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, 2023

☐ 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)
6940 Columbia Gateway Dr., Suite 470, Columbia MD	**21046**
(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	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 Par Value	GVP	The NASDAQ Capital Market

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT: NONE

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 every Interactive Data File required to be submitted 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 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes ☐ No ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).☐

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 $8,928,827 on June 30, 2023, 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 $3.60.

The number of shares outstanding of the registrant's Common Stock as of March 31, 2024 was 3,034,139 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2024 Annual Meeting of Shareholders 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 2024 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 and in Item 1A Risk Factors, 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 political climate;
- 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;
- catastrophic failure or other incident at 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;
- changes in estimates used in our critical accounting policies; and

The forward-looking statements are based upon management’s beliefs and assumptions and are made as of the date of this report on Form 10-K. 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. (hereinafter referred to as “GSE”, the “Company”, “we”, “us” or “our”), a Nasdaq-listed company trading under the symbol GVP, is a leading provider of engineering services and technology, expert staffing, and simulation software to clients in the power and process industries. We provide customers with simulation, engineering technology, 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 professional services that help clients fill key vacancies in the organization on a short-term basis, including but not limited to, the following: procedure writing, planning and scheduling; engineering; senior reactor operator (“SRO”) training and certification; technical support and training personnel focused on regulatory compliance and certification in the nuclear power industry.

Our services help our customers provide clean energy to all in a reliable and safe manner. There is growing recognition of the importance of low and zero carbon energy as the United States in particular, and the world in general, races to decarbonize power grids. We are uniquely positioned as one of the largest independent nuclear services companies in the United States to support decarbonization of the power industry. In fact, the more wind and solar that comes onto the grid, the greater zero carbon base-load becomes to ensure grid stability, reliability and safety. Decarbonization is a leading means of delivering environmental equity – ensuring that anyone regardless of background and economic status can benefit from a safe and healthy environment, free of pollution related to carbon intensive power generation. Our operations also include interactive software for tutorials and simulation for the refining, chemical, and petrochemical industries.

We execute projects globally with approximately 271 employees, as of December 31, 2023. We operate from offices in the U.S. and China and with additional employees deployed at client sites. While most of our revenue comes from support provided to the nuclear power industry, we also serve agencies in the United States Department of Energy (“DOE”), the United States Navy and adjacent defense opportunities, and the oil and gas, refining, chemical, and petrochemical markets.

GSE was formed to consolidate the simulation and related businesses of General Physics International Engineering & Simulation, S3 Technologies, and EuroSim. We completed our Initial Public Offering in 1995.

Since 2014, GSE has grown by consolidating and acquiring businesses serving the nuclear power industry. On November 14, 2014, we acquired Hyperspring, LLC (now doing business as - “GSE Training Services” or “Training Services”). Training Services is a nuclear industry focused staffing and training firm that employs highly skilled, high-value professionals primarily filling training and consulting positions on a contract basis for nuclear power plant operators. Training Services professionals provide training, operations and maintenance support including: generic fundamentals exams, accreditation training visit preparation, SRO certification, procedure development, work management, tagging/labeling, outage execution, planning/scheduling, corrective action, self-assessments and equipment reliability. On September 20, 2017, we acquired Absolute Consulting, Inc. (now doing business as - “GSE Technical Staffing” or “Technical Staffing”). Technical Staffing is a provider of technical consulting and staffing solutions to the global nuclear power industry with expertise in procedure writing, engineering, technical support, scheduling, planning, project management, training, project controls, and corrective actions. On May 11, 2018, we acquired True North Consulting, LLC (now doing business as - “GSE Programs & Performance” or “Programs & Performance”). Programs & Performance is a provider of engineering solutions to nuclear and non-nuclear power plants with an emphasis on regulatory-driven, American Society of Mechanical Engineers (“ASME”) code programs. On February 15, 2019, we acquired DP Engineering Ltd, Co. (now doing business as - “GSE Design & Analysis” or “Design & Analysis”). Design & Analysis is a specialized provider of high-value engineering services and solutions to the nuclear power industry. Founded in 1995 in Fort Worth, Texas, Design & Analysis generates over 90% of its revenue from the nuclear power industry with core expertise in mechanical design; civil/structural design; electrical, instrumentation and controls design; digital controls/cyber security; and fire protection. Design & Analysis primarily works under master service agreements as the Engineer of Choice (“EOC”).

FOCUS FOR 2024

As we look ahead to 2024 and beyond, there is a continued focus from the current administration on decarbonizing the power sector, driving to a carbon free grid by 2030, and a net carbon neutral economy beyond that. This effort is recognized as a key means in achieving environmental equity. The bipartisan infrastructure plan passed in 2021, and Inflation Reduction Act passed in August 2022, each included spending elements specifically in support of nuclear power and nuclear technology development. The monies from these initiatives should start to flow to support the existing nuclear power fleet operate longer and produce more power from the fleet over time through capital investment. GSE is positioned to align with these primary initiatives of the United States operating fleet. As such, we will focus our efforts on capturing more business as this is where industry spend is focused for the foreseeable future.

GSE will also continue to focus on growing business in the DOE lab system and adjacencies. DOE labs related to U.S . Navy and other areas of focus continue to be a growth engine for GSE. Uranium enrichment is also an adjacency where GSE has experienced success, and this will be an area of focus for growth as well.

In sum, GSE is focused on driving business from the existing nuclear power fleet and adjacencies such as DOE and national defense areas.

OPERATING SEGMENTS

We operate through two reportable business segments: Engineering and Workforce Solutions. Each segment focuses on delivering solutions to customers within our target markets. Marketing and communications, accounting, finance, legal, human resources, corporate development, information systems and other administrative services are organized at the corporate or parent level. Business development and sales resources are generally aligned with each segment to support existing customer accounts and new customer development. The business units collaborate to facilitate cross-selling and the development of new solutions. The following is a description of our business segments:

Engineering (approximately 71.0% of revenue)

Our *Engineering* segment primarily encompasses our power plant high-fidelity simulation solutions, technical engineering services for ASME programs, power plant thermal performance optimization, and interactive computer-based tutorials/simulation focused on the process industry. The Engineering segment includes various simulation products, engineering consulting services, and operation training systems delivered across the industries we serve: primarily in the nuclear, fossil fuel power generation and 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. We and our predecessors have been providing these services since 1976.

Our Engineering segment also provides the following: (1) in-service testing for engineering programs focused on ASME OM code including Appendix J, balance of plant programs, and thermal performance; (2) in-service inspection for specialty engineering including ASME Section XI; (3) software solutions; and (4) mechanical design, civil/structural design, electrical, instrumentation and controls design, digital controls/cyber security, and fire protection for nuclear power plant design modifications. Our subsidiaries, Programs & Performance and Design & Analysis, typically work as either the EOC or specialty EOC for our clients under master services agreements and are included in our Engineering segment due to their service offerings. We have been providing these engineering solutions and services since 1995.

Workforce Solutions (approximately 29.0% of revenue)

The *Workforce Solutions* segment, formerly known as Hyperspring and Absolute Consulting, supports entire project lifecycles by providing highly specialized, technical talent and specialty services throughout the energy, engineering, and adjacent industries including construction, government, infrastructure, environmental, and manufacturing. This includes a wide range of solutions including training services, professional services, procedure writing services, and flexible staffing and talent acquisition services through our Training Services and Technical Staffing businesses.

Working together, Workforce Solutions gives our customers increased agility by providing the ability to identify the right talent, hire quickly for short or long-term needs, and/or even take on entire project scopes with fixed price or hourly billing options. We also partner with and support our Engineering Services division, offering our customers yet another option for outsourcing managed tasks. Additionally, by utilizing our services, our customers gain additional benefits such as reductions in response time, overhead costs, overtime pay, risk, training, time to fill, onboarding, and more. We do these things, all while providing timely, flexible, and effective solutions.

Examples of some of the highly skilled positions we fulfill are senior reactor operations instructors, procedure writers, project managers, engineers, work management specialists, planners and training material developers.

Financial information is provided in Note 18 of the accompanying consolidated financial statements regarding our business segments and geographic operations and revenue.

BUSINESS STRATEGY, INDUSTRY TRENDS, PRODUCTS AND SERVICES

Business Strategy

Serve existing customers and adjacencies with compelling solutions, focused on decarbonization and supporting the investment required to extend the operating lifetime and produce more power from the fleet overtime

Our objective is to create a leading business focused on decarbonizing the power industries by providing a diverse set of highly unique and essential services and technologies, primarily in the nuclear power industry. We are now one of the few, publicly-traded engineering and technology companies serving the zero-carbon energy sector of nuclear power and adjacent nuclear markets in Department of Energy, U.S. Navy and related sectors. As a result of this effort and established leadership in key sectors, we are positioned to expand into essential clean energy opportunities that may arise such as wind, solar, hydrogen production, and others. This positioning has allowed us to grow into adjacencies as the arise such as working on engineering projects for a uranium enrichment entity in the United States. The engineering services and technology that we provide to industry are focused on essential capabilities to help plants extend their operating lifetimes, capture the value of the power they produce on to the grid, produce more power from existing assets, and most importantly operate safely in an optimal manner. In 2023, we were keenly focused on organic growth in the sectors we serve by: cross selling and upselling in our existing markets as we focus on delivering significant value to our customers; creating new and compelling solutions in-house as a result of advancements in our technology offerings in partnership with industry early adopters focused on critical business needs; developing new services through combination of our expertise; expanding into compelling adjacent markets such as clean energy as they may arise with renewed sales focus. The focus on organic growth reflects our need to grow in a self-funded manner to achieve cash flow break even and, ultimately, recover to our pre-pandemic revenue levels. We expect a similar focus in 2024.

Cross-sell and upsell into existing markets

For the past several years, we have devoted considerable time and effort to diversify both of the Company segment's solutions capabilities for the nuclear power sector, via a rollup of essential services providers to the industry. To ensure efficient and streamlined operations for the business, we have brought in new engineering experts who are deeply credentialed in the nuclear power industry. We have also retooled our Workforce Solutions sales and recruiting efforts to ensure we are covering the industry broadly. The business units operate uniformly within their respective structure. This structure greatly enhances the opportunity to cross-sell our capabilities across our entire customer base, fostering an important focus of our sales efforts. This further differentiates us as a comprehensive provider to industry versus providers of specific, niche services. Our expectation is that unified go-to-market efforts, such as cross-selling capabilities, will lead to greater share of available spending within the customer base, which in turn will lead to significant upselling opportunity.

Just as the broader economy was impacted by the onset of the pandemic, so too have our end markets been affected. We believe that the industries that we serve are quick to respond to a crisis and disruption, but slow to emerge and recover to pre-crisis operations. While understandable, we believe that these characteristics are especially true for our primary market: the nuclear power industry. We have previously observed similar cycles during prior market and industry disruptions including the 2008 global economic crisis and the Fukushima disaster in 2011. Now, more recently, we believe that the industries that we serve responded quickly to the global pandemic and resulting economic disruption but, as with past events, our end markets are only now catching up to widespread delays in necessary engineering, design and related projects. Our Company is well positioned to take advantage of the recovery as it occurs.

As a result of a rejuvenated cross-sell and upsell effort, we are equipped to take this new approach to the market. In particular, with the passage of the Infrastructure Investment and Jobs Act and the Inflation Reduction Act, for the first time there are specific economic incentives from the U.S. Government for nuclear power development and the production of more nuclear baseload power to the grid. We are eager for these incentives to flow to industry spurring the capital investment required to extend the lifetime of the plants and production of more power. With economic incentives in place, the industry can now plan to make such investments. The challenge we are seeing is that the industry is still slow to advance investments that will result in an uptick in business for companies like GSE that serve the sector. Although we believe it is only a matter of time until this rollout progresses, the current pace presents a challenge in the interim and the company has taken steps to align to the realities of the current state of industry spend. As a key provider of essential services to the nuclear power sector, we are poised to benefit from industry investment as it rolls out to the vendor ecosystem. We further retooled our Workforce Solutions business in 2023 to align to the realities of industry spend, and continue to bring in key engineering talent to align and grow our engineering business teams as that business has shown nascent signs of growth. We have also spent significant effort putting in place Master Services Agreements (“MSAs”) with key utility operators. Having this commercial infrastructure in place is a significant step forward to facilitate ease of consumption of our solutions once a decision to do so is made by clients/prospects. In 2024 this effort will continue with the added focus of converting workorders and PO’s from the MSAs we win.

Organic growth through new and compelling technology

While managing through the pandemic, in parallel, our leadership was investigating compelling opportunities by which we could utilize our capabilities to create significant value for the industry and advance the efforts of decarbonizing the power sector. As a result, we have identified a robust pipeline of new and compelling technology solutions to develop and take to market. Net new solutions, such as Data Validation and Reconciliation (“DVR”), Measurement Uncertainty Recapture (“MUR”) and Thermal System Monitoring (“TSM”), have created new revenue streams with the potential of on-going licensing revenue, software maintenance and services revenue. Additional information on our DVR, MUR and TSM developments is included below. GSE has announced a handful of new wins for these new solutions, which were created through our unique combination of our industry/engineering know-how and software development capabilities. As we have demonstrated in the past few years, small wins over time accrue into meaningful revenue on an on-going basis. This is a key element of our organic growth thesis: focusing on creating and bringing to market compelling technology solutions.

Focus on compelling adjacencies in clean energy, defense, and national labs

Research and Development (R&D). We invest in R&D to deliver unique solutions that add value to our end-user markets. Our software tools leverage the high-end expertise of our experienced staff in helping plants operate better and more efficiently. Our software technology together with our deep staff expertise supports multiple industries including the nuclear industry, as a part of the larger initiative toward decarbonization. Our software technology includes decision-support tools for engineering simulation supporting design and plant commissioning, operational performance tools, and training platforms.

We have also made recent, significant enhancement in product offerings for improving the thermal performance of power plants. We have introduced a next generation platform in TSM, providing a technology platform to centralize and continuously monitor plant thermal performance. The solution benefits our customers by automating standardized reporting in modern dashboards available to engineers and decision makers across the fleet, leveraging automation to facilitate troubleshooting plant performance issues, reducing time and error with direct access to source data, and applying industry guidelines for problem resolution. This platform also supports integration with DVR (implemented by Programs & Performance) that enhances the quality of data for plant performance insights, analysis and decision making, providing a solution to better detect and identify faulty measurements/sensors and thus reduce maintenance costs by focusing on critical components. Other recent platform improvements have included integration with Asset Management Systems (to streamline work processes and increase efficiencies) and enhancements in digitizing troubleshooting knowledge for custom scenarios/plants.

In the area of engineering simulations, GSE Systems & Simulation group, delivers 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 have brought SimExec® and OpenSim™ together into a next generation unified environment that adds new capabilities as requested by clients and driven by market need.

Additionally, enhancements to training content and delivery continue through the EnVision On-Demand platform, allowing our customers to access training content from anywhere in synchronous and asynchronous modes, thus increasing their efficiency and reducing infrastructure costs. We intend to continue to make pragmatic and measured investments in R&D that first and foremost are driven by the market and complement 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 that is easier to use, at lower total cost of ownership than any alternative available to customers. Recent enhancements to our EnVision On-Demand SaaS platform include usability improvements for administrators, instructors and trainees as well as enhanced access security for cloud learning and simulation portal. We have pioneered a number of industry standards and intend to continue to be one of the most innovative companies in our industry. We had R&D expenditures totaling $1.1 million and $1.0 million, of which, $0.5 million and $0.4 million were capitalized during the years ended December 31, 2023 and 2022, respectively.

