyperspring, LLC	(1,421)	(1,700)
Net cash used in financing activities	(1,172)	(2,016)
Effect of exchange rate changes on cash	(431)	(266)
Net increase (decrease) in cash and cash equivalents	10,663	(2,499)
Cash and cash equivalents at beginning of year	11,084	13,583
Cash and cash equivalents at end of year	$ 21,747	$ 11,084

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

1. Summary of Significant Accounting Policies

Principles of consolidation

The accompanying consolidated financial statements include the accounts of GSE Systems, Inc. and its wholly-owned subsidiaries (collectively, "the Company"). All intercompany balances and transactions have been eliminated in consolidation. Investments in partnerships, joint ventures, and less-than-majority owned subsidiaries in which the Company has significant influence are accounted for under the equity method.

Accounting estimates

The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. On an ongoing basis, the Company evaluates the estimates used, including but not limited to those related to revenue recognition, the allowance for doubtful accounts, estimates of future warranty costs, impairments of goodwill and other intangible assets and contingent consideration to be paid in business acquisitions, valuation of stock based compensation awards, and income taxes. Actual results could differ from these estimates.

Revenue recognition

The Company recognizes revenue through fixed price contracts for the sale of uniquely designed/customized systems containing hardware, software and other materials which generally apply to the Performance Improvement Solutions segment and time and material contracts for Nuclear Industry Training and Consulting support and service agreements.

In accordance with ASC 605-35 *, Construction-Type and Production-Type Contracts* (ASC 605 *)* , the Performance Improvement Solutions segment accounts for revenue under fixed-price contracts using the percentage-of-completion method. This methodology recognizes revenue and earnings as work progresses on the contract and is based on costs incurred to date compared to total estimated cost to complete the project. Estimated contract earnings are reviewed and revised periodically as the work progresses, and the cumulative effect of any change in estimate is recognized in the period in which the change is identified. Estimated losses are charged against earnings in the period such losses are identified. The Company recognizes revenue arising from contract claims either as income or as an offset against a potential loss only when the amount of the claim can be estimated reliably and realization is probable and there is a legal basis of the claim.

Uncertainties inherent in the performance of contracts include labor availability and productivity, material costs, change order scope and pricing, software modification and customer acceptance issues. The reliability of these cost estimates is critical to the Company's revenue recognition as a significant change in the estimates can cause the Company's revenue and related margins to change significantly from the amounts estimated in the early stages of the project.

As the Company recognizes revenue under the percentage-of-completion method, it provides an accrual for estimated future warranty costs based on historical and projected claims experience. The Company's long-term contracts generally provide for a one to five year warranty on the systems sold to customers to cover hardware or software issues.

The Company's system design contracts do not normally provide for post contract support (PCS) in terms of software upgrades, software enhancements or telephone support. In order to obtain PCS, the customers must normally purchase a separate contract. Such PCS arrangements are generally for a one-year period renewable annually and include customer support, unspecified software upgrades, and maintenance releases. The Company recognizes revenue from these contracts ratably over the life of the agreements.

Revenue from the sale of software licenses without other elements in the contract and which do not require significant modifications or customization for the Company's modeling tools are recognized when the license agreement is signed, the license fee is fixed and determinable, delivery has occurred, and collection is considered probable. We utilize written contracts as a means to establish the terms and conditions by which product support and services are sold to customers. Delivery is considered to have occurred when title and risk of loss have been transferred to the customer, which generally occurs after a license key has been delivered electronically to the customer.

The Company also recognizes revenue from the sale of software licenses from contracts with multiple deliverables. These software license sales are evaluated under ASC 985-605, *Software Revenue Recognition* . Contracts with multiple element arrangements typically include, but are not limited to, components such as installation, training, licenses, and PCS listed in the contract. The Company concluded that vendor specific objective evidence (VSOE) does not exist for all elements of its software license sales. If a PCS or professional services element exists in the software license arrangement, revenue is recognized ratably over the longest service period. If no PCS or professional services element exists in the arrangement, revenue is deferred until the last undelivered element is delivered.

The Company recognizes revenue under time and materials contracts primarily from the Nuclear Industry Training and Consulting segment and certain cost-reimbursable contracts. Revenue on time and material contracts is recognized as services are rendered and performed. Under a typical time-and-materials billing arrangement, customers are billed on a regularly scheduled basis, such as biweekly or monthly. Any unbilled amounts are typically billed the following month. Under cost-reimbursable contracts, which are subject to a contract ceiling amount, we are reimbursed for allowable costs and paid a fee, which may be fixed or performance based. However, if costs exceed the contract ceiling or are not allowable under the provisions of the contract or applicable regulations, we may not be able to obtain reimbursement for all such costs.

Cash and cash equivalents

Cash and cash equivalents represent cash and highly liquid investments including money market accounts with maturities of three months or less at the date of purchase.

Restricted cash

Restricted cash consists of the cash collateralization of outstanding letters of credit used for various advance payment, bid, surety and performance bonds, and negative foreign exchange positions which have been segregated into restricted money market accounts with BB&T Bank. BB&T Bank has complete and unconditional control over the restricted money market accounts.

At December 31, 2016 and 2015, the Company had approximately $1.1 million and $3.6 million, respectively, of cash in escrow accounts with BB&T Bank. We have classified all of our restricted cash as current assets at December 31, 2016, and classified as current assets $1.8 million of the total restricted cash at December 31, 2015, with the remaining amount classified as a long term asset. The Company recorded interest income of $6,000 and $10,000 from the escrow accounts for the years ended December 31, 2016 and 2015, respectively. The interest earned on these restricted funds is added to the restricted cash balance. The Company classifies the restriction and release of the cash collateralization of outstanding letters of credit as an investing activity within the consolidated statements of cash flows, as these deposits are not related to borrowings against our line of credit.

Contract receivables, net

Contract receivables include recoverable costs and accrued profit not billed which represents revenue recognized in excess of amounts billed. Billings in excess of costs and estimated earnings on uncompleted contracts in the accompanying consolidated balance sheets represent advanced billings to clients on contracts in advance of work performed. Generally, such amounts will be earned and recognized over the next twelve months.

Billed receivables are recorded at invoiced amounts. The allowance for doubtful accounts is based on historical trends of past due accounts, write-offs, and specific identification and review of customer accounts.

The activity in the allowance for doubtful accounts is as follows:

(in thousands)	**As of and for the years ended December 31,**	
	2016	**2015**
Beginning balance	$ 103	$ 22
Current year provision	-	101
Current year write-offs	(86)	(20)
Ending balance	$ 17	$ 103

Equipment, software and leasehold improvements, net

Equipment and purchased software are recorded at cost and depreciated using the straight-line method with estimated useful lives ranging from three to ten years. Leasehold improvements are amortized over the life of the lease or the estimated useful life, whichever is shorter, using the straight-line method. Upon sale or retirement, the cost and related depreciation are eliminated from the respective accounts and any resulting gain or loss is included in operations. Maintenance and repairs are charged to expense as incurred.

Software development costs

Certain computer software development costs are capitalized in the accompanying consolidated balance sheets. Capitalization of computer software development costs begins upon the establishment of technological feasibility. Capitalization ceases and amortization of capitalized costs begins when the software product is commercially available for general release to customers. Amortization of capitalized computer software development costs is included in cost of revenue and is determined using the straight-line method over the remaining estimated economic life of the product, typically three years. On an annual basis, and more frequently as conditions indicate, the Company assesses the recovery of the unamortized software development costs by estimating the net undiscounted cash flows expected to be generated by the sale of the product. If the undiscounted cash flows are not sufficient to recover the unamortized software costs the Company will write-down the carrying amount of such asset to its estimated fair value based on the future discounted cash flows. The excess of any unamortized computer software costs over the related fair value is written down and charged to operations.

Development expenditures

Development expenditures incurred to meet customer specifications under contracts are charged to contract costs. Company sponsored development expenditures are either charged to operations as incurred and are included in selling, general and administrative expenses or are capitalized as software development costs. See Note 7, *Software development costs, net* . The amounts incurred for Company sponsored development activities relating to the development of new products and services or the improvement of existing products and services, were approximately $1.6 million and $3.1 million for the years ended December 31, 2016, and 2015, respectively. Of this amount, the Company capitalized approximately $0.2 million and $1.6 million for the years ended December 31, 2016 and 2015, respectively.

Impairment of long-lived assets

Long-lived assets, such as equipment, purchased software, capitalized software development costs, and intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized at the amount by which the carrying amount of the asset exceeds its fair value. Assets to be disposed of would be separately presented in the consolidated balance sheets and reported at the lower of the carrying amount or fair value less costs to sell, and would no longer be depreciated.

During the third quarter of 2015, the Company's new CEO conducted a review of the Company's organizational cost structure and software development plans. Based upon this review, the Company made the decision to terminate its Enterprise Data Management (EDM) software development program and recorded a $1.5 million write-down representing the capitalized balance of its EDM software development projects in the third quarter 2015. No impairment was recorded during 2016.

Goodwill and intangible assets

The Company's intangible assets include amounts recognized in connection with business acquisitions, including customer relationships, contract backlog and software. Intangible assets are initially valued at fair value using generally accepted valuation methods appropriate for the type of intangible asset. Amortization is recognized on a straight-line basis over the estimated useful life of the intangible assets, except for contract backlog and contractual customer relationships which are recognized in proportion to the related projected revenue streams. Intangible assets with definite lives are reviewed for impairment if indicators of impairment arise. The Company does not have any intangible assets with indefinite useful lives.

Goodwill represents the excess of costs over fair value of assets of businesses acquired. The Company reviews goodwill for impairment annually as of December 31 and whenever events or changes in circumstances indicate the carrying value of goodwill may not be recoverable in accordance with Accounting Standard s Update (ASU) 2011-08, *Intangibles - Goodwill and Other (Topic 350): Testing Goodwill for Impairment,* and ASC 350, *Intangibles — Goodwill and Other* (ASC 350). The Company tests goodwill at the reporting unit level.