Strengthen and develop our talent while delivering high-quality solutions

Over the past several years, we have assembled a unique and highly experienced group of talent through organic growth and strategic acquisition. Our engineering team is comprised of design, simulation, regulatory compliance, and performance optimization professionals who are unique to the industry and capable of addressing the entire power generation life cycle. Our workforce solutions team includes numerous industry experts, including hands on experience within the energy and engineering sectors. The experience and knowledge among the staff ensure understanding of customer needs and a better ability to offer the best solutions. Working together, our engineering and workforce teams are able to offer our customers a full set of services that would otherwise require numerous companies to obtain the same capabilities.

Our experienced employees and management team are our most valuable resources. The continued integration of our team in parallel with attracting, training, and retaining top talent is critical to our success. To achieve our goals, we intend to remain focused on providing our employees with opportunities to increase client contact within their areas of expertise and to expand and deepen our service offerings. As we refine our product and service areas to best align with the critical areas listed above, we will also integrate and apply our composite employee talent to the fullest extent possible combining employee personal and professional growth opportunities with fulfillment of cutting-edge industry needs. Performance-based incentives including opportunities for stock ownership, bonuses and competitive benefits as benchmarked to our industry and locations will also be utilized to ensure continuity of our approach.

The Company is not immune to the intense pressure and business risks associated with attracting and retaining talented professionals in this current environment. 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 exceptional expertise across multiple service sectors. As we continue to integrate and leverage our individual company components assembled over the past several years, our capabilities and reputation will further strengthen. Attracting and retaining excellent professionals is a key effort for the company.

Industry Trends

Industry needs to build and sustain 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 three ways: the fact that industry knowledge and experience are being lost as a significant percentage of the existing experienced workforce reaches retirement age; the knowledge gap between the retiring workforce and those earlier in their career; and the competition from other employers as, there is a increased demand for the skill sets needed.

A challenge we are facing in our Workforce Solutions business is that it continues an extended period of malaise. The reality is that once COVID hit, many utilities sent employees as well as all contractors and staff augmentation personnel, home, where feasible. Over the past three years, the industry has become accustomed to operating short-staffed and has not begun to ramp up their use of staff augmentation. This is a broadly recognized state of the industry. As a result, this is an ongoing challenge for our Workforce Solutions business. We remain poised to take advantage of staff augmentation projects as they initiate, albeit few and far between in the current state of industry.

Products and Services

Engineering

Our engineering team, comprised of design, simulation, regulatory compliance, and performance optimization capabilities are unique to the industry and capable of addressing the entire power generation life cycle. As we move forward in alignment with client and industry goals targeting clean energy production and overall decarbonization we are positioned to be at the forefront in three critical areas:

- maintain regulatory compliance
- extend the operating lifetime of the existing fleet
- support capital investment to produce more power from the fleet over time

Engineering Solutions for Decarbonization, Plant Lifetime Extension and More Power Production Over Time

With overall decarbonization as a key focus, we will blend our current and future efforts in those areas described above to best support that goal. This will position our engineering team as recognized leaders in the pursuit of low carbon energy as the world progresses on the current energy transition efforts. An overview highlighting many areas of our current and planned involvement, as well as, associated benefits, is summarized below:

With nuclear power being such a high percentage of carbon free power generation, the continued safe and efficient operation of these plants is critical to meeting decarbonization goals and providing for national security. We help the industry achieve these goals by providing better training and engineering services to optimize performance while maintaining regulatory compliance. Our focus is on products and services that improve efficiency and lower operating costs for existing power generation assets as well as helping the next generation of carbon free power plants achieve design approval and plant startup as quickly as possible.

Training plant operators and engineers is critical to safe operations and continued viability of the industry. Using state-of-the-art modeling tools combined with our leading nuclear power modeling expertise, we provide simulation solutions that achieve unparalleled fidelity and accuracy. We have also adapted these solutions to provide highly accurate training across a variety of delivery platforms. These include universal or generic simulators which are excellent in teaching fundamental concepts, systems, and plant behaviors. They are also used by academia for research on improved plant operations, human factors design and the development of automated procedures and decision support systems for the next generation of reactors. Our part task simulators and virtual control panels are cost effective solutions enabling customers broader freedom in where they deliver simulation training and opening the door for plant engineers and maintenance staff to access high fidelity training without interrupting the operator training program. Our full-scope simulators use the most sophisticated modeling technology. For these reasons, we have delivered more nuclear power plant simulators than any other company in the world.

We deliver training products through cloud-based platforms. This delivery method reduces our customers' infrastructure and ownership costs and provides anytime, anywhere access to rich learning content. Innovative critical thinking exercises enable autonomous simulation training to take place, reducing the burden on instructors and increasing training touch time for students and employees. All of which enable the training organization to be more flexible and efficient.

Our simulation solutions not only address industry training needs, but are used for simulation-assisted engineering, that is, the process of using simulation to virtually test and commission plant designs prior to construction. Because new builds and upgrades to existing plants result in deployment of new technology, our high-fidelity simulator enables designers to model the interaction between systems in advance of construction. With our combination of simulation technology and expert engineering, we were chosen to build first-of-a-kind simulators for the AP1000, PBMR, and small modular reactors such as those being built by NuScale Power Corporation. This technique reduces design costs, accelerates design approvals, de-risks projects, and provides clients with a tool to sell their new plant designs to both customers and regulators. In essence, enabling our customers to get to market faster.

Beyond training, our technology is used to improve the efficiency of existing power generation assets. Our TSM System provides live insights into plant operations, by monitoring performance of key plant equipment, analyzing degradation and recommending actions. When combined with DVR techniques, we can help reduce operating and maintenance cost. DVR enhances the quality of data for analysis and decision making, providing a solution to better detect and identify faulty measurements/sensors and thus reduce maintenance costs by focusing on critical components.

Our EP-Plus software suite provides one common platform for all engineering programs, helping client engineers keep track of engineering program inspection and monitoring requirements aimed at safe plant operations. This reduces the engineering workload of our customers, saving costs and enabling staff to focus on the most critical activities.

All of these technologies leverage the vast experience and industry expertise of our engineering team. Our engineering team helps our clients throughout the entire plant lifecycle. We are the Engineer of Choice ("EOC") in areas such as:

- Design engineering for plant mechanical, electrical, I&C, civil and structural, fire protection and cyber systems
- Engineering programs addressing ASME codes, balance of plant programs other regulatory programs and economic driven programs such as plant thermal performance
- Simulation engineering for nuclear, thermal and process plant training and virtual commissioning

We see organic growth through closer integration of these engineering activities and technologies to provide solutions to improve the performance of our customers' people and plants.

Workforce Solutions

As our customers' experienced employees retire or pursue other opportunities, access to industry experts is essential to ensure ongoing operations and advancements. Our Workforce Solutions segment provides flexible staffing services, knowledge transfer support, end to end workforce management programs, procedures services, and specialized training programs and services. Staffing and training needs change over time and, in turn, our clients need options. In order to find the best solutions for our customers, we emphasize fully understanding the unique needs of each customer.

The industries we serve need talent, including but not limited to operating personnel, procedure writers, engineers, operators, technical professionals, and instructors. Our customers need talent who can step in quickly and make an impact. Identifying technical professionals with the right knowledge and experience, who can perform the work and/or share their knowledge with others is critical, and we specialize in this area of need. We provide qualified professionals, instructors and turnkey projects/courses that work within the client's system and complement the methods already in place.

Example staffing services include: Temporary, Temp-to-Hire, Direct Hire, Staff Development, Managed Staffing Programs, Payroll Services, and Vets On Call.

Sample Skilled Categories:

Electrical and I&C Engineering	Project Management	Leadership Mentoring
Civil and Mechanical Engineering	Manufacturing	Operator Requalification
Operations, Outage & Work Mgmt.	Maintenance	Design
Project Controls	QA/QC	Construction
Procedure Specialists	Safety & Inspection	Field Service
Procedure Writing	Operations Specialists	Thermal Performance
Training Instructors	Simulation Specialists	Programs & Compliance

Example training services include: Turn-key Training, On-demand Training, Certification Courses, Continuing Education Courses, Custom Training.

Sample Training Programs:

ACAD Fundamentals	Technical Training for Engineers	ANSI Fundamentals
Electrical/Mechanical/I&C	Generic Fundamentals	Maintenance & Technical
SRO Certification	Radiation Worker/Chemistry	Power Plant Familiarization
Licensed & Non Licensed Operator	Licensed Operator Requalification	Control Room Operator Qualification
Job and Task Analysis	Knowledge/Skill Assessment	Media/Mode Evaluation
Instructor Bootcamp	Curriculum Architecture	Training Needs Assessment
Program Evaluation	Existing Program Audit	Instructional Technology

In addition to our core training and staffing business lines in the nuclear sector, we believe there may be organic growth opportunity with our Workforce Solutions segment by expanding our service offerings to meet the evolving needs of the energy and engineering industries. Due to our team's composition and direct industry experience, we are positioned to attempt to expand our Workforce Solutions segment offerings through our existing relationships and industry knowledge. Historically, we have placed emphasis on cross-selling and combining the services offered by our Workforce Solutions segment with our Engineering segment.

Workforce solutions is not only a complement to our other service offerings; have looked for opportunities to lead the way as the preferred method for many of our clients to execute entire projects and/or supplement their own staff during project peak periods or with specialized skill sets that are often hard to find. Our industry experts give our customers the ability to ramp up quickly, eliminate risks, and provide more flexible options as situations often demand.

The Workforce Solutions segment has historically allowed us to expand our footprint, adding new customers in our primary and adjacent industries. While continuing to diversify our customer base and add new business, it's important to remain focused in our areas of expertise. In spite of challenging economic conditions, we believe that Workforce Solutions is uniquely positioned for success. Our flexible solutions, and specialized industry experience, allow us to more easily adapt to customer needs and position us to serve both current and future needs. One recent example is our demonstrated ability to adapt to increased customer needs for direct hire services, but as the economic conditions shift, we are seeing a shift to more field professional hiring and anticipate customers to continue with this trend.

We have endeavored to better position ourselves to support these opportunities with strategic hires, staff alignment, and a unified approach. Following the COVID-19 pandemic, employees are making changes in their professional lives for many reasons, and our Workforce Solutions team provides our customers with results and flexibility to support ever-changing needs.

We recognize the necessity to listen to the needs of our customers and provide the right solution. Whether the answer is one of our traditional service offerings, involving or referring our engineering services team, or putting together a customized approach, we have the capabilities to help our customers get the job done. We bring together the collection of skills we have amassed over more than 40 years beginning with our 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, backed by the extensive Workforce Solutions services of Technical Staffing and Training Services, and now strengthened by our ability to successfully adapt, diversify, combine, and offer a solutions based approach with our Workforce Solutions team.

CUSTOMER AND LOCATIONS

For over 50 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 across the power and process industries in 50 countries.

In 2023, approximately 12.1% of our revenue was generated from end-users outside the United States and we have a concentration of revenue from one individual customer, which accounted for 22.7% of our consolidated revenue, respectively. 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, Entergy Nuclear Operations Inc, Exelon, Constellation, PSEG Nuclear, Inc., Siemens AG (Germany), Southern Nuclear Operating Company, Inc., Savannah River Nuclear Solutions, LLC, Slovenkse Elektrarne, A.S. (Slovakia), Tennessee Valley Authority, 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, Shell Oil Company (worldwide), Total (Belgium), Vistra (USA), Urenco (USA), and Valero (USA).

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.

We continue to have a proactive public relations program, issuing non-financial press releases to announce product development and significant deliveries, as well as our presence at numerous industry trade shows and technical conferences. We are active on numerous social media platforms and strive to build a strong presence across all media that our clients use to find information about the Company's comprehensive capabilities. Our goal is to provide useful information at each stage of the client's journey with us.

Our ability to support our multi-facility, international, and multinational clients is facilitated by our network of offices and strategic partners in the U.S. and overseas. In addition to our office located in China, our ability to conduct international business is enhanced by our multilingual and multicultural workforce. We have strategic relationships with system integrators and agents representing its interests in the US, Bulgaria, Japan, Malaysia, Singapore, 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., CORYS T.E.S.S (France) and Western Services Corporation. In the fossil simulation market, we compete with smaller companies in the US. and overseas. In the process industry, our main competition comes from large digital control system/automation companies such as Honeywell and Schneider. In our engineering market, we compete with firms primarily from North America such as Enercon Services, Kinectrics, Sargent & Lundy LLC, and AECOM.

The Workforce Solutions business services include technical professional and training-related and services as well as staff augmentation solutions. Competitors of the Company for these services include but is not limited to the following: GP Strategies (acquired by Learning Technologies Group plc in 2021), The Westwind Group, Professional Training Technologies, and Western Technical Services. The competition for staff augmentation includes: System One, Aerotek, and Peak Technical. Competition with staff augmentation is further impacted by wide-scale industry consolidation as a result of the growing movement toward use of Managed Staffing Providers (MSPs). As some competitors have been forced to close their doors, MSP models have caused others to lose market share, as MSPs can offer a clearer picture of which companies can best deliver. By conducting in-depth reviews and ensuring strategic alignment with MSP providers, the Company's Workforce Solutions segment has continuously found success with the MSP models and avoided the missteps that have impacted other competitors in this regard.

Competitive Advantages

Although there is competition in various industry niches, few companies in our space compare to our engineering, simulation and performance optimization expertise, especially for the nuclear power industry. Few of our competitors serve the broader engineering market and few work across the full spectrum of energy markets addressing clean energy sources and decarbonization initiatives, specifically, existing nuclear generation, advanced reactor applications, and ongoing integration with renewable power sources. Our unique combination of talent and expertise, built through organic and acquisition-based growth has positioned us perfectly to align with the clean energy initiatives of our clients and the industry at large.

Full Spectrum Support. Over the past several years we have assembled a unique and highly experienced group of talent through organic growth and strategic acquisition. Our Engineering team comprised of design, simulation, regulatory compliance, and performance optimization capabilities are unique to the industry and capable of addressing the entire power generation life cycle. A major and ongoing attribute associated with this unique grouping of expertise is our multi-tiered approach aimed at leveraging the aggregate strengths and abilities of our resource components towards maximizing client and shareholder value. This centers on the following key areas:

- Retain and strengthen our “Base” revenue through optimization of current capabilities and established client relationships.
- Integrate our product and service areas to provide more comprehensive or enhanced solutions when internal or external value can be identified.
- Explore, evaluate, and develop new collaborative service areas, products, and solutions closely aligned with internal core strengths, client goals, and overall industry clean power initiatives.

Base Revenue and Strategic Integration. We will continue to build upon the Engineering segment’s historical success of maintaining our client connections by providing clear and immediate returns to the customer, such as optimized power generation and efforts that reduce or extend testing and inspection requirements. In parallel, we are aggressively evaluating ways to integrate and package our design, simulation, and plant performance components to further enhance client benefit. In many cases this is structured with our historical base scope of supply proposed as the stand-alone foundation with optional scopes included to deliver a more integrated comprehensive solution if desired.

New Product / Service Areas. A dedicated, strategically focused exercise centered on evaluation of core capabilities, potential adjacencies, client needs, and industry direction has resulted in several new product or service initiatives within our Engineering group. Further development, expansion, and application of existing product lines and associated services have moved to the forefront of this effort with the added benefit of minimizing engineering and information technology level of effort while maintaining very high client benefit. Additional competitive advantages are also present through client contracts which help fund the R&D components of the initiatives.

Proprietary Software Tools. We developed a library of proprietary software tools including auto-code generators and first principles-based system models that substantially improve 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 us or our customers to develop repeatable high-fidelity, real-time software quickly, accurately and at lower costs. We also have an expertise integrating third-party engineering codes into our simulation environment, thereby offering some of the most sophisticated technical solutions in the market. We have a substantial library of process-specific simulation models and e-learning modules aimed at the oil and gas, refining and specialty chemicals markets. Lastly, our TSM platform is being used as a plant performance reporting tool and as the graphical user interface for our DVR service initiatives which provide high value client return through power recovery and other optimization strategies. This platform also serves as the foundation for our new product service initiatives with numerous optional modules and applications under consideration.

Performance Expertise. We are a leading innovator and developer of engineering directed solutions for the power generation industry. Our design, simulation, and plant performance resources are fully engaged with industry developments and client requirements routinely providing answers to our clients most pressing needs. Design modifications addressing base generation usage for nuclear facilities, optimization of power production through innovative statistical analysis, and real-time simulation software producing high-fidelity, real-time plant simulation are representative examples. As of December 31, 2023, we employed a highly educated and experienced multinational workforce of approximately 271 employees, including approximately 148 engineers and scientists in fields such as nuclear, chemical, mechanical and electrical engineering, applied mathematics and computer sciences, and approximately 64 instructors and plant operations staff specialists.

Unique Combination of Talent. Few in our market space bring together the sophistication of simulation technology with the engineering expertise, training expertise and plant performance expertise to provide the holistic people and plant engineering solutions as well as we do.

Reputation for Customer Satisfaction. As part of its ISO-9001:2015 Quality Program Certification, we measure 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

We have 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 Workforce Solutions business is mostly focused on training and operations support. Our trainers and consultants provide their services at customer facilities which allows us to interface with our customers directly in the course of doing business versus only periodically calling on customers. Our proximity gives us a significant competitive advantage in that we can immediately offer and implement solutions rather than contending with lengthy bid processes.

INTELLECTUAL PROPERTY

We depend upon our intellectual property rights in our proprietary technologies and our distinctive trade and service marks. We maintain a portfolio of: trademarks and servicemarks (both registered and unregistered) on our logos, product and service names, and other elements of trade dress; copyrights (both registered and unregistered) on written materials including software code, manuals, and other creative works; trade secret protections on its proprietary technologies and methodologies; and licenses from third parties to use and commercially exploit other protected intellectual property. While such trademarks, copyrights, trade secrets, and inbound licenses as a group are of material importance to us, we do not consider any one trademark, copyright, trade secret, or license to be of such importance that the loss or expiration thereof would materially affect us. We distribute our software products under software license agreements that grant customers nonexclusive and nontransferable licenses for the use of the products. Usage of our licensed on-premise software is restricted to designated computers at specified sites, unless the customer obtains a site-wide license for its use of the software. Our software products delivered as a service (SaaS) over the internet also contain customer verifications and usage limitations. We employ not only software and hardware security measures to prevent unauthorized use of its software, but also detailed contractual terms and limitations within our license and service agreements to prohibit unauthorized usage or reproduction. We offer our customers both perpetual software licenses with unlimited duration (as long as the customer complies with the license terms) and term-limited software licenses and usage agreements.

We do not own any patents. We believe that all of our trademarks are valid and will have an unlimited duration as long as they are adequately protected and sufficiently used. We have numerous registered U.S. trademarks, including word and design trademarks on: GSE Systems®, GSE Solutions®, JTOPMERET®, RELAP5-HD®, VPanel®, and SimExec® among others, as well as a design trademark on the “GSE” logo. We believe that our international trademark protection is adequate to our business needs. We also claim trademark rights to various other product and service offerings including DesignEP™, Java Application and Development Environment (JADE)™, OpenSim™, PSA-HD™, SimSuite Pro™, SmartTutor™, THOR™, and Xtreme I/S™, among others. Despite these protections, we cannot be sure that we have protected or will be able to protect our intellectual property adequately, that the unauthorized disclosure or use of our intellectual property will be prevented, that others have not or will not develop similar technology 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 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 do 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 our 2023 and 2022 consolidated revenue by industries served:

	Years ended December 31,	
	2023	**2022**
Nuclear power	92%	89%
Fossil fuel power	4%	6%
Process	4%	5%
Total	100%	100%

BACKLOG

As of December 31, 2023, we had approximately $34.5 million of total gross revenue in backlog compared to $32.9 million as of December 31, 2022. Most of our contract terms are for less than 24 months. Our backlog 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 we have reason to believe that 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.

HUMAN CAPITAL

As of December 31, 2023, we had approximately 271 employees, which include 201 in our Engineering segment and 70 in our Workforce Solutions segment. The 271 employees are comprised of 218 fulltime employees and 53 part time employees, excluding our Workforce Solutions segment, which consists primarily of technical professionals. Our employee attrition rate for 2023 among all staff was approximately 41.5%. This attrition rate is primarily attributable to the Workforce Solutions business model as the business segment accounts for 66% of all turnover during the year. 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.

Our people are what make us who we are today. Not only does it depend on employing highly skilled professionals but also people who can work together, effectively and collaboratively, as a team, whether departmental, cross functional, or cross company. Our employees come from diverse backgrounds as well as a diverse geography, and we look to attract people by offering a positive and welcoming work environment, strong management and leadership teams, along with a competitive compensation and benefit package.

Talent Management

We are committed to recruiting, hiring, retaining, and developing the most talented and skilled professionals and graduates available in the job market. Our approach to talent management includes a rigorous selection process followed by coaching, training, and knowledge transfer. HR provides support but the day-to-day interactions that ensure the employee's success come from the manager. They coach and develop employees through their active and regular interactions. This is a critical part of both current performance as well as knowledge transfer from our more experienced staff that may be nearing the end of their career, to our less experienced. Training takes place internally and across our companies to take advantage of our SMEs in our industry. As a result of this we can integrate different talent pools to be interchangeable across projects. In addition, we offer tuition reimbursement that allows employees to further their education or attend external professional development programs.

Compensation & Benefits

We offer market competitive compensation and benefit programs for our employees in order to attract and retain superior talent. In addition to competitive base wages, additional benefits provided include: a Long-Term Incentive Stock Option Plan, a Company matched 401(k) Plan, healthcare and insurance benefits, health savings accounts, paid time off, family leave, and employee assistance programs.

Diversity & Inclusion

A diverse and inclusive workforce adds value to our Company and helps us succeed. We believe diversity is important because it provides varied insight and varied perspectives which results in innovative thinking, better decision making and faster problem solving. Having a diverse workforce also brings different skill sets and experiences that are shared throughout the Company. Our culture, which is collaborative in nature, provides for inclusion of all employees in all aspects of our work.

Health & Safety

The health and safety of our employees is of paramount importance to us. Our OSHA records show that we have had zero recordable injuries/illnesses as defined by OSHA in the past five years, and we attribute that to our employees working carefully so they don't get injured. We provide a safety manual to employees that work in the field, and they are also provided with the necessary safety training on site.

We provide multiple mental health resources for our employees and their families as well as a wellness program that incentivizes and motivates people to eat healthy, get some form of exercise, and destress. We also offer an Employee Assistance Program ("EAP") and full access to mental health providers through our health partner, Cigna. And in order for our employees to be able to assist in the virtual learning environment with their children, we have offered flexible work schedules to accommodate their needs.

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 we have made. 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 1 – Business, 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.

RISKS RELATED TO A NASDAQ DELISTING EVENT

If we are unable to maintain compliance with Nasdaq's listing requirements, our common stock may be delisted from The Nasdaq Stock Market, which would allow our Lender to deliver a demand for payment, result in an event of default under certain convertible notes, could have a material adverse effect on the Company's financial condition and could make it more difficult for holders of the Company's common stock to sell their shares.

The company's common stock is listed on the Nasdaq Capital Market and we are, therefore, subject to its continued listing requirements, including requirements with respect to the market value of publicly-held shares, market value of listed shares, minimum bid price per share, and minimum stockholder's equity, among others, and requirements relating to board and committee independence. If we fail to satisfy one or more of these continued listing requirements, our common stock may be delisted from the Nasdaq Capital Market.

On November 4, 2022, the Company received a written notice (from the Listing Qualifications Department of The Nasdaq Stock Market LLC ("Nasdaq") stating that the Company failed to maintain a minimum closing bid price of $1.00 per share for the prior 30 consecutive trading day period, as set forth in Nasdaq Listing Rule 5550(a)(2). Although we accomplished a reverse stock split on October 30, 2023, which resulted the issuance of one newly-issued share of our common stock for every ten issued and outstanding shares as of such date, and regained compliance with the Nasdaq minimum closing bid price of $1.00 per share on November 10, 2023, there can be no assurances that we will continue to satisfy the minimum closing bid price requirement or otherwise satisfy the other listing qualifications of Nasdaq necessary to maintain our listing on Nasdaq. There can also be no assurances that we will continue to satisfy other listed company requirements.

Under that certain Senior Convertible Promissory Note issued by the Company to Lind Global Fund II LP ("Lind") on June 23, 2023 (as amended, the "Second Note") and the Amended and Restated Senior Convertible Promissory Note issued to Lind on June 23, 2023 (as amended, the "First Note" and, together with the Second Note, the "Lind Notes"), if our common stock ceases to be listed on Nasdaq (or another stock exchange), Lind (or the holder of the Lind Notes) may deliver a demand for payment to the Company and, if such a demand is delivered, the Company shall, within ten (10) Business Days following receipt of the demand for payment from the Holder, pay all of the outstanding principal amount on the Notes or, at its election, Lind (or such holder) may elect to convert all or a portion of the outstanding principal amount and the conversion price shall be adjusted to the lower of the then-current conversion price and eighty percent (80%) of the average of the three (3) lowest daily variable average weighted prices during the twenty (20) trading days prior to delivery. Additionally, if we are unable to maintain our listing on Nasdaq, it will constitute an event of default under the Lind Notes, which would trigger certain obligation under the Lind Notes including, but not limited to, causing an amount equal one hundred twenty percent (120%) of the outstanding principal amount of the Lind Notes to immediately become due.

Delisting from Nasdaq also may adversely affect our ability to raise additional financing through the public or private sale of equity securities, may significantly affect the ability of investors to trade our securities and may negatively affect the value and liquidity of our common stock. Delisting also could have other negative results, including the potential loss of investor confidence or interest in strategic transactions or opportunities, as well as negatively impact our ability to recruit and retain personnel through equity incentive awards.

RISKS RELATED TO MACROECONOMIC CONDITIONS AND GLOBAL CONDITIONS

A regional epidemic or global pandemic, including the reemergence of the COVID-19 pandemic, may adversely affect our business operations and financial condition.

In March 2020, the World Health Organization declared the COVID-19 virus a global pandemic and then-President Donald J. Trump declared a national emergency in the United States. This pandemic caused substantial disruptions to populations, including economic markets and businesses, worldwide. Regulations and restrictions to ensure public safety, adopted at varying times and extents in the affected locations, had serious adverse impacts on economic markets and the operation of businesses in those locations. The COVID-19 pandemic increased macroeconomic and stock market volatility and uncertainty. Parts of our business were and continue to be adversely affected by the COVID-19 pandemic. In response to the pandemic, varying restrictions were implemented, either by government order or by voluntary measures, such as temporary closures or restrictions on business operations, and/or the imposition of social distancing, quarantine, remote work, or other limitations on in-person meetings. The timing and severity of these imposed restrictions varied and, while most have been lifted, restrictions could be reinstated at any time.

These disruptions adversely affected our customers' operations and our business, most prominently by increasing costs and delaying customer projects and expenditures.

The reemergence of the COVID-19 pandemic or the emergence of other regional epidemics or global pandemics, depending upon their duration and severity, could have a material adverse effect on our business. Depending on the severity and duration of these disruptions and the subsequent supply chain effects, customer demand, our ability to meet demand, and our revenue and profit margins, may continue to be negatively impacted.

Due to the uncertainty of the severity and duration of these potential events, the extent and effectiveness of containment and mitigation measures that may be taken by governmental authorities or voluntarily, to the extent an epidemic or global pandemic may adversely impact our business, such impact may also heighten other risks set forth in this Section 1A – Risk Factors.

Our business is subject to risks related to global economic conditions, including inflation, consumer demand, global supply chain challenges and other macroeconomic issues that could have an adverse effect on our business and financial performance.

General economic downturns impacting our key customers and global markets can adversely affect our business operations, demand for our products and our financial results. The global economy, including credit and financial markets, has experienced extreme volatility and disruptions, including higher interest rates, relatively high levels of inflation, strained supply chains and expectations of lower economic growth, which have put pressure on our business. For example, Russia's invasion of Ukraine in the first quarter of 2022 and the resulting geopolitical responses lessened international demand for our simulation products. When challenging macroeconomic conditions such as these exist, our customers may delay, decrease or cancel purchases from us and may also delay payment or fail to pay us altogether. Suppliers may have difficulty filling our orders and distributors may have difficulty getting our products to customers, which may affect our ability to meet customer demands and result in a loss of business. Weakened global economic conditions may also result in unfavorable changes in our product prices and product mix and lower profit margins. All of these factors could have a material adverse effect on demand for our products, our financial condition and our results of operations.

We are subject to a wide variety of laws and regulations, and these may change.

Our businesses are subject to regulation by U.S. federal and state laws, and foreign laws, government regulations and policies, and other administrative requirements. 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 possible curtailment of our intended business activities or strategies as a result of changed or new regulatory risks arising from federal laws and regulations, such as laws and regulations regarding export of sensitive technologies or technical information or changed interpretations of existing laws and regulations. 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. Any significant change to laws, regulations, enforcement policies, or liability regimes, or other actions by government bodies having jurisdiction over our business, may have material adverse effects on our business and profitability. We have only limited ability to foresee, plan for, or influence changes to these requirements.

RISKS RELATED TO OUR INDUSTRY

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

In both 2023 and 2022, 92.0% and 89.0% of our revenue, respectively, was from customers in the nuclear power industry. We expect to derive a significant portion of our revenue from customers in the nuclear power industry for the foreseeable future. Market demand for, and our ability to supply nuclear power plant simulators and related products and services is dependent on the continued operation of nuclear power plants globally 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, regulatory and legal environment in which they operate, 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. Significant regulatory changes in the U.S. or abroad 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.

Customer concentration in the U.S. nuclear power industry subjects us to risks and uncertainty, which we may not be able to mitigate through diversification.

The U.S. nuclear industry has significant customer concentration with a limited number of entities owning all of the 93 nuclear reactors currently operating in the United States. In 2023, we continued to experience high customer concentration with respect to each of our businesses. Indeed, one customer accounted for 22.7% of our total consolidated revenue for the year-ended December 31, 2023. As a result of this concentration, a reduction in business from our customers, could have a disproportionately adverse effect on our business, results of operations, and prospects. We monitor our customer concentration and seek to diversify our customer base within this concentrated industry. In addition to pursuing diversification strategies and expanding relationships with targeted customers, we mitigate the associated customer concentration risk by developing meaningful relationships with each nuclear power plant, which are often separately responsible for vendor selection and individual procurement decisions.

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.

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 and use, product reliability, applications expertise, engineering support, local presence, personal relationships, and the relative financial stability of the competitor. 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. Because 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. Any of these competitive factors, or any combination of two or more factors, could make it more difficult for us to bid successfully on new projects, or to complete projects at profit margins that we consider reasonable. An inability or reduced ability to win new work would have a material adverse impact on our backlog and revenue, and an inability or reduced ability to secure reasonable profit margins on projects awarded to us would have a material adverse impact on our profitability and overall results of operations.