ASU 2011-08 permits an entity to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. Under ASU 2011-08, an entity is not required to perform step one of the goodwill impairment test for a reporting unit if it is more likely than not that its fair value is greater than its carrying amount. For the annual goodwill impairment test as of December 31, 2016, the Company performed a quantitative step one goodwill impairment test and concluded that the fair values of each of the reporting units exceeded their respective carrying values.

Foreign currency translation

Balance sheet accounts for foreign operations are translated at the exchange rate as of the balance sheet date, and income statement accounts are translated at the average exchange rate for the year. The resulting translation adjustments are included in accumulated other comprehensive loss. Transaction gains and losses resulting from changes in exchange rates are recorded in our statements of operations in the year in which they occur. For the years ended December 31, 2016, and 2015, foreign currency transaction losses were approximately $69,000 and $34,000, respectively.

Accrued warranty

For contracts that contain a warranty provision, the Company provides an accrual for estimated future warranty costs based on historical experience and projected claims. The Company's contracts may contain warranty provisions from one to five years. The current portion of the accrued warranty is presented separately on the Consolidated Balance Sheets within Current liabilities whereas the noncurrent portion is included in Other liabilities.

The activity in the accrued warranty accounts is as follows:

(in thousands)	**As of and for the years ended December 31,**	
	2016	**2015**
Beginning balance	$ 1,614	$ 1,456
Current year provision	355	626
Current year claims	(467)	(455)
Currency adjustment	(24)	(13)
Ending balance	$ 1,478	$ 1,614

Income taxes

Income taxes are provided under the asset and liability method. Under this method, deferred income taxes are determined based on the differences between the consolidated financial statements and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amounts expected to be realized. A provision is made for the Company's current liability for federal, state and foreign income taxes and the change in the Company's deferred income tax assets and liabilities.

We establish accruals for uncertain tax positions taken or expected to be taken in a tax return when it is more likely than not (i.e., a likelihood of more than fifty percent) that the position would be sustained upon examination by tax authorities that have full knowledge of all relevant information. A recognized tax position is then measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Favorable or unfavorable adjustment of the accrual for any particular issue would be recognized as an increase or decrease to income tax expense in the period of a change in facts and circumstances. Interest and penalties related to income taxes are accounted for as income tax expense.

Stock-based compensation

Compensation expense related to share based awards is recognized on a pro rata straight-line basis based on the value of share awards that are scheduled to vest during the requisite service period. During the years ended December 31, 2016 and 2015, the Company recognized $1.6 million and $0.5 million, respectively, of pre-tax stock-based compensation expense under the fair value method. During 2016, the Company recognized approximately $151,000 of compensation expense related to cash-settled RSUs.

Earnings (loss) per share

Basic earnings (loss) per share is based on the weighted average number of outstanding common shares for the period. Diluted earnings (loss) per share adjusts the weighted average shares outstanding for the potential dilution that could occur if outstanding vested stock options were exercised. Basic and diluted earnings (loss) per share is based on the weighted average number of outstanding shares for the period.

The number of common shares and common share equivalents used in the determination of basic and diluted loss per share were as follows:

(in thousands, except for per share data)	Years ended December 31,	
	2016	2015
Numerator:		
Net income (loss)	$ 1,422	$ (4,705)
Denominator:		
Weighted-average shares outstanding for basic income (loss) per share	18,218,681	17,892,891
Effect of dilutive securities:		
Stock options and restricted stock units	293,585	-
Adjusted weighted-average shares outstanding and assumed conversions for diluted income (loss) per share	18,512,266	17,892,891
Shares related to dilutive securities excluded because inclusion would be anti-dilutive	677,964	2,492,710

Conversion of certain outstanding stock options was not assumed for the years ended December 31, 2016 and 2015 because the impact would have been anti-dilutive.

Significant customers and concentration of credit risk

We have a concentration of revenue from an individual customer, which accounted for approximately 10.2% and 15.9% of our consolidated revenue for the years ended December 31, 2016 and 2015, respectively. No other individual customer accounted for more than 10% of our consolidated revenue in 2016 or 2015.

Fair values of financial instruments

The carrying amounts of current assets and current liabilities reported in the consolidated balance sheets approximate fair value due to their short term duration.

Contingent consideration for business acquisitions

Acquisitions may include contingent consideration payments based on future financial measures of an acquired company. Contingent consideration is required to be recognized at fair value as of the acquisition date. The Company estimates the fair value of these liabilities based on financial projections of the acquired companies and estimated probabilities of achievement. At each reporting date, the contingent consideration obligation is revalued to estimated fair value and changes in fair value subsequent to the acquisition are reflected in income or expense in the consolidated statements of operations, and could cause a material impact to our operating results. Changes in the fair value of contingent consideration obligations may result from changes in discount periods and rates, changes in the timing and amount of revenue and/or earnings estimates and changes in probability assumptions with respect to the likelihood of achieving the various earn-out criteria.

Derivative instruments

The Company utilizes forward foreign currency exchange contracts to manage market risks associated with the fluctuations in foreign currency exchange rates. It is the Company's policy to use such derivative financial instruments to protect against market risk arising in the normal course of business in order to reduce the impact of these exposures. The Company minimizes credit exposure by limiting counterparties to nationally recognized financial institutions.

As of December 31, 2016, the Company had foreign exchange contracts outstanding of approximately 281.4 million Japanese Yen, 0.6 million Australian Dollars, 0.5 million Canadian Dollars, and 0.1 million Euro. At December 31, 2015, the Company had foreign exchange contracts outstanding of approximately 2.1 million Euro, 1.3 million Canadian Dollars, 0.5 million Pounds Sterling and 0.4 million Australian Dollars at fixed rates. The contracts expire on various dates through December 2018. The Company had not designated the foreign exchange contracts as hedges and had recorded the estimated fair value of the contracts in the consolidated balance sheet as follows:

	December 31,	
(in thousands)	**2016**	**2015**
Asset derivatives		
Prepaid expenses and other current assets	$ 57	$ 115
Other assets	84	6
	141	121
Liability derivatives		
Other current liabilities	(20)	(57)
	(20)	(57)
Net fair value	$ 121	$ 64

The changes in the fair value of the foreign exchange contracts are included in gain (loss) on derivative instruments, net in the consolidated statements of operations.

The foreign currency denominated trade receivables, unbilled receivables, billings in excess of revenue earned and subcontractor accruals that are related to the outstanding foreign exchange contracts are remeasured at the end of each period into the functional currency using the current exchange rate at the end of the period. The gain or loss resulting from such remeasurement is also included in gain (loss) on derivative instruments net in the consolidated statements of operations.

For the years ended December 31, 2016 and 2015, the Company recognized a loss on its derivative instruments net as outlined below:

(in thousands)	Years ended December 31, 2016	Years ended December 31, 2015
Foreign exchange contracts- change in fair value	$ 51	$ (6)
Remeasurement of related contract receivables and billings in excess of revenue earned	(69)	(34)
	$ (18)	$ (40)

Reclassifications

Certain prior year amounts have been reclassified to conform with the current year presentation. Subcontractor payables have been reclassified on the Consolidated Balance Sheets from Accounts payable to Accrued expenses. In addition, the Company reclassified research and development costs from Selling, general and administrative expenses and presented them as a separate caption within Operating expenses on the Consolidated Statement of Operations. The Company also reclassified the current portion of deferred taxes to noncurrent within Other assets and Other liabilities on the Consolidated Balance Sheets.

Accounting pronouncements recently adopted

In November 2015, the Financial Accounting Standards Board (FASB) issued ASU 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes.* The standard requires that deferred tax assets and liabilities be classified as noncurrent on the balance sheet rather than being separated into current and noncurrent. ASU 2015-17 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. Early adoption is permitted and the standard may be applied either retrospectively or on a prospective basis to all deferred tax assets and liabilities. The Company adopted ASU 2015-17 effective January 1, 2016. The adoption of this guidance did not have a material effect on the Company's consolidated financial position.

Accounting pronouncements not yet adopted

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers* , which provides guidance for revenue recognition. The standard's core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. In doing so, companies will need to use more judgment and make more estimates than under today's guidance. These may include identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. This guidance will be effective for the Company in the first quarter of its fiscal year ending December 31, 2018, and interim periods therein, using either of the following transition methods: (i) a full retrospective approach reflecting the application of the standard in each prior reporting period with the option to elect certain practical expedients, or (ii) a retrospective approach with the cumulative effect of initially adopting ASU 2014-09 recognized at the date of adoption (which includes additional footnote disclosures). The Company is currently in the process of evaluating the impact of the adoption of this ASU on its consolidated financial statements and its method of adoption. The adoption is expected to significantly impact the Company's revenue recognition and related disclosures. For example, our revenue from software arrangements with multiple elements including services are currently recognized ratably due to the lack of VSOE of fair value. We will be required to separate these performance obligations under these arrangements and recognize them as delivered.