RISKS RELATED TO OUR PRODUCTS, SERVICES, AND BUSINESS PRACTICES

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 may be unable to monetize our investment in research and development in a timely manner, or at all. Unexpected or excessive delays in realizing a return on these investments may have a material and adverse effect on our cash position, results of operations, and financial condition.

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 and that we have not yet delivered or recognized as revenue. Our backlog as of December 31, 2023 and 2022 was $34.5 million and $32.9 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 whether or when backlog services will be performed, or products delivered. 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. Our poor project performance could increase the cost associated with a project. Thus, 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 and orders included in our backlog. Many, but not all, 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 and payments, for work performed prior to cancellation including varying percentages of the profits we would have realized had the contract been completed. We usually have no contractual right to payment for all of the lost revenue or lost profits in the event of cancellation of the contracts and orders reflected in our backlog, however. 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.

RISKS RELATED TO FOREIGN OPERATIONS

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 12% of our consolidated revenue in 2023 and 16% of consolidated revenue in 2022. 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 the export of some or all of our products;
- compliance with the U.S. Foreign Corrupt Practices Act and similar non-U.S. regulations;
- the burden and cost of compliance with foreign laws, treaties and technical standards generally, as well as responding to changes in those requirements;
- 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;
- differences in insurance availability and coverage in some jurisdictions;
- 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, including particularly the current conflict between Russia and Ukraine
- potential disruption of our international business due to the worldwide COVID-19 virus outbreak.

In December 2019, an outbreak of the COVID-19 virus was reported in Wuhan, China. On March 11, 2020, the World Health Organization declared the COVID-19 virus a global pandemic. The pandemic adversely affected our international customers' operations, our employees, and our employee productivity. It also impacted the ability of our subcontractors, partners, and suppliers to operate and fulfill their contractual obligations, and result in an increase in costs, delays or disruptions in performance. These supply chain effects, and the direct effect of the virus and the disruption on our employees and operations, from COVID-19, or from other national or global health related outbreaks, may negatively impact both our ability to meet customer demand and our revenue and profit margins.

In late February 2022, following rising tensions between the regions, Russian military forces launched significant military action against Ukraine, and sustained tension, conflict, and disruption in the region is expected. We do not have employees or operations in Russia or Ukraine, but we do have customers who do business in these countries or surrounding countries. Such operations and customers may be adversely affected by the continued conflict and any related disruptions, sanctions or other governmental actions.

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, 2023 and 2022, we did not have revenues greater than 10% from any individual foreign country.

Exports and sales to certain foreign countries, including the People's Republic of China, are subject to regulatory, political, and other risks.

The export and sale of our services and technology to certain foreign countries including China, are subject to U.S. export control regulations. Export control policy pertaining to China and other countries may be enforced through laws and regulations administered by the Department of Commerce and the Department of Energy, and jurisdiction with regard to the export and sale of our services and technology may be overlapping and unclear. Specific governmental authorizations may be required before we can export our services or technology to countries such as China or collaborate with foreign entities or foreign individuals located in countries such as China. These restrictions include our own wholly-owned Chinese subsidiary and its employees. If export or other authorizations are required and not granted, or are significantly delayed, our international business plans pertaining to China and other countries could be materially affected. Further, our exports and sales to China and other countries with respect to which the United States may have shifting or negative diplomatic and trade relations, including sales made by or through our wholly-owned Chinese subsidiary, expose us to particular risks associated with the political and regulatory relationship between the U.S. and China and between the U.S. and such other countries.

In October 2018, DOE announced the tightening of certain export control restrictions with regard to the export of nuclear technology to China, including certain presumptive denials with regard to the export of identified nuclear technologies to China. Although we do not believe that these policy changes cover all of our technologies or services, restrictions pertaining to U.S. regulation and policy pertaining to international trade with China could adversely affect our business in China and the performance of our Chinese subsidiary.

Finally, regulation pertaining to the sale and export of products and services to China and other countries can be complex and involve judgments exercised by the Company with which the Department of Commerce, DOE and other regulators may not agree or consent. Violation of export control regulations, including those pertaining to China, could subject us to fines and other penalties, such as losing the ability to export for a period of years, which would limit our revenue growth opportunities and significantly hinder our attempts to expand our business internationally. Although we take steps to monitor and ensure our compliance with all applicable export laws and regulations, we are nevertheless exposed to political and regulatory risks that we may not be able to mitigate fully and that may have a material adverse effect upon our international business operations.

Our operations within China subject us to risks and uncertainties relating to the laws and regulations of China.

Our business and operations within China may be adversely affected by China's continuously evolving internal policies, laws and regulations, including those relating to nuclear technology, trade, taxation, import and export tariffs or restrictions, currency controls, cybersecurity and data protection, indigenous innovation and the promotion of a domestic nuclear industry, and intellectual property rights and enforcement and protection of those rights. Enforcement of existing laws or agreements in China may be inconsistent. In addition, changes in the political environment, governmental policies, international trade policies and relations, or U.S. - China relations could result in revisions to laws or regulations or their interpretation and enforcement, exposure of our proprietary intellectual property to risk of loss, increased taxation, trade sanctions, the imposition of import duties or tariffs, restrictions on imports or exports, currency revaluations, or retaliatory actions by the Chinese government in response to U.S. actions, any or all of which could have an adverse effect on our business plans and operating results.

RISKS RELATED TO OUR FINANCIAL CONDITIONS, ACCOUNTING, AND CONTRACTS

If we cannot comply with the financial or other restrictive covenants in our credit agreements, or obtain waivers or other relief from our lender, we may cause an event of default to occur, which could result in loss of our sources of liquidity and acceleration of our debt.

In order to fund general working capital needs, repayment of indebtedness, and other corporate purposes, we entered into securities purchase agreement with Lind Global Fund II LP ("Lind Global") on February 23, 2022, pursuant to which we issued to Lind Global a two-year, secured, interest-free convertible promissory note in the amount of $5.75 million (the "First Note") and a common stock purchase warrant to acquire 1,283,732 shares of our common stock (the "First Warrant"). We entered into an amendment and restatement of the First Note on June 23, 2023. On June 23, 2023, the Company entered into a securities purchase agreement with Lind Global, pursuant to which the Company issued to Lind Global that certain Senior Convertible Promissory Note, dated February 23, 2022 (the "Second Note" and, together with the First Note, the "Lind Notes") and the issuance of common stock purchase warrant to acquire 4,264,271 shares of the Company's common stock (the "Second Warrant"). In addition to payment obligations, each of the Lind Notes contain covenants pertaining to the Company and our business including, but not limited to, an obligation to maintain an equity market capitalization of at least $7,000,000. If we fail to make timely payments on the Lind Notes, or otherwise fail to satisfy the covenants contained therein, Lind Global (or the holder of the Lind Notes) may deliver a demand for payment to the Company and, if such a demand is delivered, the Company shall, within ten (10) Business Days following receipt of the demand for payment from the holder, pay all of the outstanding principal amount on the Notes or, at its election, Lind (or such holder) may elect to convert all or a portion of the outstanding principal amount and the conversion price shall be adjusted to the lower of the then-current conversion price and eighty percent (80%) of the average of the three (3) lowest daily variable average weighted prices during the twenty (20) trading days prior to delivery. Additionally, if we are unable to maintain our listing on Nasdaq, it will constitute an event of default under the Lind Notes, which would trigger certain obligation under the Lind Notes including, but not limited to, causing an amount equal one hundred twenty percent (120%) of the outstanding principal amount of the Lind Notes to immediately become due.

At December 31, 2023, management concluded that substantial doubt exists for the Company to continue as a going concern through March 31, 2025. Additionally, our inability to generate sufficient cash flow to satisfy repayment obligations or to refinance or restructure these obligations on commercially reasonable terms could have a material adverse effect on our business, financial condition, results of operations and cash flows. Upon the occurrence of an event of default under the Convertible Note, or another credit arrangement, our lenders could elect to declare all amounts outstanding thereunder to be immediately due and payable. If we were unable to repay all outstanding amounts in full, our lenders could exercise various remedies including instituting foreclosure proceedings against our assets pledged to them as collateral to secure that debt.

Our revenue, results of operations, and cash flows may suffer upon the loss of a significant customer.

For the years ended December 31, 2023 and 2022, four customers have provided more than 10% of **Workforce Solutions** segment's revenues:

	Years ended December 31,	
	2023	2022
Customer A	23%	9%
Customer B	17%	16%
Customer C	11%	24%
Customer D	11%	9%

Training Services and Technical Staffing, which together comprise our Workforce Solutions segment, may lose a significant customer if any existing contract with such customer expires without extension, renewal, or negotiation or if it is terminated by the customer prior to expiration, to the extent such early termination is permitted by the contract. A number of Training Services' and Technical Staffing's contracts typically are subject to expiration during each year, and either company may lose any of these contracts if we are unable to extend, renew, or renegotiate the contracts. The loss of any significant customer would adversely affect our Workforce Solutions segment's revenue, results of operations, and cash flows.

For the years ended December 31, 2023 and 2022, one customer has provided more than 10% of **Engineering** segment's revenues, respectively:

	Years ended December 31,	
	2023	2022
Customer E	32%	22%

Performance (DBA Systems & Simulation), Programs & Performance, and Design & Analysis, which together comprise our Engineering segment, may lose a significant customer if any existing contract with such customer expires without extension, renewal, or negotiation or if it is terminated by the customer prior to expiration, to the extent such early termination is permitted by the contract. A majority of the contracts entered into by our Engineering businesses are able to be terminated by our customer on relatively short notice without cause or further compensation. The loss of any significant customer would adversely affect our Engineering segment's revenue, results of operations, and cash flows.

Customer E also provided 22.7% of our total consolidated revenue for the years ended December 31, 2023.

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 $45.0 million and $47.7 million for the years ended December 31, 2023 and 2022, respectively. We incurred an operating loss of $6.8 million and $14.4 million for the years ended December 31, 2023 and 2022, 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 launch or release of new products and enhancements by us and our competitors, and fluctuating global economic conditions. Because 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. Because of this lag in response time, such revenue shortfalls likely would have a disproportionate adverse effect on our operating results. Additionally, as we have seen, industry spend has been very slow to ramp back after the onset of the pandemic in 2020. While the pandemic effects on society have largely passed, there is still a significant reticence on behalf of the industry to ramp spending back up. While meaningful plans for capital investment have been noted, those plans have elongated times to convert to the types of spend that have a direct positive impact on our business. This continues lag poses a risk to our business.

A deterioration in sales, delayed pipeline opportunities, and overall downward performance could result in write-downs of goodwill and other intangible assets.

In conjunction with business acquisitions, we record goodwill and other intangible assets and review their 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. As of September 30, 2022, the reduced forecast related to the Workforce Solutions business segment was material enough to be considered a triggering event that could result in impairment of our long-lived assets. As such, we performed an interim analysis to determine if an impairment existed in accordance with ASC 350 & ASC 360.

Our Goodwill impairment analysis, which includes the use of discounted cash flow models that requires management to make assumptions regarding estimates of revenue growth rates and operating margins used to calculate projected future cash flows, and risk-adjusted discount rates determined the carrying value of Workforce Solutions exceeded the Fair Value by $7.0 million. As such, impairment of the related goodwill was recorded in the three months ended September 30, 2022.

We also performed an interim analysis to determine if an impairment existed at September 30, 2022 by its individual asset groupings, which we determined to be at the subsidiary level. We used a discounted cash flow analysis to determine the fair value of our asset group, and we concluded that the carrying value of the definite-lived intangible assets of Absolute, a business unit of the Workforce Solutions segment, exceeded its fair value by $0.5 million, and we recorded a loss on impairment for this amount as of September 30, 2022. No impairment was identified related to any other asset groupings.

As of September 30, 2023, the reduced forecast related to the Workforce Solutions business segment was material enough to be considered a triggering event that could result in impairment of our Goodwill. As Workforce Solutions had remaining long lived assets, we performed an interim analysis to determine if an impairment existed in accordance with ASC 350. As a result, the carrying value of Workforce Solutions was exceeded the Fair Value by $0.9 million, and we recorded a loss on impairment for this amount as of September 30, 2023. No impairment was identified related to any other asset groupings.

Based on the continued forecast decline on the Workforce Solutions segment, the re-evaluation of the Company’s Indefinite-Lived assets as of December 31, 2023 in accordance with ASC 350’s annual assessment requirements, determined that an additional $0.5 million impairment existed related to the Training Services and Technical Staffing business units. No impairment was identified related to any other asset grouping.

Write-down of goodwill and other intangible assets in the current and future accounting periods may have an impact on our value, results of operations, and price of our common stock.

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 estimate accurately 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 enable us to benefit from cost savings, but expose us to the risk 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 that could result in reduced profits or even 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 our 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. In both cases, 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 or cost-reimbursable contract.

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

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.

While we had no foreign exchange contracts outstanding as of December 31, 2023, and did not enter into any foreign exchange contracts in 2023, we have periodically entered 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. We also engage in interest rate hedging transactions in the ordinary courses of our business to mitigate the risk that amounts borrowed under our credit facility at floating interest rates may be affected by adverse rate movements. Depending on future business, market, and interest rate environments, however, these hedging transactions may not be effective to mitigate the financial impact of the risks for which they were put into place sufficiently to justify their expense. 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 risks 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 letters of credit, 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 letters of credit, 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 a specified period after receiving notice from the customer regarding the nature of the breach. For the year ended December 31, 2023, we did not issue any advance payment or performance bonds, but we may be required to do so in the future to secure contract awards. As of December 31, 2023, we had four letters of credit outstanding for customers totaling $1.1 million.

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.

RISKS RELATED TO INTELLECTUAL PROPERTY

We rely upon our intellectual property rights for the success of our business, but 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 we 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.

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 directly against us, or because our software is integrated with our customers' networks and business processes, as well as other software applications against us, our customers, and our business partners or 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 the claims 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 or modules. 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.

RISKS RELATED TO CYBER SECURITY

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, civil or regulatory liability for loss of sensitive or protected information such as personal data, incident response costs, 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.

RISKS RELATED TO ATTRACTING AND RETAINING TALENT

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. 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 and our revenue, profitability, and overall results of operations could be materially impacted.

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, particularly within our Engineering business segment, 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.

RISKS RELATED TO STATE LAW

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 shareholders.

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 shareholder 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 shareholders;
- prohibiting shareholder action by written consent, thereby requiring shareholder action to be taken at a meeting of the shareholders;
- 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 shareholders at shareholder meetings;
- establishing supermajority vote requirements for certain amendments to our certificate of incorporation and bylaws;
- limiting the right of shareholders 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 shareholders 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. These provisions apply even if the offer may be considered beneficial by some shareholders, however, and could delay or prevent an acquisition that our Board of Directors determines is not in the best interests of our Company and our shareholders.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 1C. CYBERSECURITY.

We acknowledge the increasing importance of cybersecurity in our operations and having processes in place to manage risks and threats associated with potential unauthorized occurrences on our information systems that could adversely affect the confidentiality, integrity, or availability of our information systems and data. We continuously invest in and enhance our cybersecurity infrastructure to mitigate risks and protect against unauthorized access, data breaches, and other cyber incidents that could disrupt our business or compromise sensitive information. We have implemented various cybersecurity measures to safeguard our information technology infrastructure and data assets:

Governance and Oversight:

The Audit Committee of the Board of Directors oversees risks from cybersecurity threats as part of its broader risk oversight responsibilities. The board recognizes the importance of cybersecurity in safeguarding the company's assets and operations. GSE's Risk Management Plan includes an assessment of, and mitigation plans related to, the operational risk of business disruption due to factors including cybersecurity breaches and related events.