In July 2015, FASB issued ASU 2015-11, *Simplifying the Measurement of Inventory* . ASU 2015-11 requires that an entity measure inventory at the lower of cost and net realizable value. This ASU does not apply to inventory measured using last-in, first-out. ASU 2015-11 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. We do not expect the new standard to have a significant impact on our consolidated financial position, results of operations or cash flows.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* . The new standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the consolidated financial statements, with certain practical expedients available. The Company is still evaluating the impact of the pending adoption of the new standard on the consolidated financial statements, and the Company expects that upon adoption the recognition of ROU assets and lease liabilities could be material.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation - Stock Compensation: Topic 718: Improvements to Employee Share Based Accounting* . The new guidance is intended to simplify the accounting for share based payment award transactions. The amendments in the update include the following aspects for share based accounting: accounting for income taxes, classification of excess tax benefits on the statement of cash flows, forfeitures, minimum statutory tax withholding requirements, and classification of employee taxes paid on the statement of cash flows when an employer withholds shares for tax withholding purposes. Adoption of ASU 2016-09 is required for fiscal reporting periods beginning after December 15, 2016, including interim reporting periods within those fiscal years. We are currently evaluating the potential impact of the adoption of ASU 2016-09 on our consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, *Classification of Certain Cash Receipts and Cash Payments* . The new guidance addresses eight specific cash flow issues and applies to all entities that are required to present a statement of cash flows. Adoption of ASU 2016-15 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years. We are currently evaluating the potential impact of the adoption of ASU 2016-15 on our consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, *Restricted Cash* . The new guidance applies to all entities that have restricted cash or restricted cash equivalents and are required to present a statement of cash flows. This update is intended to reduce diversity in cash flow presentation of restricted cash and restricted cash equivalents and requires entities to include all cash and cash equivalents, both restricted and unrestricted, in the beginning-of-period and end-of-period totals presented on the statement of cash flows. Adoption of ASU 2016-18 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years. We are currently evaluating the potential impact of the adoption of ASU 2016-18 on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations: Clarifying the definition of a Business* , which amends the current definition of a business. Under ASU 2017-01, to be considered a business, an acquisition would have to include an input and a substantive process that together significantly contributes to the ability to create outputs. ASU 2017-01 further states that when substantially all of the fair value of gross assets acquitted is concentrated in a single asset (or a group of similar assets), the assets acquired would not represent a business. The new guidance also narrows the definition of the term "outputs" to be consistent with how it is described in Topic 606, *Revenue from Contracts with Customers* . The changes to the definition of a business will likely result in more acquisitions being accounted for as asset acquisitions. ASU 2017-01 is effective for acquisitions commencing on or after June 30, 2019, with early adoption permitted. Adoption of this guidance will be applied prospectively on or after the effective date.

In January 2017, the FASB issued ASU 2017-04, *Intangibles – Goodwill and Other* . ASU 2017-04 simplifies the accounting for goodwill impairment by eliminating Step 2 of the current goodwill impairment test, which required a hypothetical purchase price allocation. Goodwill impairment will now be the amount by which the reporting unit's carrying value exceeds its fair value, limited to the carrying value of the goodwill. ASU 2017-04 is effective for financial statements issued for fiscal years, and interim periods beginning after December 15, 2019. We are currently evaluating the potential impact of the adoption of ASU 2017-04 on our consolidated financial statements.

2. Goodwill and Intangible Assets

Goodwill

The Company reviews goodwill for impairment annually as of December 31 and whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. The Company tests goodwill at the reporting unit level. A reporting unit is an operating segment, or one level below an operating segment, as defined by U.S. GAAP. After the acquisition of Hyperspring on November 14, 2014, the Company determined that it had two reporting units, which are the same as our two operating segments: (i) Performance Improvement Solutions; and (ii) Nuclear Industry Training and Consulting (which includes Hyperspring). As of December 31, 2016 and 2015, goodwill of $5.6 million related to the Nuclear Industry Training and Consulting segment. No impairment of goodwill was recorded in 2016 or 2015.

Intangible Assets Subject to Amortization

The following table shows the gross carrying amount and accumulated amortization of definite-lived intangible assets:

(in thousands)	As of December 31, 2016		
	Gross Carrying Amount	Accumulated Amortization	Net
Amortized intangible assets :			
Customer relationships	$ 1,425	$ (1,235)	$ 190
Non-contractual customer relationships	911	(674)	237
Developed technology	471	(353)	118
In process research and development	152	(146)	6
Contract backlog	36	(36)	-
Trade names and other	29	(29)	-
Foreign currency translation	(145)	48	(97)
Total	$ 2,879	$ (2,425)	$ 454

(in thousands)	As of December 31, 2015		
	Gross Carrying Amount	Accumulated Amortization	Net
Amortized intangible assets :			
Customer relationships	$ 1,425	$ (1,061)	$ 364
Non-contractual customer relationships	911	(669)	242
Developed technology	471	(295)	176
In process research and development	152	(142)	10
Contract backlog	36	(36)	-
Trade names and other	29	(29)	-
Foreign currency translation	(28)	11	(17)
Total	$ 2,996	$ (2,221)	$ 775

Amortization expense related to definite-lived intangible assets totaled $289,000 and $494,000 for the years ended December 31, 2016 and 2015, respectively. The following table shows the estimated amortization expense of the definite-lived intangible assets for the next five years:

(in thousands)		
Years ended December 31,:		
2017	$	194
2018		151
2019		64
2020		30
2021		15
	$	454

3. Contract Receivables

Contract receivables represent balances due from a broad base of both domestic and international customers. All contract receivables are considered to be collectible within twelve months. Recoverable costs and accrued profit not billed represent costs incurred and associated profit accrued on contracts that will become billable upon future milestones or completion of contracts. The components of contract receivables are as follows:

(in thousands)	December 31,			
	2016		**2015**	
Billed receivables	$	13,325	$	9,831
Recoverable costs and accrued profit not yet billed		5,555		3,325
Allowance for doubtful accounts		(17)		(103)
Total contract receivables, net	$	18,863	$	13,053

4. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following:

(in thousands)	December 31,			
	2016		**2015**	
Prepaid expenses	$	422	$	639
Income tax receivable		446		425
Other current assets		1,184		1,435
Total	$	2,052	$	2,499

Other current assets primarily includes value-added tax receivables and cash deposited in a Swedish tax account.

5. Equipment, Software and Leasehold Improvements, net

Equipment, software and leasehold improvements, net consist of the following:

(in thousands)	December 31,	
	2016	2015
Computer equipment	$ 2,988	$ 3,211
Software	1,511	1,474
Leasehold improvements	527	542
Furniture and fixtures	1,733	1,776
	6,759	7,003
Accumulated depreciation	(5,527)	(5,407)
Equipment, software and leasehold improvements, net	$ 1,232	$ 1,596

Depreciation expense was $383,000 and $493,000 for the years ended December 31, 2016 and 2015, respectively.

6. Other Assets

Other assets consist of the following:

(in thousands)	December 31,	
	2016	2015
Inventory	$ 1,443	$ -
Other	131	47
Total	$ 1,574	$ 47

Other assets are comprised primarily of inventory that is being purchased to support the construction of three simulation projects related to a significant contract that was executed during the first quarter of fiscal year 2016. Inventory is recorded at the lower of cost or market value in accordance with Topic 330, *Inventory*. The inventory balance will continue to increase as new purchases are made to support these projects and will be relieved and charged to the project upon delivery and customer acceptance, which is currently expected during the first quarter of 2018 and beyond.

7. Software Development Costs, net

Software development costs, net consist of the following:

(in thousands)	December 31,	
	2016	2015
Beginning balance	$ 1,145	$ 1,414
Additions	245	1,610
Amortization	(408)	(341)
Impairment	-	(1,538)
Ending balance	$ 982	$ 1,145

Software development costs capitalized were $0.2 million and $1.6 million for the years ended December 31, 2016 and 2015, respectively. Amortization of capitalized software development costs was $0.4 million and $0.3 million for the years ended December 31, 2016 and 2015, respectively, and was included in cost of revenue in the consolidated statements of operations.

8. Fair Value of Financial Instruments

ASC 820, *Fair Value Measurement* ("ASC 820") defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principle or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

The levels of the fair value hierarchy established by ASC 820 are:

Level 1: inputs are quoted prices, unadjusted, in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2: inputs are other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. A Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3: inputs are unobservable and reflect the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability.

The Company considers the recorded value of certain of its financial assets and liabilities, which consist primarily of cash equivalents, accounts receivable and accounts payable, to approximate the fair value of the respective assets and liabilities at December 31, 2016 and 2015 based upon the short-term nature of the assets and liabilities.

The Company had $15.3 million and $5.4 million deposited in unrestricted money market accounts on December 31, 2016 and 2015, respectively.

As of December 31, 2016, the Company was contingently liable for four standby letters of credit and one surety bond totaling $1.0 million which represent advance payment and performance bonds on four contracts. The Company has deposited the full value of the standby letters of credit into money market escrow accounts, which have been restricted in that the Company may not access these funds until the related letters of credit have expired. The cash has been recorded on the Company's consolidated balance sheet as restricted cash and long-term restricted cash depending on the expiration date of the underlying letters of credit.

The following table presents assets and liabilities measured at fair value at December 31, 2016:

(in thousands)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Money market funds	$ 16,435	$ -	$ -	$ 16,435
Foreign exchange contracts	-	141	-	141
Total assets	$ 16,435	$ 141	$ -	$ 16,576
Foreign exchange contracts	$ -	$ (20)	$ -	$ (20)
Contingent consideration liability	-	-	(2,105)	(2,105)
Total liabilities	$ -	$ (20)	$ (2,105)	$ (2,125)

The following table presents assets and liabilities measured at fair value at December 31, 2015:

(in thousands)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Money market funds	$ 8,979	$ -	$ -	$ 8,979
Foreign exchange contracts	-	121	-	121
Total assets	$ 8,979	$ 121	$ -	$ 9,100
Foreign exchange contracts	$ -	$ (57)	$ -	$ (57)
Contingent consideration liability	-	-	(3,732)	(3,732)
Total liabilities	$ -	$ (57)	$ (3,732)	$ (3,789)

For the years ended December 31, 2016 and 2015, the Company did not have any transfers between fair value Level 1 and Level 2. The Company did not hold any non-financial assets or non-financial liabilities subject to fair value measurements on a recurring basis at December 31, 2016 or 2015.

During the years ended December 31, 2016 and 2015, the Company did not have any transfers into or out of the Level 3 contingent consideration liability. The decrease in the liability during 2016 and 2015 was due to accretion of the liability and fair value adjustments, which were all recorded to income.

9. Long-Term Debt

At December 31, 2016 and 2015, the Company had no long-term debt.