Risk Assessment and Management:

Under the supervision of our chief technology officer, we conduct assessments of our IT systems and networks to identify potential vulnerabilities and threats to our systems and assets. Based on these assessments, we prioritize and allocate resources to mitigate cyber risks and reduce exposure.

Security Controls and Technologies:

Under the supervision of our chief technology officer, we employ a multi-layered approach to cybersecurity, deploying a suite of technologies to protect our endpoints, applications, data, and network. We incorporate various security controls and technologies such as firewalls, encryption mechanisms, next-generation anti-virus, multi-factor authentication and access controls. Furthermore, we invest in threat detection and prevention solutions to proactively identify and mitigate continuously changing cyber threats.

Employee Training and Awareness:

We recognize the critical role of employees in maintaining cybersecurity resilience. Accordingly, we provide cybersecurity training and awareness programs to educate employees about security best practices, phishing awareness, and the importance of safeguarding sensitive information.

Incident Response and Business Continuity:

In the event of a cybersecurity incident, we have established incident response protocols to facilitate timely detection, containment, and remediation. Additionally, we maintain business continuity and disaster recovery plans to minimize the impact of cyber incidents on our operations and stakeholders.

Continuous Monitoring and Improvement:

We continuously monitor and assess our cybersecurity posture to adapt to evolving threats and technologies. We conduct periodic reviews and assessments of our cybersecurity posture to identify gaps and implement enhancements to strengthen our defenses.

Our commitment to cybersecurity is integral to our overall risk management strategy and reflects our dedication to protecting the confidentiality, integrity, and availability of our IT systems and data assets. We remain vigilant in addressing cybersecurity threats and adapting to emerging challenges to minimize the likelihood and impact of cyber threats and to safeguard our business operations and stakeholders' interests.

ITEM 2. PROPERTIES.

We are headquartered in Columbia, Maryland. On March 5, 2018, we entered into our headquarters lease agreement to rent 5,309 square feet through September 30, 2024. On December 15, 2022, following a March 18, 2022 building fire that impacted our space and ensuing dispute among us and the landlord, we terminated our lease for 1332 Londontown Boulevard, Eldersburg, Maryland (our former headquarters) and entered into a release and settlement agreement whereby we agreed to pay, and the landlord agreed to accept, a reduced monthly payment through May 1, 2023 in exchange for early termination of the lease.

In addition, we lease office space domestically in Fort Worth, Texas, and internationally in Beijing, China. Our leases for these facilities have terms ending between 2024 and 2030. See Note 16 to our consolidated financial statements for information regarding our leases.

ITEM 3. LEGAL PROCEEDINGS.

We are, from time to time, involved in ordinary routine litigation incidental to the conduct of our business. Neither we nor any of our subsidiaries are a party to, nor is any of our property the subject of, any material pending legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our 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 SHAREHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES.

Our common stock is listed on the NASDAQ Stock Market Exchange, where it trades under the symbol "GVP". The following table sets forth, for the periods indicated, the high and low sale prices of our common stock, as reported by the NASDAQ Stock Market Exchange for each full quarterly period within the two most recent fiscal years:

On March 31, 2024, there were 3,034,139 shares of our common stock outstanding. As of the latest record date, we had 710 holders of record. This number does not include beneficial owners of our common stock whose shares are held in the names of various dealers, clearing agencies, banks, brokers and other fiduciaries.

ITEM 6. RESERVED.

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

We are a leading provider of professional and technical engineering, staffing services and simulation software to clients in the power and process industries. Our primary market is the nuclear power industry, predominantly in the United States, but also serving the global nuclear sector with projects in the United Kingdom, Slovakia, Korea, Japan and elsewhere. We also serve natural adjacencies to the commercial nuclear power market such as the United States Department of Energy, and the broader nuclear ecosystem. We additionally serve other heavy industry sectors such as refining, petrochemical, Liquefied Natural Gas ('LNG") and others, with staffing services and our simulation technology and know-how. 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 professional services that help clients fill key vacancies in their respective organizations, primarily in procedures, engineering, technical support and training focused on regulatory compliance and certification in the nuclear power industry. Our operations also include interactive computer-based tutorials and simulation software for the refining, chemical, and petrochemical industries.

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,			
	2023	%	2022	%
Revenue	$ 45,041	100.0%	$ 47,734	100.0%
Cost of revenue	33,111	73.5%	35,824	75.0%
Gross profit	11,930	26.5%	11,910	25.0%
Operating expenses				
Selling, general and administrative	16,092	35.7%	17,028	35.7%
Research and development	572	1.3%	611	1.3%
Goodwill and intangible asset impairment charge	1,391	3.1%	7,505	15.7%
Depreciation	185	0.4%	304	0.6%
Amortization of definite-lived intangible assets	508	1.1%	868	1.8%
Total operating expenses	18,748	41.6%	26,316	55.1%
Operating loss	(6,818)	(15.1%)	(14,406)	(30.2%)
Interest expense	(1,932)	(4.3%)	(1,272)	(2.7%)
Change in fair value of derivative instruments, net	850	1.9%	477	1.0%
Other (loss) income, net	(802)	-1.8%	(91)	(0.2%)
Loss before taxes	(8,702)	(19.3%)	(15,292)	(32.0%)
Provision for income taxes	22	0.0%	51	0.1%
Net loss	$ (8,724)	(19.4%)	$ (15,343)	(32.1%)

Comparison of the Years Ended December 31, 2023 to December 31, 2022.

Revenue. Revenue for the year ended December 31, 2023, totaled $45.0 million, which was 5.6% less than the $47.7 million of revenue for the year ended December 31, 2022.

(in thousands)	Year ended December 31,			
	2023	2022	Change	
Revenue:			$	%
Engineering	$ 31,790	$ 29,919	1,871	6.3%
Workforce Solutions	13,251	17,815	(4,564)	(25.6)%
Total revenue	$ 45,041	$ 47,734	(2,693)	(5.6)%

Engineering revenue increased 6.3% from $29.9 million to $31.8 million for the years ended December 31, 2022 and 2023, respectively. The increase in revenue was primarily attributable to increased orders across the segment. We recorded total Engineering orders of $37.6 million and $22.0 million for the years ended December 31, 2023 and 2022, respectively. The increase in orders is primarily due to renewed training and consulting work with a long standing customer and two large orders during the twelve months ended December 31, 2023, for SDB work including software and maintenance components.

For the year ended December 31, 2023, Workforce Solutions revenue decreased 25.6% to $13.3 million compared to revenue of $17.8 million for the year ended December 31, 2022. The decrease in revenue was primarily due to the wind down of large projects resulting in a reduction in demand for staffing from our major customers. We recorded total new orders of $9.7 million and $17.6 million for the years ended December 31, 2023 and 2022, respectively.

As of December 31, 2023, our backlog was $34.5 million, $29.0 million was attributed to the Engineering segment and $5.5 million was attributed to the Workforce Solutions segment. As of December 31, 2022, our backlog was $32.9 million with $23.8 million attributed to the Engineering segment and $9.1 million attributed to the Workforce Solutions segment.

Gross profit. Gross profit was $11.9 million, or 26.5% of revenue, for the year ended December 31, 2023 compared to $11.9 million, or 25.0% of revenue, for the year ended December 31, 2022.

($ in thousands)	Years ended December 31,			
	2023	**%**	**2022**	**%**
Gross profit:				
Engineering	$ 10,073	31.7%	$ 9,557	31.9%
Workforce Solutions	1,857	14.0%	2,353	13.2%
Consolidated gross profit	$ 11,930	26.5%	$ 11,910	25.0%

The Engineering segment's gross profit increased by $0.5 million during fiscal year 2023 over fiscal year 2022. The increase is driven by segment revenue growth as the gross profit margin percentage remained relatively constant.

The Workforce Solutions segment's gross profit decreased by $0.5 million during fiscal year 2023 over fiscal year 2022. The decrease in the three months and nine months ended September 30, 2023 was primarily due to the reduction in the demand from existing customers for additional workforce professionals.

Selling, general and administrative expenses. Selling, general and administrative (SG&A) expenses totaled $16.1 million and $17.0 million for the years ended December 31, 2023 and 2022, respectively. Fluctuations in the components of SG&A spending were as follows:

($ in thousands)	Years ended December 31,			
	2023	**%**	**2022**	**%**
Selling, general and administrative expenses:				
Corporate charges	$ 11,529	71.6%	$ 12,795	75.1%
Business development	3,866	24.0%	3,256	19.1%
Facility operation & maintenance (O&M)	451	2.8%	737	4.3%
Credit loss Expense	232	1.4%	221	1.3%
Other	14	0.1%	19	0.1%
Total	$ 16,092	100.0%	$ 17,028	100.0%

Corporate charges decreased $1.3 million in 2023 compared to 2022. The decrease was primarily due to a $0.8 million decrease in stock compensation expense, a $0.8 million decrease in indirect labor & burden cost due to decreased corporate headcount, a $0.2 million decrease in business insurance, and a $0.2 million increase in legal fees and other business expenses during the fiscal year 2023.

Business development charges increased $0.6 million in 2023 compared to 2022. The increase was primarily due to increased recruiting fees, commission expense, and indirect labor & burden due to increased headcount in 2023.

Facility O&M expenses decreased $0.3 million for the year ended December 31, 2023 compared to the year ended December 31, 2022. The decrease in facility O&M fees was primarily due to the termination of the Sykesville lease in Q4 2022 and reduced lease space under the new Fort Worth lease executed in Q2 2023.

Credit loss Expense. We recorded bad debt expense of $0.2 million and $0.2 million for the years ended December 31, 2023 and December 31, 2022, respectively. GSE's allowance for credit loss is an estimate of lifetime expected credit loss in accordance with ASU 2016-13, "Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments".

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 $0.6 million for both the years ended December 31, 2023 and 2022.

Goodwill and Intangible asset impairment charge. We recognized a $1.4 and $7.5 million goodwill and intangible asset impairment charge for the years ended December 31, 2023 and 2022, respectively. In the interim periods ended September 30, 2023 and 2022, we determined that the deterioration in sales, decline in revenues, delayed pipeline opportunities, and overall downward performance results and the forecast related to the Workforce Solutions business segment was material enough to be considered a triggering event that could result in impairment of our long-lived assets. As a result of the ASC 350 and 360 analysis, there was determined to be an impairment of goodwill totaling $0.9 million as September 30, 2023, impairment of goodwill and intangible assets, totaling $7.5 million as of September 30, 2022. The re-evaluation of the Company's Indefinite-Lived assets at December 31, 2023 in accordance with ASC 350's annual assessment requirements, determined that an additional $0.5 million impairment existed related to the Training Services and Technical Staffing business units. No impairment was identified related to any other asset grouping.

Depreciation. Depreciation expense totaled $0.2 and $0.3 million for the years ended December 31, 2023 and 2022, respectively.

Amortization of definite-lived intangible assets. Amortization expense related to definite-lived intangible assets totaled $0.5 million and $0.9 million for the years ended December 31, 2023 and 2022, respectively. The decrease in amortization expense was primarily due to the Workforce Solutions' definite-lived intangible assets being fully impaired at September 30, 2022. Further, the amortization decreased as a result of Customer Contracts and Relationships, which are amortized at a declining rate over the 15-year useful life.

Interest expense. Interest expense totaled $1.9 million and $1.3 million for the years ended December 31, 2023 and 2022. The increase was due to an additional $.05 million interest charge related to the amendment of the 2022 Lind financing arrangement during June 2023.

Other (loss) income, net. The Company recognized other (loss) income, net of $(0.8) million and $(0.1) million for the years ended December 31, 2023 and 2022, respectively. This increase is primarily due to loss on debt repayments made in shares.

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 for tax years 2003, and forward, and is subject to foreign tax examinations by tax authorities for the years 2018 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 2023 was $22 thousand, representing an annual effective tax rate of (0.3)%, and consisted of $10 thousand of current tax provision and $12 thousand of deferred tax expense related to the portion of goodwill which cannot be offset by deferred tax assets. The Company's tax expense in 2022 was $51 thousand, representing an annual effective rate of (0.3)% and consisted of $137 thousand of current tax provision and $(86) thousand of deferred tax (benefit) related to the removal of the portion of goodwill, which cannot be offset by deferred tax assets.

The significant change of $1.5 million in net operating loss carryforwards was primarily driven by the generation of Federal and state net operating losses during the current year.

The difference between the effective rate and statutory rate primarily resulted from a change in valuation allowance, permanent differences, including adjustments related to the convertible debt, accruals related to uncertain tax positions, the tax impact of stock compensation vests, and state tax expense. Please see Note 13 for additional information.

Critical Accounting Policies and Estimates

In preparing our consolidated financial statements, management makes several estimates and assumptions that affect our reported amounts of assets, liabilities, revenues and expenses. Those accounting estimates that have the most significant impact on our 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 forecasted, and the best estimates may require adjustment.

Revenue Recognition. We derive our revenue through three broad revenue streams: 1) System Design and Build ("SDB"), 2) software, and 3) training and consulting services. We recognize revenue from SDB and software contracts mainly through the Engineering segment and revenue from training and consulting services through both the Engineering segment and Workforce Solutions segment.

The SDB contracts are typically fixed-price and consist of initial design, engineering, assembly and installation of training simulators which include hardware, software, labor, and post contract support ("PCS") on the software. We generally have two main performance obligations for an SDB contract: the training simulator build and PCS period. The training simulator build performance obligation generally includes hardware, software, and labor. The transaction price under the SDB contracts is allocated to each performance obligation based on its standalone selling price. We recognize the training simulator build revenue over the construction and installation period using the cost-to-cost input method as our performance creates or enhances assets with no alternative use to us, and we have an enforceable right to payment for performance completed to date. Cost-to-cost input method best measures the progress toward complete satisfaction of the performance obligation. PCS revenue is recognized ratably over the service period, as PCS is deemed as a stand-ready obligation.

In applying the cost-to-cost input method, we use the actual costs incurred to date relative to the total estimated costs to measure the work progress toward the completion of the performance obligation and recognize revenue accordingly. Estimated contract costs are reviewed and revised periodically as the work progresses, and the cumulative effect of any change in estimates is recognized in the period in which the change is identified. Estimated losses are recognized in the period such losses are identified. 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 our revenue recognition as a significant change in the estimates can cause the our revenue and related margins to change significantly from the amounts estimated in the early stages of the project.

The SDB contracts generally provide a one-year base warranty on the systems. The base warranty is not accounted for as a separate performance obligation under the contract because it does not provide the customer with a service in addition to the assurance that the completed project complies with agreed-upon specifications. Warranties extended beyond our typical one-year period, if any, are evaluated on a case by case basis to determine if it provides more than just assurance that the product operates as intended, which would require carve-out as a separate performance obligation.

Revenue from the sale of perpetual standalone and term software licenses, which do not require significant modification or customization, is recognized upon its delivery to the customer. Revenue from the sale of cloud-based subscription-based software licenses is recognized ratably over the term of such licenses following delivery to the customer. Delivery is considered to have occurred when the customer receives a copy of the software and is able to use and benefit from the software.