Line of Credit

BB&T Bank

We previously had a Master Loan and Security Agreement and Revolving Credit Note with BB&T that provided a $7.5 million revolving line of credit for the purpose of issuing stand-by letters of credit and providing working capital. Working capital advances accrued interest at a rate equal to the Wall Street Journal Prime Rate of Interest, floating with a floor of 4.5%. As collateral for any borrowings, the Company granted a first lien and security interest in all of the assets of the Company, including but not limited to, accounts receivable, proceeds and products, intangibles, trademarks, patents, intellectual property, machinery and equipment. The agreement also required certain cash collateral and compliance with certain restrictive covenants.

In connection with the Citizen's Bank credit facility noted below, this agreement was modified in December 2016 to terminate the revolving line of credit, but maintain the outstanding letters of credit through February 17, 2017.

At December 31, 2016 and 2015, the cash collateral account totaled $1.1 million and $3.6 million, respectively, and was classified as restricted cash on the consolidated balance sheets.

As of December 31, 2016, the Company was in compliance with its financial covenants.

Citizen's Bank

In December 2016, the Company entered into a new three-year, $5.0 million revolving line of credit facility with Citizen's Bank to fund general working capital needs, including acquisitions. The available credit facility is reduced for any issued and outstanding letters of credit and working capital advances. Working capital advances bear interest of LIBOR plus 2.25% per annum and letter of credit fees are 1.25% per annum. The Company is not required to maintain a restricted cash collateral account at Citizen's Bank for outstanding letters of credit and working capital advances. The credit facility agreement is subject to standard financial covenants and reporting requirements.

10. Income Taxes

The consolidated income (loss) before income taxes, by domestic and foreign sources, is as follows:

(in thousands)	Years ended December 31,	
	2016	2015
Domestic	$ 2,873	$ (4,260)
Foreign	(1,101)	26
Total	$ 1,772	$ (4,234)

The provision for income taxes is as follows:

(in thousands)	Years ended December 31,	
	2016	2015
Current:		
Federal	$ -	$ -
State	6	12
Foreign	221	288
Subtotal	227	300
Deferred:		
Federal	127	127
State	19	19
Foreign	(23)	25
Subtotal	123	171
Total	$ 350	$ 471

The Company is entitled to a deduction for federal and state tax purposes with respect to employees' stock option activity. As of December 31, 2016, the Company had $5.6 million of unrecognized excess tax deductions related to compensation for stock option exercises which will be recognized when the net operating loss carryforwards are fully utilized and those excess tax benefits result in a reduction to income taxes payable.

The effective income tax rate for the years ended December 31, 2016 and 2015 differed from the statutory federal income tax rate as presented below:

	Effective Tax Rate Percentage (%) Years ended December 31,	
	2016	2015
Statutory federal income tax rate	34.0%	34.0%
State income taxes, net of federal tax benefit	1.3%	(0.2)%
Effect of foreign operations	8.6%	(3.0)%
Change in valuation allowance	(46.9)%	(33.8)%
Meals and entertainment	7.7%	(3.3)%
Permanent differences	4.5%	(3.6)%
Uncertain tax positions	11.8%	(4.0)%
Other	(1.2)%	2.8%
Effective tax rate	19.8%	(11.1)%

Deferred income taxes arise from temporary differences between the tax bases of assets and liabilities and their reported amounts in the consolidated financial statements. A summary of the tax effect of the significant components of the deferred income tax liabilities is as follows:

(in thousands)	As of December 31, 2016	As of December 31, 2015
Deferred tax assets:		
Net operating loss carryforwards	$ 7,868	$ 8,732
Capital loss carryforwards	549	549
Accruals	183	662
Reserves	514	719
Alternative minimum tax credit carryforwards	203	166
Stock-based compensation expense	1,224	1,492
Intangibles	391	397
Undistributed earnings of foreign subsidiary	37	-
Other	71	32
Total deferred tax asset	11,040	12,749
Valuation allowance	(10,477)	(12,082)
Total deferred tax asset less valuation allowance	563	667
Deferred tax liabilities:		
Undistributed earnings of foreign subsidiary	-	(17)
Software development costs	(382)	(446)
Fixed Assets	(161)	(213)
Indefinite-lived intangibles	(316)	(170)
Other	(27)	(22)
Total deferred tax liability	(886)	(868)
Net deferred tax liability	$ (323)	$ (201)

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future income in making this assessment.

Management believes that the Company will achieve profitable operations in future years that will enable the Company to recover the benefit of its deferred tax assets. However, other than for a portion of the deferred tax assets that are related to the Company's Indian subsidiary, the Company presently does not have sufficient objective evidence to substantiate the recovery of the deferred tax assets. Accordingly, the Company has established a full $10.5 million valuation allowance on its U.S., U.K., Swedish, and Chinese deferred tax assets at December 31, 2016.

The Company has a deferred tax liability in the amount of $316,000 and $170,000 at December 31, 2016 and 2015, respectively, relating to the tax amortization of goodwill that cannot be offset by deferred tax assets because the anticipated reversal of the deferred tax liability is outside of the anticipated reversal of the deferred tax assets.

As of December 31, 2016 and 2015, the Company's consolidated cash and cash equivalents totaled $21.7 million and $11.1 million, respectively, including cash and cash equivalents held at non-U.S. entities totaling $4.2 million and $4.1 million, respectively. The Company has foreign operating subsidiaries located in China, United Kingdom, Sweden and India. A deferred tax asset has been recorded with respect to the undistributed earnings in Sweden in the amount of $109,000. The Company has two foreign subsidiaries located in China and United Kingdom with accumulated deficits. The Company has one foreign subsidiary located in India that has undistributed earnings of $644,000 at December 31, 2016. If the Company were to repatriate these earnings it would incur taxes of approximately $331,000. The foreign subsidiaries in China, United Kingdom, and India have undistributed earnings that are considered indefinitely reinvested as of December 31, 2016, to fund the Company's ongoing international operations.

At December 31, 2016, the Company's largest deferred tax asset of $7.9 million primarily relates to a U.S. net operating loss carryforward of $18.6 million which expires in various amounts between 2020 and 2035. The amount of U.S. loss carryforward which can be used by the Company each year is limited due to changes in the Company's ownership which occurred in 2003. Thus, a portion of the Company's loss carryforward may expire unutilized.

Uncertain Tax Positions

Foreign Uncertain Tax Positions

During 2016 and 2015, the Company recorded tax liabilities for certain foreign tax contingencies. During 2016, the Company also determined that South Korea should be included in this inventory. The Company recorded these uncertain tax positions in other current liabilities on the consolidated balance sheets.

The following table outlines the Company's foreign uncertain tax liabilities, including accrued interest and penalties for each jurisdiction:

	China		Ukraine		South Korea		
(in thousands)	**Tax**	**Interest and Penalties**	**Tax**	**Interest and Penalties**	**Tax**	**Interest and Penalties**	**Total**
Balance, January 1, 2015	$ 222,000	$ -	$ 61,000	$ -	$ -	$ -	$ 283,000
Increases	3,000	152,000	-	15,000	-	-	170,000
Decreases	-	-	(40,000)	-	-	-	(40,000)
Balance, December 31, 2015	$ 225,000	$ 152,000	$ 21,000	$ 15,000	$ -	$ -	$ 413,000
Increases	-	57,000	68,000	13,000	129,000	8,000	275,000
Decreases	(23,000)	-	-	-	-	-	(23,000)
Balance, December 31, 2016	$ 202,000	$ 209,000	$ 89,000	$ 28,000	$ 129,000	$ 8,000	$ 665,000

11. Capital Stock

The Company's Board of Directors has authorized 32,000,000 total shares of capital stock, of which 30,000,000 are designated as common stock and 2,000,000 are designated as preferred stock. The Board of Directors has the authority to establish one or more classes of preferred stock and to determine, within any class of preferred stock, the preferences, rights and other terms of such class.

As of December 31, 2016, the Company has reserved 4,892,641 shares of common stock for issuance, 1,556,833 are reserved for shares upon exercise of outstanding stock options, and 1,688,480 are reserved for shares upon vesting of restricted stock units. The Company has 1,647,328 shares available for future grants under the Company's 1995 Long-Term Incentive Plan.

Preferred Stock Rights

On March 21, 2011, the Board of Directors of the Company declared a dividend, payable to holders of record as of the close of business on April 1, 2011, of one preferred stock purchase right (a Right) for each outstanding share of common stock, par value $0.01 per share, of the Company (the Common Stock) and in addition, entered into a Stockholder Protection Rights Agreement (as amended from time to time, the Rights Agreement) with Continental Stock Transfer & Trust Company, as Rights Agent. The Rights traded with and were inseparable from the Common Stock and were not evidenced by separate certificates. Each Right entitled its holder to purchase from the Company one-hundredth of a share of participating preferred stock having economic and voting terms similar to the Common Stock at an exercise price of $8.00 per Right, subject to adjustment in accordance with the terms of the Rights Agreement, if the Rights had become exercisable. Under the Rights Agreement, the Rights would have become exercisable if any person or group acquired 20% or more of the Common Stock or, in the case of any person or group that owned 20% or more of the Common Stock. Upon exercise of the Right in accordance with the Rights Agreement, the holder was able to purchase a number of shares of Common Stock from the Company having an aggregate market price (as defined in the Rights Agreement) equal to twice the then-current exercise price for an amount in cash equal to the then-current exercise price. In addition, the Company, in certain circumstances and pursuant to the terms of the Rights Agreement, would have exchanged the Rights for one share of Common Stock or an equivalent security for each Right or, alternatively, redeemed the Rights for $0.001 per Right.

On March 21, 2014, the Rights Agreement was amended to extend the term an additional two years. At the close of business on March 21, 2016, the Rights and the Rights Agreement expired and no person retained any rights pursuant to the Rights Agreement or any Right.