A software license sale contract with multiple performance obligations typically includes the following elements: license, installation and training services and PCS. The total transaction price of a software license sale contract is typically fixed and is allocated to the identified performance obligations based on their relative standalone selling prices. Revenue is recognized as the performance obligations are satisfied. Specifically, license revenue is recognized when the software license is delivered to the customer; installation and training revenue is recognized when the installation and training is completed without regard to a detailed evaluation of the point in time criteria due to the short-term nature of the installation and training services (one to two days on average); and PCS revenue is recognized ratably over the service period, as PCS is deemed as a stand-ready obligation.

The contracts within the training and consulting services revenue stream are either time and materials ("T&M") based or fixed-price based. Under a typical T&M contract, we are compensated based on the number of hours of approved time provided by workers and the bill rates which are fixed per type of work, as well as approved expenses incurred. Our customers are billed on a regular basis, such as weekly, biweekly or monthly. In accordance with Accounting Standards Codification (*"ASC"*) 606-10-55-18, we elected to apply the "right to invoice" practical expedient, under which we recognize revenue in the amount to which we have the right to invoice. The invoice amount represents the number of hours of approved time worked by each worker multiplied by the bill rate for the type of work, as well as approved expenses incurred. Under a typical fixed-price contract, we recognize the revenue on a percentage of completion basis as it relates to construction contracts with revenue recognized based on project delivery over time. Revenue from the sale of short-term contracts with a delivery period of one month or less is recognized in the month completed.

For contracts with multiple performance obligations, we allocate the contract price to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers.

Impairment of Intangible Assets, including Goodwill. Our intangible assets impairment analysis includes the use of undiscounted cash flow and discounted cash flow models that require management to make assumptions regarding estimates of revenue growth rates and operating margins used to calculate projected future cash flows, risk-adjusted discount rates and future economic factors that may impact each asset group. We review goodwill and intangible assets 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 (See Note 6).

Capitalization of Computer Software Development Costs. In accordance with U.S. GAAP, we capitalize 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, we amortize the costs, on a straight-line method, over the estimated useful life of the product, which is typically three years. As of December 31, 2023, we have net capitalized software development costs of $0.8 million. On an annual basis, and more frequently as conditions indicate, we assess 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, we 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. Included in capitalized software development costs are certain expenses associated with the development software services. These are similarly capitalized, although not subjected to the same recoverability considerations. Significant changes in the sales projections could result in an impairment with respect to the capitalized software that is reported on our consolidated balance sheets.

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 ability to realize our 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 our deferred tax liabilities and projected future taxable income 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, 2023, our largest deferred tax asset was $9.4 million of net operating losses. It primarily relates to a U.S. net operating loss carryforward of $7.8 million; $3.8 million of the net operating loss carryforward expires in various amounts between 2024 and 2038; $4.0 million of the net operating loss carryforward is an indefinite-lived deferred tax asset. We do not believe that it is more likely than not that we will be able to realize our deferred tax assets for our U.S. and foreign deferred tax assets as of December 31, 2023, and therefore we have recorded a $14.0 million valuation allowance for our net deferred tax assets. The Company has a deferred tax liability in the amount of $18 thousand at December 31, 2023 related to the portion of goodwill which cannot be offset by deferred tax assets.

Liquidity and Capital Resources.

As of December 31, 2023, we had cash and cash equivalents of $2.3 million compared to $2.8 million at December 31, 2022.

As of December 31, 2023, we have current restricted cash and long-term restricted cash of $0.4 million and $1.1 million, respectively. We have total restricted cash of $1.1 million to secure four letters of credit with various customers and $0.4 million to secure our corporate credit card program.

Cash flows from operating activities: For the years ended December 31, 2023 and 2022, net cash provided by operating activities was $1.6 million and $0.7 million, respectively. The year over year increase in cash flows provided by operating activities was primarily driven by lower operating expenses primarily related to the costs reduction initiatives implemented during the year.

Cash flows from investing activities: For the year ended December 31, 2023, net cash used in investing activities was $(0.7) million compared to net cash of $(0.6) million used in investing activities in the prior year. The decrease in cash outflow in 2023 was primarily related to lower capital expenditures.

Cash flows from financing activities: For the years ended December 31, 2023 and 2022, net cash used in financing activities was $(1.5) million and net cash provided by financing activities was $0.8 million, respectively. The increase in used in financing activities of $2.3 million was primarily driven by $(3.4) million decrease in proceeds received from issuance of the Convertible Notes, and increase in Principle payments of $(1.0) million, offset by a $1.8 million repayment of the line of credit during fiscal year 2022.

Convertible Note

During the twelve months ended December 31, 2022, using proceeds from the Convertible Note, we repaid in full, all outstanding indebtedness of $1.8 million owed to Citizens was terminated. During the year ended December 31, 2023, we received net proceeds $1.4 million pursuant to the Second Note entered into on June 23, 2023, for general working capital purposes and to support ongoing business operations. We continue to maintain a cash management account and certain letters of credit with Citizens and, accordingly, have entered into a certain Cash Management Agreement with Citizens, as well as certain Cash Pledge Agreements in amounts corresponding to the current outstanding letters of credits with customers. As of December 31, 2023, we had four letters of credit totaling $1.1 million outstanding to certain of our customers which were secured with restricted cash.

Foreign Exchange

A portion of our 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, we periodically enter into forward foreign exchange contracts to manage the market risks associated with the fluctuations in foreign currency exchange rates. As of December 31, 2023, we did not hold a position in forward foreign exchange contracts.

Other Matters

Management believes inflation has had a negative impact on the business. Increased costs and high interest rates have impacted our customers, which have had downstream impacts of reduced O&M budgets, project scope decreases, delays and cancelations. Inflation has specifically impacted the Workforce Solutions segment, as it forces customers to approve higher pay rates, and also decreases the availability of workforce professionals in the market as labor mobility has decreased during uncertain economic times.

EBITDA and Adjusted EBITDA Reconciliation *(in thousands)*

References to "EBITDA" mean net (loss) income, before considering interest expense, provision for income taxes, depreciation and amortization. References to Adjusted EBITDA excludes irregular or non-recurring items and are not directly related to the Company's core operating performance. EBITDA and Adjusted EBITDA are not measures of financial performance under U.S. GAAP. Management believes EBITDA and Adjusted EBITDA, in addition to operating profit, net income and other U.S. GAAP measures, are useful to investors to evaluate the Company's results because it excludes certain items that may, or could, have a disproportionate positive or negative impact on our results for any particular period. Investors should recognize that EBITDA and Adjusted EBITDA might not be comparable to similarly-titled measures of other companies. This measure should be considered in addition to, and not as a substitute for or superior to, any measure of performance prepared in accordance with U.S. GAAP. A reconciliation of non-U.S. GAAP EBITDA and Adjusted EBITDA to the most directly comparable U.S. GAAP measure in accordance with SEC Regulation G follows:

	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2023	**2022**	**2023**	**2022**
	(unaudited)	*(unaudited)*	*audited*	*audited*
Net (loss) income	$ (2,253)	$ (1,516)	$ (8,724)	$ (15,343)
Interest expense, net	449	344	1,932	1,272
Provision for income taxes	103	159	22	51
Depreciation and amortization	223	344	1,015	1,511
EBITDA	(1,478)	(669)	(5,755)	(12,509)
Provision for legal settlement	260	-	1,010	-
Goodwill and intangible asset impairment charge	454	-	1,391	7,505
Advisory fees	28	-	288	-
Loss on debt conversion payments	763	-	763	-
Stock-based compensation expense	305	362	1,158	1,954
Change in fair value of derivative instruments, net	(430)	(100)	(850)	(477)
Adjusted EBITDA	$ (98)	$ (407)	$ (1,995)	$ (3,527)

Adjusted Net (Loss) Income and Adjusted EPS Reconciliation *(in thousands, except per share amounts)*

References to Adjusted net Loss excludes certain items that are not directly related to the Company's core operating performance and non-cash items that may, or could, have a disproportionate positive or negative impact on our results for any particular period. Adjusted Net Loss and Adjusted Loss per Share (adjusted EPS) are not measures of financial performance under U.S. GAAP. Management believes Adjusted Net Loss and Adjusted Loss per Share, in addition to other U.S. GAAP measures, are useful to investors to evaluate the Company's results because the excluded items may, or could, have a disproportionate positive or negative impact on our results for any particular period. These measures should be considered in addition to, and not as a substitute for or superior to, any measure of performance prepared in accordance with U.S. GAAP. A reconciliation of non-U.S. GAAP Adjusted Net Loss and Adjusted Loss per common Share to U.S. GAAP net loss, the most directly comparable U.S. GAAP financial measure, is as follows:

	Three Months ended December 31,		Twelve Months ended December 31,	
	2023	**2022**	**2023**	**2022**
	(unaudited)	*(unaudited)*	*audited*	*audited*
Net (loss) income	$ (2,253)	$ (1,516)	$ (8,724)	$ (15,343)
Provision for legal settlement	260	-	1,010	-
Goodwill and intangible asset impairment charge	454	-	1,391	7,505
Advisory fees	28	-	288	-
Loss on debt conversion payments	763	-	763	-
Stock-based compensation expense	305	362	1,158	1,954
Change in fair value of derivative instruments, net	(430)	(100)	(850)	(477)
Amortization of intangible assets related to acquisitions	108	168	508	868
Adjusted net loss	$ (765)	$ (1,086)	$ (4,456)	$ (5,493)
Diluted (loss) earnings per common share	$ (0.82)	$ (0.68)	$ (3.51)	$ (7.18)
Adjusted loss per common share – Diluted	$ (0.28)	$ (0.49)	$ (1.79)	$ (2.57)
Weighted average shares outstanding – Diluted	2,744,901	2,213,631	2,486,550	2,136,290

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

Not required of a smaller reporting company.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

GSE Systems, Inc. and Subsidiaries

Report of Independent Registered Public Accounting Firm

To the Shareholders, Board of Directors, and Audit Committee
GSE Systems, Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of GSE Systems, Inc. and Subsidiaries (the "Company") as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive loss, changes in shareholders' equity, and cash flows for each of the two years in the period ended December 31, 2023, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has incurred losses from operations for the year ended December 31, 2023. In addition, the continued decline in revenues has significantly impacted the Company's operating results and raises substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Adoption of ASC 326 Current Expected Credit Losses (CECL)

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for the recognition of credit losses for financial instruments in 2023 due to the adoption of ASC 326 Current Expected Credit Losses (CECL). The financial statements include an opening adjustment that results from the outcome of this adoption.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits.

We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Goodwill Impairment Assessment

During the year ended December 31, 2023, the Company recorded goodwill impairment of $1.4 million. At December 31, 2023, the Company carried a remaining goodwill balance of $4.9 million. As discussed in Notes 1 and 6 of the financial statements, the Company reviews goodwill for impairment at the reporting unit level annually as of December 31 and whenever events or changes in circumstances indicate the carrying value of goodwill may be greater than its fair value. The Company's goodwill impairment analysis includes the use of a discounted cash flow model that requires management to make assumptions regarding estimates of revenue growth rates and operating margins used to calculate projected future cash flows, and risk-adjusted discount rates. The Company also made certain judgments and assumptions in allocating shared assets and liabilities to determine the carrying values for each of its reporting units. The Company completed its annual quantitative analysis as of December 31, 2023, and concluded that the fair value of the Workforce Solutions business segment did not exceed its carrying value and the goodwill was fully impaired. No impairment was determined to exist for the Engineering segment as of December 31, 2023 as the fair value of the reporting unit exceeded its carrying value.

We identified the Company's goodwill impairment assessment as a critical audit matter. The principal consideration for our determination is the high degree of auditor judgment and subjectivity in evaluating management's significant assumptions used in the discounted cash flow model, particularly as it relates to evaluating revenue growth rates, operating margins and discount rates. Furthermore, auditing certain of these inputs and assumptions made by management requires the use of an auditor-employed valuation specialist.

The primary procedures we performed to address this critical audit matter included:

- Obtained an understanding of management's goodwill impairment assessment process, including management's assessment of the significant inputs and assumptions utilized in determining the reporting unit fair value.

- Evaluated management's forecasted revenue growth rates and operating margins by comparing actual results to management's historical forecasts.

- Assessed sensitivity analyses over management's significant assumptions including forecasted revenue growth rates and operating margins when assessing the overall impact on the estimate of fair value compared to the carrying value.

- Utilizing personnel with specialized knowledge and skills in valuation, we evaluated the significant assumptions in assessing the appropriateness of the fair value methodology utilized, including:

  - Evaluating the reasonableness of certain assumptions used in the discounted cash flow model including the discount rates used by management by comparing it to a range of discount rates developed using existing market information, and

  - Evaluating the mathematical accuracy of the calculations included in the fair value methodology.

Revenue Recognition – Estimated Costs to Complete

As described in Notes 1 and 5 to the financial statements, the Company derives its revenue through three broad revenue streams: 1) System Design and Build (SDB), 2) Software, and 3) Training and Consulting services. The transaction price under the SDB contracts is allocated to each performance obligation based on its standalone selling price and the Company recognizes revenue for certain performance obligations over time as control is transferred to a customer using the cost-to-cost input method based on actual costs incurred to date relative to the total estimated costs. Estimated contract costs are reviewed and revised periodically during the contract period, and the cumulative effect of any change in estimates is recognized in the period in which the change is identified. Management's judgments and estimates involved in the initial creation and subsequent updates to the Company's estimated costs to complete and related profit recognized are critical for revenue recognition associated with SDB contracts. Inputs and assumptions requiring significant management judgments included anticipated direct labor, subcontract labor, and other direct costs required to deliver on unfinished performance obligations. Significant changes to cost estimates can result in variances in revenue and related margins.

We identified revenue recognition associated with SDB contracts as a critical audit matter. The principal considerations for our determination are the high degree of auditor judgment and subjectivity in evaluating management's process, including the design of internal controls, in developing estimates and assumptions involved in the creation and subsequent updates to the Company's estimated costs to complete, particularly as it relates to evaluating anticipated direct labor, subcontract labor, and other direct costs.

The primary procedures we performed to address this critical audit matter included:

- Obtained an understanding of management's process for applying the cost-to-cost method to SDB contracts, including management's process for developing and revising accurate estimated costs to complete on contracts in process.

- For a sample of contracts, we evaluated inputs and assumptions requiring significant management judgments included within the Company's estimation of costs to complete and performed the following:

  - Inspected the underlying contract, related amendments, and change orders, if any, to test the existence of customer arrangements and obtain an understanding of the contractual requirements and related performance obligation(s).

  - Tested actual costs incurred to date and assessed the relative progress toward satisfying the performance obligation(s) of the contract.

  - Evaluated the estimation of costs to complete including anticipated direct labor, subcontract labor, and other direct cost by:

  - Inquiring of financial and operational personnel of the Company and evaluating factors within the cost to complete estimates that may demonstrate indication of potential management bias.

  - Inspecting correspondences, if any, between the Company and the customer regarding actual to-date and expected performance.

  - Evaluating the sufficiency of the Company's assessment of contract performance risks included within the estimated costs to complete.

  - Performing a "look back" analysis by comparing the Company's historical estimates of costs to complete to actual costs incurred in subsequent documentation to assess the Company's ability to develop reliable cost estimates.

  - Obtained account reconciliations of unbilled receivables and billings in excess of revenue earned as of December 31, 2023, evaluated the accuracy and completeness of the schedules, agreed such reconciliations to the trial balance to determine whether reconciling items were appropriate and isolated and investigated all unbilled receivables with no recent activity.

Going Concern

As described further in Note 1 to the financial statements, the Company has experienced continued declines in revenue that have impacted operations. Management has assessed the Company's current liquidity position and its projected cash flows from operations and determined they are not sufficient to meet the Company's obligations as they come due at least one year from the issuance date of these financial statements.

We identified the Company's going concern assessment as a critical audit matter. The principal considerations for our determination are the high degree of auditor judgment and subjectivity involved in evaluating the growth rate assumptions utilized in their cash flow forecast.

The primary procedures we performed to address this critical audit matter included:

- Obtained an understanding of management's process for developing its projections including testing the completeness and accuracy of the underlying data used in the cash flow forecast.

- Evaluated the probability of management's plans to alleviate the substantial doubt that has been raised.

- Evaluated management's growth rate assumptions used in the development of its forecast by assessing historical budget to actual comparisons.

- Assessed the sensitivity analysis over the projected growth rates and operating margins used in management's cash flow projections.

- Evaluated the adequacy of the financial statement disclosure regarding the Company's liquidity and compared the disclosure to other audit evidence obtained to determine consistency with or contradictory to the Company's liquidity disclosure.

/s/ FORVIS, LLP

We have served as the Company's auditor since 2020.

Tysons, VA
April 2, 2024

PART I - FINANCIAL INFORMATION
Item 1. Financial Statements

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

	December 31, 2023	December 31, 2022
ASSETS		
Current assets:		
Cash and cash equivalents	$ 2,250	$ 2,789
Restricted cash, current	378	1,052
Contract receivables, net	10,166	10,064
Prepaid expenses and other current assets	879	2,165
Total current assets	13,673	16,070
Equipment, software and leasehold improvements, net	754	772
Software development costs, net	750	574
Goodwill	4,908	6,299
Intangible assets, net	1,179	1,687
Restricted cash - long term	1,083	535
Operating lease right-of-use assets, net	413	506
Other assets	45	53
Total assets	$ 22,805	$ 26,496
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Line of credit	$ -	$ -
Current portion of long-term note	810	3,038
Accounts payable	3,300	1,262
Accrued expenses	1,053	2,084
Accrued legal settlements	1,010	-
Accrued compensation	1,086	1,071
Billings in excess of revenue earned	5,119	4,163
Accrued warranty	176	370
Income taxes payable	1,701	1,774
Derivative liabilities	1,132	603
Other current liabilities	956	1,286
Total current liabilities	16,343	15,651
Long-term note, less current portion	637	310
Operating lease liabilities noncurrent	357	160
Other noncurrent liabilities	126	144
Total liabilities	17,463	16,265
Commitments and contingencies (Note 21)		
Shareholders' equity:		
Preferred stock $0.01 par value; 2,000,000 shares authorized; no shares issued and outstanding	-	-
Common stock $0.01 par value; 60,000,000 shares authorized, 3,194,030 and 2,404,681 shares issued, 3,034,139 and 2,244,790 shares outstanding, respectively	32	24
Additional paid-in capital	86,983	83,127
Accumulated deficit	(78,708)	(69,927)
Accumulated other comprehensive income (loss)	34	6
Treasury stock at cost, 159,891 shares	(2,999)	(2,999)
Total shareholders' equity	5,342	10,231
Total liabilities and shareholders' equity	$ 22,805	$ 26,496

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, 2023	Years ended December 31, 2022
Revenue	$ 45,041	$ 47,734
Cost of revenue	33,111	35,824
Gross profit	11,930	11,910
Operating expenses		
Selling, general and administrative	16,092	17,028
Research and development	572	611
Goodwill and intangible asset impairment charge	1,391	7,505
Depreciation	185	304
Amortization of definite-lived intangible assets	508	868
Total operating expenses	18,748	26,316
Operating loss	(6,818)	(14,406)
Other income and expenses, net		
Interest expense	(1,932)	(1,272)
Change in fair value of derivative instruments, net	850	477
Other (loss) income, net	(802)	(91)
Loss before taxes	(8,702)	(15,292)
Provision for income taxes	22	51
Net loss	$ (8,724)	$ (15,343)
Net loss per common share - basic	$ (3.51)	$ (7.18)
Diluted loss per common share	$ (3.51)	$ (7.18)
Weighted average shares outstanding used to compute net loss per share - basic	2,486,550	2,136,290
Weighted average shares outstanding - Diluted	2,486,550	2,136,290

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,	
	2023	2022
Net loss	$ (8,724)	$ (15,343)
Cumulative translation adjustment	28	110
Comprehensive loss	$ (8,696)	$ (15,233)

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

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

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock		Total
	Shares	Amount				Shares	Amount	
Balance, January 1, 2022	2,253	$ 23	$ 80,708	$ (54,584)	$ (104)	(160)	$ (2,999)	$ 23,043
Stock-based compensation expense	-	-	1,859	-	-	-	-	1,859
Common stock issued for RSUs vested	53	1	(1)	-	-	-	-	-
Shares withheld to pay taxes	-	-	(263)	-	-	-	-	(263)
Foreign currency translation adjustment	-	-	-	-	110	-	-	110
Repayment of convertible note in shares	99	1	824	-	-	-	-	825
Net loss	-	-	-	(15,343)	-	-	-	(15,343)
Balance, December 31, 2022	2,405	$ 24	$ 83,127	$ (69,927)	$ 6	(160)	$ (2,999)	$ 10,231
Adoption of ASC 326 Current Expected Credit Losses (CECL)	-	-	-	(57)	-	-	-	(57)
Adjusted balance, January 1, 2023	2,405	24	83,127	(69,984)	6	(160)	(2,999)	10,174
Stock-based compensation expense	-	-	1,168	-	-	-	-	1,168
Common stock issued for RSUs vested	98	1	(1)	-	-	-	-	-
Shares withheld to pay taxes	-	-	(190)	-	-	-	-	(190)
Foreign currency translation adjustment	-	-	-	-	28	-	-	28
Repayment of convertible note in shares	691	7	2,879	-	-	-	-	2,886
Net loss	-	-	-	(8,724)	-	-	-	(8,724)
Balance, December 31, 2023	3,194	32	86,983	(78,708)	34	(160)	(2,999)	5,342

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, 2023	2022
Cash flows from operating activities:		
Net loss	$ (8,724)	$ (15,343)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Goodwill and intangible asset impairment charge	1,391	7,505
Loss on debt settled in shares	907	66
Depreciation	185	304
Amortization of intangible assets	508	868
Amortization of capitalized software development costs	322	339
Amortization of debt discount	1,940	1,289
Amortization of deferred financing costs	31	17
Stock-based compensation expense	1,158	1,954
Deferred income taxes	12	(86)
Credit loss expense	232	221
Gain on derivative instruments, net	(850)	(477)
Legal settlement	1,010	-
Changes in assets and liabilities:		
Contract receivables, net	(408)	908
Prepaid expenses and other assets	1,841	3,710
Accounts payable, accrued compensation and accrued expenses	1,018	472
Billings in excess of revenue earned	966	(829)
Accrued warranty	(217)	(239)
Other liabilities	237	59
Net cash provided by operating activities	1,559	738
Cash flows from investing activities:		
Capital expenditures	(168)	(238)
Capitalized software development costs	(498)	(380)
Net cash used in investing activities	(666)	(618)
Cash flows from financing activities:		
Repayment of line of credit	-	(1,817)
Repayment of insurance premium financing	(876)	(1,068)
Proceeds from issuance of long-term debt and warrants	1,800	5,750
Payments of debt issuance and original discount on issuance of long-term debt and warrants	(386)	(968)
Principal repayment of convertible note	(1,886)	(839)
Tax paid for shares withheld	(190)	(263)
Net cash (used in) provided by financing activities	(1,538)	795
Effect of exchange rate changes on cash	(20)	(89)
Net (decrease) increase in cash and cash equivalents	(665)	826
Cash, cash equivalents and restricted cash at beginning of year	4,376	3,550
Cash, cash equivalents and restricted cash at the end of year	$ 3,711	$ 4,376
Cash and cash equivalents	$ 2,250	$ 2,789
Restricted cash, current	378	1,052
Restricted cash included in other long-term assets	1,083	535
Total cash, cash equivalents and restricted cash	$ 3,711	$ 4,376

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

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2023 and 2022

1. Summary of Significant Accounting Policies

Principles of consolidation

GSE Systems, Inc. is a leading provider of professional and technical engineering, staffing services, and simulation software to clients in the power and process industries. References in this report to “GSE,” the “Company,” “we” and “our” are to GSE Systems, Inc. and its subsidiaries, collectively. All intercompany balances and transactions have been eliminated in consolidation.

Reverse Stock Split

On October 30, 2023, the Company effected a ten-for-one reverse stock split of the Company’s common stock whereby each ten shares of the Company’s authorized and outstanding common stock was replaced with one share of common stock. The par value of the common stock was not adjusted. All common share and per share amounts for all periods presented in the consolidated financial statements and the notes to the consolidated financial statements have been retrospectively adjusted to give effect to the reverse stock split.

Accounting estimates

The preparation of the consolidated financial statements in conformity with generally accepted accounting principles 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, we evaluate the estimates used, including, but not limited to those related to revenue recognition on long-term contracts, allowance for credit loss, product warranties, valuation of goodwill and intangible assets acquired, impairment of long-lived assets to be disposed of, valuation of stock-based compensation awards and the recoverability of deferred tax assets. Actual results could differ from these estimates.

Business combinations

Business combinations are accounted for in accordance with the Financial Accounting Standards Board (“FASB”) ASC 805, *Business Combinations,* using the acquisition method. Under the acquisition method, the identifiable assets acquired, liabilities assumed and any non-controlling interest in the acquiree are recognized at fair value on the acquisition date, which is the date on which control is transferred to us. Any excess purchase price is recorded as goodwill. Transaction costs associated with business combinations are expensed as incurred.

Revenues and the results of operations of the acquired business are included in the accompanying consolidated statements of operations commencing on the date of acquisition.

Acquisitions may include contingent consideration payments based on future financial measures of an acquired company. Under ASC 805, 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. 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.

Revenue recognition

We derive our revenue through three broad revenue streams: 1) System Design and Build (“SDB”), 2) software, and 3) training and consulting services. We recognize revenue from SDB and software contracts mainly through the Engineering segment and the training and consulting service contracts through both the Engineering segment and Workforce Solutions segment.

The SDB contracts are typically fixed-price and consist of initial design, engineering, assembly and installation of training simulators which include hardware, software, labor, and PCS on the software. We generally have two main performance obligations for an SDB contract: (1) the training simulator build and (2) the PCS period. The training simulator build performance obligation generally includes hardware, software, and labor. The transaction price under the SDB contracts is allocated to each performance obligation based on its standalone selling price. We recognize the training simulator build revenue over the construction and installation period using the cost-to-cost input method. In applying the cost-to-cost input method, we use the actual costs incurred to date relative to the total estimated costs to measure the work progress toward the completion of the performance obligation and recognize revenue over time as control transfers to a customer. Estimated contract costs are reviewed and revised periodically during the contract period, and the cumulative effect of any change in estimates is recognized in the period in which the change is identified. Estimated losses are recognized in the period such losses become known.

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 our revenue recognition as a significant change in the estimates can cause our revenue and related margins to change significantly from previous estimates.

Management judgments and estimates involved in the initial creation and subsequent updates to our estimates-at-completion and related profit recognized are critical for our revenue recognition associated with SDB contracts. Inputs and assumptions requiring significant management judgment included anticipated direct labor, subcontract labor, and other direct costs required to deliver on unfinished performance obligations.

The SDB contracts generally provide a one-year base warranty on the systems. The base warranty will not be accounted for as a separate performance obligation under the contract because it does not provide the customer with a service in addition to the assurance that the completed project complies with agreed-upon specifications. Warranties extended beyond our typical one-year period will be evaluated on a case-by-case basis to determine if it provides more than just assurance that the product operates as intended, which requires carve-out as a separate performance obligation.

Revenue from the sale of perpetual standalone and term software licenses, which do not require significant modification or customization, is recognized upon its delivery to the customer. Revenue from the sale of cloud-based, subscription-based software licenses is recognized ratably over the term of such licenses following delivery to the customer. Delivery is considered to have occurred when the customer receives a copy of the software and is able to use and benefit from the software.

A software license sale contract with multiple deliverables typically includes the following elements: license, installation and training services, and PCS. The total transaction price of a software license sale contract is typically fixed and is allocated to the identified performance obligations based on their relative standalone selling prices. Revenue is recognized as the performance obligations are satisfied. Specifically, license revenue is recognized when the software license is delivered to the customer; installation and training revenue are recognized when the installation and training are completed without regard to a detailed evaluation of the point in time criteria due to the short-term nature of the installation and training services (one to two days on average); and PCS revenue is recognized ratably over the service period, as PCS is deemed as a stand-ready obligation.

The contracts within the training and consulting services revenue stream are either T&M based or fixed-price based. Under a typical T&M contract, we are compensated based on the number of hours of approved time provided by temporary workers and the bill rates which are fixed by type of work, as well as approved expenses incurred. The customers are billed on a regular basis, such as weekly, biweekly or monthly. In accordance with ASC 606-10-55-18, *Revenue from contracts with customers*, we elected to apply the “right to invoice” practical expedient, under which we recognize revenue in the amount to which we have the right to invoice. The invoice amount represents the number of hours of approved time worked by each temporary worker multiplied by the bill rate for the type of work, as well as approved expenses incurred. Under a typical fixed-price contract, we recognize the revenue on a Percentage of Completion basis as it relates to construction contracts with revenue recognized based on project delivery over time.

For contracts with multiple performance obligations, we allocate the contract price to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers.

We recognize training and consulting services revenue as services are performed and bill our customers for services that we have provided on a regular basis (i.e. weekly, biweekly or monthly).

Contract asset relates to performance under the contract for obligations that are satisfied but not yet billed, which we classify as contract receivables, net.

Contract liability, which we classify as billing-in-excess of revenue earned, relates to payments received in advance of performance under the contract. Contract liabilities are recognized as revenue as performance obligations are satisfied.

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. Cash and cash equivalents may at times exceed the FDIC insured limits.

Restricted cash

Restricted cash represents cash that is legally or contractually restricted as to its withdrawal or usage. The Company is required to pledge or otherwise restrict a portion of our cash related to letters of credit and other vendor agreements. Restricted cash is presented as a current or long term asset in our consolidated balance sheets based on the amounts becoming unrestricted in the twelve month period following the reporting date.

Contract receivables, net and contract liabilities

Contract receivables, net include recoverable costs for both billed and unbilled receivables. Unbilled receivables include amounts earned in performance of services that have not been invoiced. Contract liabilities include billings in excess of revenue earned 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 credit loss are recorded in accordance with ASU 2016-13, "Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments." This requires an entity identify and record the contract receivable's lifetime expected credit loss as an allowance, which the FASB believes will result in more timely recognition of such losses. Under the CECL impairment model, the Company developed and documented its allowance for credit losses on its contract receivables based on three portfolio segments by customer geographic location: North America, China, Rest of World (ROW). The determination of portfolio segments is based primarily on the qualitative consideration of the nature of the Company's business operations and the characteristics of the underlying trade receivables.

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 undiscounted 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.

Development expenditures

Development expenditures incurred to meet customer specifications under contracts are charged to cost of revenue. Company sponsored development expenditures are either charged to operations as incurred and are included in research and development expenses or are capitalized as software development costs. 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 $1.1 million and $1.0 million for the year ended December 31, 2023 and 2022, respectively. Of these amounts, the Company capitalized approximately $0.5 million and $0.4 million for the year ended December 31, 2023 and 2022, respectively.