12. Stock-Based Compensation

Long-term incentive plan

During 1995, the Company established the 1995 Long-Term Incentive Stock Option Plan (the Plan), which permits the granting of stock options (including incentive stock options and nonqualified stock options) stock appreciation rights, restricted or unrestricted stock awards, phantom stock, performance awards or any combination of these to employees, directors or consultants. The Plan expires on June 30, 2018; the total number of shares that could be issued under the Plan is 7,500,000. As of December 31, 2016, 2,607,359 shares have been issued under the Plan, 1,556,833 stock options and 1,688,480 restricted stock units (RSUs) were outstanding under the Plan, while 1,647,328 shares remain for future grants under the Plan.

The Company recognizes compensation expense on a pro rata straight-line basis over the requisite service period for stock-based compensation awards with both graded and cliff vesting terms. The Company recognizes the cumulative effect of a change in the number of awards expected to vest in compensation expense in the period of change. The Company has not capitalized any portion of its stock-based compensation.

During the years ended December 31, 2016 and 2015, the Company recognized $1,550,000 and $541,000, respectively, of stock-based compensation expense under the fair value method. During the year ended December 31, 2016, there was approximately $151,000 of stock-based compensation expense related to cash-settled RSUs.

Stock options

Options to purchase shares of the Company's common stock under the Plan expire in either seven or ten years from the date of grant and become exercisable in three, five, or seven installments with a certain percentage of options vesting on the first anniversary of the grant date and additional options vesting on each of the subsequent anniversaries of the grant date, subject to acceleration under certain circumstances.

Information with respect to stock option activity as of and for the year ended December 31, 2016 is as follows:

	Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)	Weighted Average Remaining Contractual Life (Years)
Options outstanding at January 1, 2016	2,222,333	$ 3.01		
Options granted	40,000	2.25		
Options exercised	(492,200)	1.86		
Options forfeited	(213,300)	4.77		
Options outstanding at December 31, 2016	1,556,833	3.15	$ 1,573	2.05
Options expected to vest	72,000	1.87	$ 117	5.45
Options exercisable at December 31, 2016	1,484,833	$ 3.21	$ 1,456	1.89

Information with respect to stock option activity as of and for the year ended December 31, 2015 is as follows:

	Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)	Weighted Average Remaining Contractual Life (Years)
Options outstanding at January 1, 2015	2,708,273	$ 3.12		
Options granted	240,000	1.58		
Options exercised	(14,000)	1.65		
Options forfeited	(711,940)	2.97		
Options outstanding at December 31, 2015	2,222,333	3.01	$ 831	2.78
Options expected to vest	218,522	1.76	$ 142	3.74
Options exercisable at December 31, 2015	2,003,811	$ 3.15	$ 689	2.68

A summary of the status of the Company's nonvested options as of and for the year ended December 31, 2016 is presented below.

	Number of Shares		Weighted Average Fair Value
Nonvested options at January 1, 2016	218,522	$	0.89
Options granted	40,000		1.15
Options forfeited	(32,300)		0.91
Options vested during the period	(154,222)		0.92
Nonvested options at December 31, 2016	72,000	$	0.97

A summary of the status of the Company's nonvested options as of and for the year ended December 31, 2015 is presented below.

	Number of Shares		Weighted Average Fair Value
Nonvested options at January 1, 2015	681,983	$	1.22
Options granted	240,000		0.55
Options forfeited	(295,903)		0.94
Options vested during the period	(407,558)		1.21
Nonvested options at December 31, 2015	218,522	$	0.89

The Company uses a Black-Scholes valuation model to estimate the fair value of the options at grant date based on the assumptions noted in the following table. Volatility represents an average of market estimates for implied volatility of the Company's common stock. The expected life is estimated based on an analysis of options already exercised and any foreseeable trends or changes in recipients' behavior. The risk-free interest rate is an interpolation of the relevant U.S. Treasury security maturities as of each applicable grant date:

	Years ended December 31,	
	2016	**2015**
Risk-free interest rates	1.53%	0.93 - 2.04%
Dividend yield	0%	0%
Expected life	7.00 years	3.03 - 7.00 years
Volatility	49.05%	45.94 - 49.44%
Weighted average volatility	49.05%	47.45%

As of December 31, 2016, the Company had $2.2 million of unrecognized compensation expense related to the unvested portion of outstanding stock options and RSUs expected to be recognized on a pro-rata straight line basis over a weighted average remaining service period of approximately 5.45 years.

The Company received cash for the exercise price associated with stock options exercised of $833,000 and $23,000 during the years ended December 31, 2016 and 2015, respectively. The total intrinsic value realized by participants on stock options exercised was $407,566 and $6,000 during the years ended December 31, 2016 and 2015, respectively.

Restricted Stock Units

During the years ended December 31, 2016 and 2015, the Company issued RSUs to employees which vest upon the achievement of specific market-based or time-based measures. The fair value for RSU's is calculated based on the stock price on the grant date and expensed ratably over the requisite service period, which ranges between one and five years. The following table summarizes the information about vested and unvested restricted stock units for the years ended December 31, 2016 and 2015.

	Number of Shares	Weighted Average Fair Value
Nonvested RSUs at January 1, 2016	1,367,500	$ 0.76
RSUs granted	1,537,399	1.52
RSUs forfeited	(505,000)	0.76
RSUs vested	(711,419)	0.76
Nonvested RSUs at December 31, 2016	1,688,480	$ 1.45
Nonvested RSUs at January 1, 2015	-	$ -
RSUs granted	1,377,500	0.76
RSUs forfeited	-	-
RSUs vested	(10,000)	-
Nonvested RSUs at December 31, 2015	1,367,500	$ 0.76

13. Commitments and Contingencies

Leases

The Company is obligated under certain noncancelable operating leases for office facilities and equipment. Future minimum lease payments under noncancelable operating leases as of December 31, 2016 are as follows:

(in thousands)	Gross Future Minimum Lease Payments
2017	$ 925
2018	809
2019	817
2020	651
2021	616
Thereafter	946
Total	$ 4,764

Total rent expense under operating leases for the years ended December 31, 2016 and 2015, was approximately $0.8 million and $1.2 million, respectively.

Standby letters of credit, bank guarantees, surety bonds and performance bonds

As of December 31, 2016, the Company was contingently liable for four standby letters of credit and one surety bond totaling $1.0 million which represent advance payment and performance bonds on four contracts. The Company has deposited the full value of the standby letters of credit into money market escrow accounts which have been restricted in that the Company may not access these funds until the related letters of credit have expired. The cash has been recorded on the Company's consolidated balance sheets at December 31, 2016 as restricted cash and long-term restricted cash depending on the expiration date of the underlying letters of credit.

Contingencies

Various actions and proceedings are presently pending to which the Company is a party. In the opinion of management, the aggregate liabilities, if any, arising from such actions are not expected to have a material adverse effect on the financial position, results of operations or cash flows of the Company.

14. Employee Benefits

The Company has a qualified defined contribution plan that covers all U.S. employees under Section 401(k) of the Internal Revenue Code. Under this plan, the Company's stipulated basic contribution matches a portion of the participants' contributions based upon a defined schedule for GSE Performance Improvement Solutions employees. The Company's contributions to the plan were approximately $207,000 and $268,000 for the years ended December 31, 2016 and 2015, respectively.

15. Segment Information

The Company has two reportable business segments. The Performance Improvement Solutions segment provides simulation, training and engineering products and services delivered across the breadth of industries we serve. Solutions include simulation for both training and engineering applications. Example training applications include turnkey and custom training services, while engineering services include plant design verification and validation. The Company provides these services across all market segments. Contracts typically range from 9 months to 24 months. The Company and its predecessors have been providing these services since 1976.

The Nuclear Industry Training and Consulting segment provides specialized workforce solutions primarily to the nuclear industry, working at clients' facilities. This business is managed through our Hyperspring subsidiary. The business model, management focus, margins and other factors clearly separate this business line from the rest of the GSE product and service portfolio. Hyperspring has been providing these services since 2005.

The following table sets forth the revenue and operating results attributable to each reportable segment and includes a reconciliation of segment revenue to consolidated revenue and operating results to consolidated income (loss) before income taxes.

(in thousands)	Years ended December 31,	
	2016	2015
Revenue:		
Performance Improvement Solutions	$ 35,474	$ 37,074
Nuclear Industry Training and Consulting	17,627	19,729
	$ 53,101	$ 56,803
Operating income (loss):		
Performance Improvement Solutions	$ (856)	$ (4,465)
Nuclear Industry Training and Consulting	2,224	1,178
Change in fair value of contingent consideration, net	207	(849)
Operating income (loss)	$ 1,575	$ (4,136)
Interest income, net	85	88
Loss on derivative instruments, net	(18)	(40)
Other income (expense), net	130	(146)
Income (loss) before income taxes	$ 1,772	$ (4,234)

Additional information relating to segments is as follows:

(in thousands)	December 31,	
	2016	2015
Identifiable assets:		
Performance Improvement Solutions	$ 42,383	$ 30,624
Nuclear Industry Training and Consulting	11,249	8,884
Intercompany receivable elimination	24	(147)
Total assets	$ 53,656	$ 39,361

For the years ended December 31, 2016 and 2015, 73% and 71%, respectively, of the Company's consolidated revenue was from customers in the nuclear power industry. The Company designs, develops and delivers business and technology solutions to the energy industry worldwide. Revenue, operating income (loss) and total assets for the Company's United States, European, and Asian subsidiaries as of and for the years ended December 31, 2016 and 2015 are as follows:

(in thousands)	Year ended December 31, 2016				
	United States	Europe	Asia	Eliminations	Consolidated
Revenue	$ 46,149	$ 4,143	$ 2,809	$ -	$ 53,101
Transfers between geographic locations	2,639	22	1,139	(3,800)	-
Total revenue	$ 48,788	$ 4,165	$ 3,948	$ (3,800)	$ 53,101
Operating income (loss)	$ 2,921	$ (896)	$ (450)	$ -	$ 1,575
Total assets, at December 31	$ 121,728	$ 4,859	$ 4,064	$ (76,995)	$ 53,656

(in thousands)	Year ended December 31, 2015				
	United States	Europe	Asia	Eliminations	Consolidated
Revenue	$ 49,585	$ 5,260	$ 1,958	$ -	$ 56,803
Transfers between geographic locations	1,400	183	1,429	(3,012)	-
Total revenue	$ 50,985	$ 5,443	$ 3,387	$ (3,012)	$ 56,803
Operating loss	$ (4,053)	$ (1)	$ (82)	$ -	$ (4,136)
Total assets, at December 31	$ 102,325	$ 4,991	$ 3,915	$ (71,870)	$ 39,361

Revenues by geographic location above are attributed to the contracting entity. Therefore, revenues from a foreign customer that contracted directly with our U.S. entity are included in revenues from the United States. In Europe, total revenues attributable to our United Kingdom and Sweden subsidiaries were $2.6 million and $1.5 million, respectively. All revenues in Asia were attributable to our Chinese subsidiary.

Alternatively, revenues from customers domiciled in foreign countries were approximately 33% and 31%, of the Company's consolidated 2016 and 2015 revenue, respectively. Revenues from foreign countries where our customers reside were all individually less than 10% of the Company's consolidated revenues during 2016 and 2015.

16. Supplemental Disclosure of Cash Flow Information

(in thousands)	Year ended December 31, 2016	Year ended December 31, 2015
Cash paid:		
Interest	$ 13	$ 3
Income taxes	$ 370	$ 119

17. Subsequent Events

During 2017, pursuant to the terms of the Hyperspring Purchase Agreement, GSE Performance paid the Sellers an additional $0.9 million based on EBITDA thresholds for the 12-month period ended November 13, 2016.

ITEM 9. <u>CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u> .

None.

ITEM 9A. <u>CONTROLS AND PROCEDURES</u> .

(a) Evaluation of Disclosure Controls and Procedures

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed by it in its reports filed or submitted pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act), is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that information required to be disclosed by the Company in its Exchange Act reports is accumulated and communicated to management, including the Company's Chief Executive Officer (CEO), who is its principal executive officer, and Chief Financial Officer (CFO), who is its principal financial officer, to allow timely decisions regarding required disclosure. Based on an evaluation of our disclosure controls and procedures as of December 31, 2016, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures were not effective because of the material weakness identified below.

(b) Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Our internal control over financial reporting is a process designed by, or under the supervision of, our CEO and CFO, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;

- provide reasonable assurance that transactions are recorded as necessary to permit preparation of the consolidated financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and

- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the consolidated financial statements.

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

Management, including our CEO and CFO, assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2016. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013). A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis. Based on management's assessment, including consideration of the control deficiencies discussed below, management has concluded that the Company's internal control over financial reporting was not effective as of December 31, 2016, due to the fact that there was a material weakness in its internal control over financial reporting. Specifically, through the investigation as of December 31, 2015, management identified: (i) control deficiencies in its internal controls associated with revenue recognition on software license contracts with multiple deliverables, and (ii) the need to revise prior period financial statements. The material weakness in internal control over financial reporting as of December 31, 2016, is as follows:

Revenue recognition- As we reviewed our control documentation surrounding the material weakness disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015, we concluded that additional work was still required to remediate control deficiencies over revenue recognition due to inadequate design and operation. Specifically, we lacked the following:

- Documented policies and procedures to appropriately compile contract information and ensure that such information was properly recorded and reviewed;

- Documented review and approval of revenue arrangements to ensure that they were accounted in accordance with applicable U.S. GAAP, including certain software arrangements which lacked VSOE; and

- Documented evidence surrounding estimates-to-complete on the Company's fixed price contracts to ensure such estimates were appropriately reviewed and approved to support percentage of completion adjustments.

While none of the above mentioned control deficiencies led to a material misstatement of the Company's consolidated financial statements for the year ended December 31, 2016, these control deficiencies did represent a material weakness in internal control over financial reporting.

As a result of the material weakness described above, our CEO and CFO concluded that the Company did not maintain effective internal control over financial reporting as of December 31, 2016, based on the Internal Control - Integrated Framework (2013) issued by the COSO.

Plan for Remediation of Material Weaknesses on Internal Control Over Financial Reporting

We are in the process, with the oversight of the Audit Committee, of implementing controls and procedures to remediate the above mentioned material weakness. Specifically we have begun to implement the following:

- Drafted a formal policies and procedures document to identify all pertinent contract information necessary to capture contract information in our accounting system. We are also implementing controls to ensure such data input is entered correctly.

- We are developing a checklist to be used by our accounting and finance team to ensure that all contract terms and conditions are reviewed and the applicable accounting guidance is reviewed and applied to each of our revenue arrangements. We will continue to use outside resources as necessary to assist our accounting and finance team in evaluating the accounting for any complex revenue arrangements.

We will develop more formal policies and procedures surrounding our fixed price contracts that use the percentage of completion method of accounting to ensure that documentation surrounding significant judgments and estimates used in the preparation of our estimates to complete are reviewed and approved by the appropriate project managers. We will also maintain documentation to support our review and approval of corresponding revenue adjustments.

(c) Changes in Internal Control over Financial Reporting

As stated above, while we have developed action plans which we expect to be implemented in 2017, there was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2016 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Accordingly, we have determined that we continue to have a material weakness in our internal control over financial reporting.

(d) Limitation of Effectiveness of Controls

Internal control over financial reporting has inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements will not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate this risk.

ITEM 9B. OTHER INFORMATION .

None.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

The information required by this item, including items 401, 405, 406 and 407 of Regulation S-K, is incorporated by reference to the section captioned "Directors and Executive Officers" in the definitive Proxy Statement for the Company's 2017 Annual Meeting of Shareholders and incorporated herein by reference or will be provided in an amendment to this Annual Report on Form 10-K.

The Company has adopted a Conduct of Business Policy that applies to its directors, officers and employees, including its principal executive officer, and principal financial officer. The Conduct of Business Policy is available on the Company's website at www.gses.com. In addition, the Company has adopted a Code of Ethics for its principal executive officer and senior financial officers which is also available on the Company's website. The Company will post on its website information about any amendment to, or waiver from, any provision of the Code of Ethics that applies to its principal executive officer, principal financial officer, or principal accounting officer.

ITEM 11. EXECUTIVE COMPENSATION.

The information required by this item will either be set forth under the *"Executive Compensation"* section in the definitive Proxy Statement for the 2017 Annual Meeting of Shareholders and incorporated herein by reference or will be provided in an amendment to this Annual Report on Form 10-K.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The information required by this item will be either set forth under the sections captioned *"Voting Securities and Principal Holders Thereof,"* and *"Executive Compensation"* in the definitive Proxy Statement for the 2017 Annual Meeting of Shareholders and incorporated herein by reference or will be provided in an amendment to this Annual Report on Form 10-K.

The following table sets forth the equity compensation plan information for the year ended December 31, 2016:

Plan Category		Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by security holders	Options	1,556,833	$ 3.15	
	RSUs	1,433,480	$ 1.45	
		2,990,313	$ 2.34	1,647,328
Equity compensation plans not approved by security holders		--	$ --	--
Total		2,990,313	$ 2.34	1,647,328

Table above excludes 255,000 RSUs granted under the Company's 1995 Long-Term Incentive Plan that are settled in cash instead of shares.

For a description of the material terms of our stock-based compensation plans, see Note 12 to the consolidated financial statements in Item 8 of this report.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE.

The information required by this item will be either set forth under the *"Directors and Executive Officers"* section in the definitive Proxy Statement for the 2017 Annual Meeting of Shareholders and incorporated herein by reference or will be provided in an amendment to this Annual Report on Form 10-K.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES.

The information required by this item will be either set forth under the *"Audit Committee Pre-Approval of Audit and Non-Audit Services"* section in the definitive Proxy Statement for the 2017 Annual Meeting of Shareholders and incorporated herein by reference or will be provided in an amendment to this Annual Report on Form 10-K.

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

(a) (1) List of Financial Statements

The following financial statements are included in Item 8:

GSE Systems, Inc. and Subsidiaries

Report of Independent Registered Public Accounting Firm
Consolidated Balance Sheets as of December 31, 2016 and 2015
Consolidated Statements of Operations for the years ended December 31, 2016 and 2015
Consolidated Statements of Comprehensive Loss for the years ended December 31, 2016 and 2015
Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2016 and 2015
Consolidated Statements of Cash Flows for the years ended December 31, 2016 and 2015
Notes to Consolidated Financial Statements

(a) (2) List of Schedules

All other schedules to the consolidated financial statements are omitted as the required information is either inapplicable or presented in the consolidated financial statements or related notes.

(a) (3) List of Exhibits

The Exhibits which are filed with this report or which are incorporated by reference are set forth in the Exhibit index hereto.

ITEM 16. FORM 10-K SUMMARY.

None.

SIGNATURES

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

GSE Systems, Inc.
By: / *s* / Kyle J. Loudermilk
Kyle J. Loudermilk
Chief Executive Officer

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

Date: March 28, 2017	/ *s* / KYLE J. LOUDERMILK Kyle J. Loudermilk, Chief Executive Officer (Principal Executive Officer)
Date: March 28, 2017	/ *s* / EMMETT A. PEPE Emmett A. Pepe, Chief Financial Officer (Principal Financial and Accounting Officer)
Date: March 28, 2017	/ *s* / CHRIS SORRELLS Chris Sorrells, Chief Operating Officer

Date: March 28, 2017	(Dr. Roger Hagengruber, Chairman of the Board	)	By:	/ *s* / EMMETT A. PEPE
	(Jim Stanker, Chairman of the Audit Committee	)		Emmett A. Pepe
	(Jane Bryant Quinn, Director	)		Attorney-in-Fact
	(Joseph W. Lewis, Director	)		
	(Suresh Sundaram, Director	)		

A Power of Attorney, dated March 24, 2017 authorizing Emmett A. Pepe to sign this Annual Report on Form 10-K for the fiscal year ended December 31, 2016 on behalf of certain of the directors of the Registrant is filed as Exhibit 24.1 to this Annual Report.

Exhibit	**Description of Exhibits**
2.	**Plan of acquisition, reorganization, arrangement, liquidation, or succession**
2.1	Stock Purchase Agreement, dated as of January 1, 2011 among GSE Systems, Inc., Toshi Shinohara, Santosh Joshi, Hideo Shinohara, and EnVision Systems, Inc., previously filed with Form 8-K as filed with the Securities and Exchange Commission on January 10, 2011 and incorporated herein by reference.
2.2	Membership Interests Purchase Agreement, dated as of November 14, 2014, by and between Dale Jennings, Paul Abbott, Shawn McKeever and Mickey Ellis and GSE Performance Solutions, Inc. Incorporated herein by reference to Exhibit 2.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on November 17, 2014.
2.3	IntelliQlik, LLC Operating Agreement, dated as of November 14, 2014. Incorporated herein by reference to Exhibit 2.2 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on November 17, 2014.
2.4	Amendment to Membership Interests Purchase Agreement, dated May 13, 2015. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 14, 2015 and incorporated herein by reference.
3.	**Articles of Incorporation and Bylaws**
3.1	Restatement of Certificate of Incorporation dated November 14, 2016. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on November 14, 2016 and incorporated herein by reference.
3.2	Certificate of the Elimination of the Series A Cumulative Convertible Preferred Stock dated November 14, 2016. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on November 14, 2016 and incorporated herein by reference.
3.3	Third Amended and Restated Bylaws of GSE Systems, Inc. Incorporated herein by reference to Exhibit 3.2 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on September 16, 2016.

10. Material Contracts

10.1 Agreement among ManTech International Corporation, National Patent Development Corporation, GPS Technologies, Inc., General Physics Corporation, Vattenfall Engineering AB and GSE Systems, Inc. (dated as of April 13, 1994). Previously filed in connection with the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on April 24, 1995 and incorporated herein by reference.

10.2 Form of Option Agreement Under the GSE Systems, Inc. 1995 Long-Term Incentive Plan. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 22, 1996 and incorporated herein by reference. *

10.3 Office Lease Agreement between 1332 Londontown, LLC and GSE Systems, Inc. (dated as of February 27, 2008). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on March 11, 2008 and incorporated herein by reference.

10.4 Amendment of Lease to Office Lease Agreement, dated May 28, 2008. Incorporated herein by reference to Exhibit 10.20 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 19, 2015.

10.5 Second Amendment of Lease to Office Lease Agreement, dated July 22, 2010. Incorporated herein by reference to Exhibit 10.21 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 19, 2015.

10.6 Stockholder Protection Rights Agreement, dated March 21, 2011, by and between GSE Systems, Inc. and Continental Stock Transfer & Trust Company, as Rights Agent. Incorporated herein by reference to Exhibit 4.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on March 21, 2011.

10.7 $7,500,000 Revolving Credit Note, dated November 22, 2011. Previously filed in connection with the GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on November 29, 2011 and incorporated herein by reference.

10.8 Third Amendment of Lease to Office Lease Agreement, dated May 15, 2012. Incorporated herein by reference to Exhibit 10.22 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 19, 2015.

10.9 Extension of the $7,500,000 Revolving Credit Note, dated July 29, 2013. Incorporated herein by reference to Exhibit 10.14 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 26, 2014.

10.10 GSE Systems, Inc. 1995 Long-Term Incentive Plan, amended and restated as of March 6, 2014. Incorporated herein by reference to Exhibit A of GSE Systems, Inc. Form DEF 14A filed with the Securities and Exchange Commission on April 29, 2014. *

10.11 Amendment No. 1 to Stockholder Protection Rights Agreement, dated March 21, 2014. Incorporated herein by reference to Exhibit 10.15 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 26, 2014.

10.12 Fourth Amendment of Lease to Office Lease Agreement, dated April 15, 2014. Incorporated herein by reference to Exhibit 10.1 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 5, 2014.

10.13 Extension to Revolving Credit Note, dated June 30, 2014. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on August 14, 2014 and incorporated herein by reference.

10.14 Amendment No. 3 to the Susquehanna Bank Agreement, dated August 9, 2014. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on November 14, 2014 and incorporated herein by reference.

10.15 Amendment No. 4 to the Susquehanna Bank Agreement, dated as of December 31, 2014. Incorporated herein by reference to Exhibit 10.14 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 19, 2015.

10.16 Extension of the $7,500,000 Revolving Credit Note, dated May 12, 2015. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 14, 2015 and incorporated herein by reference.

10.17 Business Loan Agreement related to the $1,000,000 Line of Credit, dated July 6, 2015. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on August 13, 2015 and incorporated herein by reference.

10.18 Promissory Note related to the $1,000,000 Line of Credit, dated July 6, 2015. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on August 13, 2015 and incorporated herein by reference.

10.19 Amendment No. 5 to the Susquehanna Bank Agreement, dated as of July 31, 2015. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on August 13, 2015 and incorporated herein by reference.

10.20 Restricted Share Unit Agreement (Cash Award) between Christopher D. Sorrells and GSE Systems, Inc. dated as of August 15, 2016. Incorporated herein by reference to Exhibit 10.4 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on August 19, 2016. *

10.21 Form of Restricted Share Unit Agreement pursuant to the GSE Systems, Inc. 1995 Long-Term Incentive Plan, as amended and restated dated as of April 22, 2016. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission

on November 14, 2016 and incorporated herein by reference.*

10.22 Form of Amendment to Restricted Share Unit Agreement, dated July 1, 2016. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.23 Amendment to Restricted Share Unit Agreement, dated July 1, 2016, between GSE Systems, Inc. and Gill R. Grady. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.24 Amendment to Restricted Share Unit Agreement, dated July 1, 2016, between GSE Systems, Inc. and Jeffery G. Hough. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.25 Amendment to Employment Agreement, dated July 1, 2016, between GSE Systems, Inc. and Kyle J. Loudermilk. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.26 Restricted Share Unit Agreement (Cash Award), dated July 1, 2016, between GSE Systems, Inc. and Kyle J. Loudermilk. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.27 Restricted Share Unit Agreement (Common Stock Award), dated July 1, 2016, between GSE Systems, Inc. and Kyle Loudermilk. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.28 Amendment to Restricted Share Unit Agreement, dated July 1, 2016, between GSE Systems, Inc. and Kyle J. Loudermilk. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.29 Employment Agreement, dated July 1, 2016, between GSE Systems, Inc. and Emmett A. Pepe. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 5, 2016. *

10.30 Restricted Share Unit Agreement, dated July 1, 2016, between GSE Systems, Inc. and Emmett A. Pepe. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 5, 2016. *

10.31 Amendment to Restricted Share Unit Agreement, dated July 1, 2016, between GSE Systems, Inc. and Christopher D. Sorrells. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *

10.32 Employment Agreement between Christopher D. Sorrells and GSE Systems, Inc. dated as of August 15, 2016. Incorporated herein by reference to Exhibit 10.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on August 19, 2016. *

10.33 Restricted Share Unit Agreement between Christopher D. Sorrells and GSE Systems, Inc. dated as of August 15, 2016. Incorporated herein by reference to Exhibit 10.2 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on August 19, 2016. *

10.34 Letter dated October 31, 2016, from Branch Banking and Trust Company, agreeing to extend the Revolving Credit Expiration Date as defined in the Master Loan and Security Agreement dated November 22, 2011, between the Company, GSE Performance Solutions (as co-borrowers), and Branch Banking and Trust Company (as successor by merger to Susquehanna Bank), until March 31, 2017. Previously filed in connection with the GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on November 14, 2016 and incorporated herein by reference.

10.35 $5,000,000 Revolving Line of Credit facility, dated December 29, 2016. Previously filed in connection with the GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on January 4, 2017 and incorporated herein by reference.

10.36 Amendment and Reaffirmation Agreement, date February 22, 2017, and effective as of December 29, 2016, file herewith.

14 **Code of Ethics**

14.1 Code of Ethics for the Principal Executive Officer and Senior Financial Officers. Previously filed in connection with the GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 31, 2006 and incorporated herein by reference.

21 **Subsidiaries.**

21.1 List of Subsidiaries of Registrant at December 31, 2016, filed herewith.

23 **Consent of Independent Registered Public Accounting Firm**

23.1 Consent of BDO USA, LLP, filed herewith.

24 **Power of Attorney**

24.1 Power of Attorney for Directors' and Officers' Signatures on SEC Form 10-K, filed herewith.

31 **Certifications**

31.1 Certification of Chief Executive Officer of the Company pursuant to Securities and Exchange Act Rule 13d-14(a)/15(d-14(a), as adopted pursuant to Section 302 and 404 of the Sarbanes-Oxley Act of 2002, filed herewith.

31.2 Certification of Chief Financial Officer of the Company pursuant to Securities and Exchange Act Rule 13d-14(a)/15(d-14(a), as adopted pursuant to Section 302 and 404 of the Sarbanes-Oxley Act of 2002, filed herewith.

32 **Section 1350 Certifications**

32.1 Certification of Chief Executive Officer and Chief Financial Officer of the Company pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, file herewith.

* Management contracts or compensatory plans required to be filed as exhibits pursuant to Item 15 (b) of this report.

Exhibit 10.36

AMENDMENT
AND REAFFIRMATION AGREEMENT

THIS AMENDMENT AND REAFFIRMATION AGREEMENT (this "Agreement") is made as of the 22nd day of February, 2017 and effective as of December 29, 2016, by and among GSE SYSTEMS, INC., a Delaware corporation and GSE PERFORMANCE SOLUTIONS, INC., a Delaware corporation (jointly and severally, the "Borrower"), and CITIZENS BANK, NATIONAL ASSOCIATION (the "Lender").

WHEREAS, Lender made a revolving line of credit available to Borrower in the amount of up to $5,000,000.00 (the "Loan"), which is evidenced by a Credit and Security Agreement between Borrower and Lender dated December 29, 2016 (the "Credit Agreement") and a Revolving Line of Credit Note from Borrower in favor of Lender in the amount of $5,000,000.00, dated December 29, 2016 (the "Note"); and

WHEREAS, the parties have agreed, subject to the terms and conditions set forth herein, to amend the percentage of Equity Interests of each Issuer (as defined in the Pledge Agreement) to be pledged by Borrower and to amend certain covenants as set forth herein, in each case so as to reflect the original intent of the parties in relation to Section 956 of the Code.

NOW, THEREFORE, in consideration for the foregoing, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound and under seal, agree as follows:

Section 1. Definitions. Unless otherwise defined herein, capitalized terms used herein shall have the meanings ascribed to them in the Credit Agreement.

Section 2. Amendments to Credit Documents. The Credit Documents are hereby amended as follows:

A. Subsection (iv) of Section 3.2. of the Credit Agreement is hereby deleted in its entirety and replaced with the following:

"(iv) more than sixty-five percent (65%) of the Equity Interests of each Issuer (as defined in the Pledge Agreement) that is a "controlled foreign corporation" within the meaning of Section 957(a) of the Code directly held and owned by Parent;"

B. Section 6.26. of the Credit Agreement is hereby deleted in its entirety and replaced with the following:

"6.26. Except those Subsidiaries in existence on the date of this Agreement and disclosed in writing to Bank, Borrower shall not, and

shall not permit any of its Subsidiaries to, own or create directly or indirectly any subsidiaries. Borrower shall not, and shall not permit any of their Subsidiaries to, become or agree to become a joint venturer or hold a joint venture interest in any joint venture. Borrower shall cause each of its Subsidiaries having assets equal or greater than five percent (5%) of the aggregate assets of Borrower and Guarantor to promptly become a Borrower or Guarantor and to provide such information and execute such documents as are reasonably requested by Bank; provided, however, with respect to any Subsidiary which is a "controlled foreign corporation" (as defined in Section 957(a) of the Code) of Borrower, Bank shall not require such Subsidiary to execute any guaranty agreement, security agreement or other agreement, instrument or document which would cause a material adverse tax consequence for Borrower or such Subsidiary."

C. Section 9.1.12. of the Credit Agreement is hereby deleted in its entirety and replaced with the following:

"9.1.12. The failure of Parent to deliver to the Bank company certificates and stock certificates evidencing sixty-five percent (65%) ownership of GSE Systems Ltd., a Scottish limited liability company, and GSE Power Systems AB, a Swedish corporation by March 24, 2017;"

D. The reference to "sixty-six and two thirds percent (66 2/3%)" in Section 1(d) of the Pledge Agreement is hereby deleted and replaced with "sixty-five percent (65%)".

Section 3. Affirmation by Borrower. Borrower hereby affirms the execution and delivery to Lender of the Note and the other Credit Documents and that they are continued in full force and effect and are in all respects hereby affirmed and ratified.

Section 4. Agreements, Acknowledgments and Waivers. Borrower acknowledges that the obligations set forth in each of the Credit Documents are valid, binding, and enforceable against Borrower and are not subject to any defense, counterclaim, recoupment or offset. In addition, Borrower acknowledges that (i) the execution of this Agreement, (ii) the acceptance by Lender of any payments hereunder, or (iii) any previous or subsequent delay by Lender in exercising any or all of its rights or remedies under the Credit Documents, either separately or in combination, shall not constitute a waiver by Lender of any of the rights of Lender under the Credit Documents and shall not preclude Lender from exercising its rights thereunder or at law if Borrower fails to perform any of its obligations as set forth in the Credit Documents, as the same are amended pursuant to the provisions of this Agreement. Nothing herein shall be deemed a waiver of any of Lender's rights or remedies with respect to (i) any existing violation of any affirmative or negative pledge, covenant or warranty, (ii) any event of default, or (iii) any condition which, with the passage of time or the giving of notice would constitute an event of default, under any of the Credit Documents.

Section 5. Miscellaneous. The parties to this Agreement further agree as follows:

A. Expenses. Borrower shall pay to Lender within 30 days following request therefor all attorneys' fees and other expenses incurred by Lender in connection with the preparation and execution of this Agreement.

B. Power and Authority. Borrower and Lender represent and warrant that each has the full power and authority to enter into and perform this Agreement, all of which has been duly authorized by all necessary corporate action, as appropriate, and that this Agreement is valid, binding, and enforceable in accordance with its terms.

C. Counterparts. This Agreement may be executed by the parties hereto in any number of counterparts, each of which when so executed and delivered shall be an original and all of which together shall constitute one Agreement.

D. Rules of Construction. As used herein, unless the context clearly indicates a contrary intent or unless otherwise specifically provided herein, the singular shall include the plural and the plural the singular, and the masculine, feminine or neuter gender shall include the other genders.

E. Choice of Laws. This Agreement shall be construed and interpreted in accordance with the internal laws of the State of Delaware, without regard for principles of conflicts of laws.

F. Acknowledgments. Each party to this Agreement acknowledges that it has executed this Agreement voluntarily, with a full knowledge and a complete understanding of the terms and effect of this Agreement and that it has been fully advised by competent counsel as to the nature and effect of the applicable terms and provisions hereof.

G. Representations and Warranties. Borrower represents and warrants that the representations and warranties set forth in the Credit Documents remain true and accurate in all material respects as of the date of this Agreement.

H. Remaining Force and Effect. Except as specifically amended hereby, the Credit Documents remain in full force and effect in accordance with their original terms and conditions.

{remainder of page intentionally left blank}

IN WITNESS WHEREOF, the undersigned have set their hands and seals or caused these presents to be executed by their proper corporate officers and sealed with their seal the day and year first above written.

Witness:	Lender:
/s/ Michael Puleo	**CITIZENS BANK, NATIONAL ASSOCIATION** By: /s/ Jennifer Sparks (SEAL) Jennifer Sparks Assistant Vice President
/s/ Pamela Schlachter	**GSE SYSTEMS, INC.** By: /s/ Emmett Pepe (SEAL) Emmett Pepe Chief Financial Officer
/s/ Pamela Schlachter	**GSE PERFORMANCE SOLUTIONS, INC.** By: /s/ Emmett Pepe (SEAL) Emmett Pepe Treasurer

Exhibit 21.1

SUBSIDIARIES OF REGISTRANT AT DECEMBER 31, 2016

The following are significant subsidiaries of GSE Systems, Inc. as of December 31, 2016 and the states or jurisdictions in which they are organized. GSE Systems, Inc. owns, directly or indirectly, at least 99% of the voting securities of substantially all of the subsidiaries included below. The names of particular subsidiaries have been omitted because, considered in the aggregate as a single subsidiary, they would not constitute, as of the end of the year covered by this report, a "significant subsidiary" as that term is defined in Regulation S-X under the Securities Exchange Act of 1934.

Name	Place of Incorporation or Organization
GSE Systems Engineering (Beijing) Company, Ltd	Peoples Republic of China
GSE Power Systems AB	Sweden
GSE Process Solutions, Inc.	State of Delaware
GSE Services Company L.L.C.	State of Delaware
GSE Systems Ltd.	United Kingdom
GSE Performance Solutions, Inc.	State of Delaware
EnVision Systems (India) Pvt. Ltd.	India
Hyperspring, LLC	State of Alabama

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

GSE Systems, Inc.
Sykesville, Maryland

We hereby consent to the incorporation by reference in the Registration Statements on Forms S-8 (No. 333-212241, No. 333-183427, No. 333-150249 and No. 333-138702) of GSE Systems, Inc. of our report dated March 28, 2017, relating to the consolidated financial statements, which appears in this Form 10-K.

/s/ BDO USA, LLP
McLean, Virginia
March 28, 2017

Exhibit 24.1

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kyle J. Loudermilk and Emmett A. Pepe, and each of them, with full power of substitution and reconstitution and each with full power to act for him and without the other, as his true and lawful attorney-in-fact and agent, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission or any state, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their, his or her substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Security Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons in the capacities and on the date indicated.

Date: March 24, 2017	/s/ Kyle J. Loudermilk Kyle J. Loudermilk Chief Executive Officer
Date: March 24, 2017	/s/ Emmett A. Pepe Emmett A. Pepe Chief Financial Officer
Date: March 24, 2017	/s/ Chris Sorrells Chris Sorrells Chief Operating Officer
Date: March 24, 2017	/s/ Roger Hagengruber Dr. Roger Hagengruber Chairman of the Board
Date: March 24, 2017	/s/ Jim Stanker Jim Stanker Director
Date: March 24, 2017	/s/ Joseph W. Lewis Joseph W. Lewis Director
Date: March 24, 2017	/s/ Jane Bryant Quinn Jane Bryant Quinn Director
Date: March 24, 2017	/s/ Suresh Sundaram Suresh Sundaram Director

Exhibit 31.1

Certification of the Chief Executive Officer

I, Kyle J. Loudermilk, certify that:

1. I have reviewed this annual report on Form 10-K of GSE Systems, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant, as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's fourth quarter that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors:
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 28, 2017

/s/ Kyle J. Loudermilk

Kyle J. Loudermilk
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification of the Chief Financial Officer

I, Emmett A. Pepe, certify that:

1. I have reviewed this annual report on Form 10-K of GSE Systems, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant, as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors:

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 28, 2017

/s/ Emmett A. Pepe

Emmett A. Pepe
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of GSE Systems, Inc. (the "Company") for the year ended December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kyle J. Loudermilk, Chief Executive Officer of the Company, and I, Emmett A. Pepe, Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that,

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. To my knowledge, the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 28, 2017	/s/ Kyle J. Loudermilk	/s/ Emmett A. Pepe
	Kyle J. Loudermilk Chief Executive Officer	Emmett A. Pepe Chief Financial Officer