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 years to ten years. Leasehold improvements are amortized over the term 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, including direct labor 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, or more frequently as conditions indicate, we assess 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 cost we 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. Included in capitalized software development costs are certain expenses associated with the development software as a service. Significant changes in the sales projections could result in an impairment with respect to the capitalized software that is reported on our consolidated balance sheets.

Goodwill and intangible assets

Our intangible assets include amounts recognized in connection with business acquisitions, including customer relationships, trade names, non-compete agreements and alliance agreements.

Our intangible assets impairment analysis includes the use of undiscounted and discounted cash flow models that requires management to make assumptions regarding estimates of revenue growth rates and operating margins used to calculate projected future cash flows.

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 asset, except for contract backlog and contractual customer relations, which are recognized in proportion to the related project revenue streams. Intangible assets with definite lives are reviewed for impairment if indicators of impairment arise. We do not have any intangible assets with indefinite useful lives.

Goodwill represents the excess of costs over the fair value of assets of an acquired business. We review 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. 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. We have determined that we have two reporting units, which are the same as our two operating segments: (i) Engineering and (ii) Workforce Solutions.

We completed our annual quantitative step 1 analysis as of December 31, 2023 and 2022 and concluded that the fair value of the Workforce Solutions business segment did not exceed it's carrying value. A discounted cashflow analysis was performed and we concluded the Goodwill on Workforce Solutions segment of $0.5 million was fully impaired at December 31, 2023. Per the annual valuation performed, no impairment was determined to exist for the Engineering segment as of December 31, 2023.

Our goodwill impairment analysis includes the use of a discounted cash flow model that requires management to make assumptions regarding estimates of revenue growth rates and operating margins used to calculate projected future cash flows, and risk-adjusted discount rates. We make certain judgments and assumptions in allocating shared assets and liabilities to determine the carrying values for each of our reporting units.

Foreign currency translation

The United States Dollar (USD) is our functional currency and that of our subsidiaries operating in the United States. The functional currency of each of our foreign subsidiaries is the currency of the economic environment in which the subsidiary primarily does business. Our foreign subsidiaries' financial statements are translated into USD using the exchange rates applicable to the dates of the financial statements. Assets and liabilities are translated into USD using the period-end spot foreign exchange rates. Income and expenses are translated at the average exchange rate for the year. Equity accounts are translated at historical exchange rates. The effects of these translation adjustments are cumulative translation adjustments, which are reported as a component of accumulated other comprehensive loss included in the consolidated statements of changes in shareholders' equity.

For any business transaction that is in a currency different from the entity's functional currency, we record a gain or loss based on the difference between the exchange rate at the transaction date and the exchange rate at the transaction settlement date (or rate at period end, if unsettled) to the foreign currency realized gain (loss) account in the consolidated statements of operations.

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 our current liability for federal, state and foreign income taxes and the change in our 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 not 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 50% 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

Stock-based compensation expense is based on the grant-date fair value estimated in accordance with the provisions of ASC 718, *Compensation-Stock Compensation*. Compensation expense related to restricted stock unit (RSU) awards is recognized on a pro rata straight-line basis based of the fair value of share awards that are scheduled to vest during the requisite service period. Compensation expense related to performance-vesting restricted stock unit (PRSU) awards is recognized on a straight-line basis over the performance period based on the probable outcome of achievement of the financial targets. The Company can also elect to issue cash-settled RSUs or PRSUs which are subject to fair value remeasurement at each reporting date.

Significant customers and concentration of credit risk

We have a concentration of revenue from one individual customer, which accounted for 22.7% and 13.6% of our consolidated revenue for the years ended December 31, 2023 and December 31, 2022, respectively. No other individual customer accounted for more than 10% of our consolidated revenue in 2023 or 2022.

As of December 31, 2023, we had one customer who accounted for 12.1% of the Company's consolidated contract receivables. No customer accounted for over 10% of the Company's consolidated contract receivables as of December 31, 2022.

Fair values of financial instruments

We established mark-to-market liabilities related to certain common stock purchase warrants and certain embedded features included in our convertible debt. The fair values of these are estimated upon issuance and at each reporting period thereafter. For all accounting policies described in this document, management cautions that future events rarely develop exactly as forecasted and even our best estimates may require adjustment as facts and circumstances change.

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

Reclassifications and immaterial corrections of previously issued Financial Statements

Certain prior year amounts have been reclassified to conform with the current year presentation. “Loss on debt settled in shares” and was reclassed out of “Other liabilities” and presented in its own line item within operating cash flows section on our consolidated statement of cash flows.

Liquidity and Going Concern

The accompanying consolidated financial statements of the Company have been prepared assuming the Company will continue as a going concern and in accordance with generally accepted accounting principles in the United States of America. The going concern basis of presentation assumes that the Company will continue in operation one year after the date these financial statements are issued and will be able to realize its assets and satisfy its liabilities and commitments in the normal course of business. Pursuant to the requirements of the Financial Accounting Standards Board’s Accounting Standards Codification (“ASC”) Topic 205-40, Disclosure of Uncertainties about an Entity’s Ability to Continue as a Going Concern, management must evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company’s ability to continue as a going concern for one year from the date these financial statements are issued. This evaluation does not take into consideration the potential mitigating effect of management’s plans that have not been fully implemented or are not within control of the Company as of the date the financial statements are issued. When substantial doubt exists under this methodology, management evaluates whether the mitigating effect of its plans sufficiently alleviates substantial doubt about the Company’s ability to continue as a going concern. The mitigating effect of management’s plans, however, are only considered if both (1) it is probable that the plans will be effectively implemented within one year after the date that the financial statements are issued, and (2) it is probable that the plans, when implemented, will mitigate the relevant conditions or events that raise substantial doubt about the entity’s ability to continue as a going concern within one year after the date that the financial statements are issued. Management determined that the implemented plans to mitigate relevant conditions may not alleviate management’s concerns that raise substantial doubt about the Company’s ability to continue as a going concern within the twelve months ended March 31, 2025.

The Company has incurred operating losses and has not demonstrated an ability to generate cash in excess of its operating expenses for a sustained period of time. During the year ended December 31, 2023, the Company generated a loss from operations of $6.8 million, which includes non-cash impairment charges of long-lived assets and goodwill from our Workforce Solutions segment totaling $1.4 million. As of December 31, 2023, the Company had domestic unrestricted cash and cash equivalents of $1.0 million which is not sufficient to fund the Company’s planned operations through one year after the date the consolidated financial statements are issued. Although the Company has shown significant improvement in the second half of the year, it has not achieved its forecast for several periods and there is no assurance that it will achieve its forecast over the twelve months ending March 31, 2025. These factors create substantial doubt about the Company’s ability to continue as a going concern for at least one year after the date that our audited consolidated financial statements are issued.

In making this assessment we performed a comprehensive analysis of our current circumstances and to alleviate these conditions, management is monitoring the Company’s performance and evaluating strategies to obtain the required additional funding for future operations. These strategies may include, but are not limited to, restructuring of operations to grow revenues and decrease expenses, obtaining equity financing, issuing debt, or entering into other financing arrangements. The analysis used to determine the Company’s ability to continue as a going concern does not include cash sources outside the Company’s direct control that management expects to be available within the next twelve months ending March 31, 2025.

2. Recent Accounting Pronouncements

Accounting pronouncements recently adopted

In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Credit Losses (Topic 326) to replace the incurred loss impairment methodology under U.S. GAAP. This ASU introduces a new accounting model, the Current Expected Credit Losses model (CECL), which could result in earlier recognition of credit losses and additional disclosures related to credit risk. The CECL model will require the Company to use a forward-looking expected credit loss impairment methodology for the recognition of credit losses for financial instruments at the time the financial asset is originated or acquired, and require a loss be recognized before it is realized. The expected credit losses are adjusted each period for changes in expected lifetime credit losses. The new standard will apply to accounts receivable, loans, and other financial instruments with credit risk. This standard was effective for the Company beginning January 1, 2023. The Company adopted the new guidance starting January 1, 2023 on a modified retrospective basis. The impact of this ASU is reflected in the consolidated financial statements and was not material.

Management has evaluated other recently issued accounting pronouncements and does not believe that any of these pronouncements will have a significant impact on our consolidated financial statements and related disclosures.

Accounting pronouncements not yet adopted

In November 2023, the FASB issued ASU 2023-07, “Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures,” which requires a public entity to disclose significant segment expenses and other segment items on an annual and interim basis and provide in interim periods all disclosures about a reportable segment’s profit or loss and assets that are currently required annually. Additionally, it requires a public entity to disclose the title and position of the Chief Operating Decision Maker (“CODM”). The ASU does not change how a public entity identifies its operating segments, aggregates them, or applies the quantitative thresholds to determine its reportable segments. The new standard is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024, with early adoption permitted. A public entity should apply the amendments in this ASU retrospectively to all prior periods presented in the financial statements. The Company is currently evaluating the impact that adoption of this accounting standard will have on its financial disclosures.

3. Earnings per share

Basic earnings per share is based on the weighted average number of outstanding common shares for the period. Diluted earnings per share adjusts the weighted average shares outstanding for the potential dilution that could occur if outstanding vested stock options or other share equivalents were exercised. Basic and diluted earnings per share are 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) earnings per share were as follows:

(in thousands, except for per share data)	**Years ended December 31,**	
	2023	**2022**
Numerator:		
Net income (loss) attributed to common shareholders	$ (8,724)	$ (15,343)
Denominator:		
Weighted-average shares outstanding for basic earnings per share	2,486,550	2,136,290
Adjusted weighted-average shares outstanding and assumed conversions for diluted earnings per share	2,486,550	2,136,290
Total shares considered for dilution	1,068,722	460,113

4. Coronavirus Aid, Relief and Economic Security Act

Employee Retention Credits (ERC)

Employee retention tax credits, made available under the CARES Act, allow eligible employers to claim a refundable tax credit against the employer share of Social Security tax equal to 70% of the qualified wages they pay to employees, initially from March 27, 2020 until June 30, 2021, and extended through September 30, 2021. In 2021, we applied for $5.0 million in refunds from the Internal Revenue Service with filing of our 941s and achieved $2.2 million in credits from unremitted payroll taxes as allowed. We recorded other income of $7.2 million related to the employee retention tax credits earned for the year ended December 31, 2021. During the years ended December 31, 2023 and 2022, the Company received cash refunds related to the employee retention credits in the amounts of $1.0 million and $3.0 million, respectively. As of December 31, 2023, there is no remaining refunds owed.

5. Revenue

We account for revenue in accordance with ASC 606, *Revenue from Contracts with Customers*. We primarily generate revenue through three distinct revenue streams: (1) System Design and Build ("SDB"), (2) Software and (3) Training and Consulting Services across our Engineering and Workforce Solutions segments. We recognize revenue from SDB and software contracts mainly through our Engineering segment. We recognize training and consulting service contracts through both segments.

The following table represents a disaggregation of revenue by type of goods or services for the years ended December 31, 2023 and 2022, along with the reportable segment for each category:

(*in thousands*)

	Twelve Months Ended December 31, 2023	Twelve Months Ended December 31, 2022
Engineering segment		
System Design and Build - Over time	$ 6,307	$ 6,595
Software	4,652	4,684
Point in time	568	921
Over time	4,084	3,763
Training and Consulting Services	20,831	18,640
Point in time	448	245
Over time	20,383	18,395
Workforce Solutions segment		
Training and Consulting Services	13,251	17,815
Point in time	343	62
Over time	12,908	17,753
Total revenue	$ 45,041	$ 47,734

The following table reflects the balance of contract liabilities and the revenue recognized in the reporting period that was included in the contract liabilities from contracts with customers:

(*in thousands*)

	December 31, 2023	December 31, 2022
Billings in excess of revenue earned (BIE)	$ 5,119	$ 4,163
Revenue recognized in the period from amounts included in BIE at the beginning of the period	$ 3,751	$ 3,785

As of December 31, 2023, the aggregate amount of transaction price allocated to the remaining performance obligations of SDB, software and fixed-price training and consulting services contracts is $19.1 million. We will recognize the revenue as the performance obligations are satisfied, which is expected to occur over the next twelve months.

Part of the training and consulting services contracts are T&M based. Under a typical T&M contract, we are compensated based on the number of hours of approved time provided by temporary workers and the bill rates, which are fixed by type of work, as well as approved expenses incurred. We have elected to use the optional exemption under ASC 606-10-50-14(b) *Revenue from Contracts with Customers*, pursuant to which we have excluded disclosures of transaction prices allocated to remaining performance obligations under such contracts and when we expect to recognize the revenue.

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6. Goodwill and Intangible Assets

The Company monitors operating results and events and circumstances that may indicate potential impairment of intangible assets.

ASC 350 Indefinite-Lived Asset Testing – Pursuant to Accounting Standards Codification (ASC) 350, "Intangibles - Goodwill and Other," the Company evaluates goodwill for impairment at least annually or more frequently if events or changes in circumstances indicate that the carrying amount of goodwill may not be recoverable.

During the three months ended September 30, 2022, we experienced a deterioration in sales, decline in revenues, delayed pipeline opportunities, and overall downward performance results and forecast results related to the Workforce Solutions business segment, which was determined to be a triggering event that may result in impairment of our long-lived assets. We performed an interim analysis and determined an impairment existed at September 30, 2022 in accordance with ASC 350. As such, we recorded an impairment of the related goodwill assets of $7.0 million. Goodwill impairment was allocated to the Training Services and Technical Staffing business units based on their pro rata share of Workforce Solution's book value of Goodwill. The annual evaluation of the Company's Goodwill assets at December 31, 2022, determined no additional impairment existed at that time.

During the three months ended September 30, 2023, we determined that the overall market capitalization deterioration due to the falling share price, decline in revenues, and delayed pipeline opportunities was material enough to be considered a triggering event that could result in impairment of our long-lived assets. We performed an interim analysis and determined an impairment existed for the Workforce Solutions business segment at September 30, 2023 in accordance with ASC 350. As such, we recorded an impairment of the related goodwill of $0.9 million for the three and nine months ended September 30, 2023 to the Training Services and Technical Staffing business units based on their pro rata share of Workforce Solution's book value of Goodwill. No impairment was identified related to any other asset grouping.

The annual evaluation of the Company's Goodwill assets at December 31, 2023, determined that the remaining $0.5 million Goodwill balance on Workforce Solutions segment was fully impaired. The $0.5 million charge was recorded as a component of operating expenses during the period.

ASC 360 Long-Lived Asset Testing – ASC 360 requires the Company to review long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Such events may include, but are not limited to, changes in market conditions, technological obsolescence, adverse changes in customer demand, and significant decreases in revenue or earnings.

Based on the triggering events noted above during the three months ended September 30, 2022 we performed an interim analysis to determine if an impairment existed at September 30, 2022 by its individual asset groupings, which we determined to be at the subsidiary level. We used a discounted cash flow analysis to determine the fair value of our asset group, and we concluded that the carrying value of the definite-lived intangible assets of Technical Staffing, a business unit of the Workforce Solutions segment, exceeded its fair value by $0.5 million, and we recorded a loss on impairment for this amount as of September 30, 2022. No Intangible assets were determined to be impaired as of December 31, 2022.

We performed additional discounted cash flow analysis for the three months ended September 30, 2023 and December 31, 2023 in conjunction with triggering events noted above for those periods. We concluded no impairment was identified related to any other asset groupings. No Intangible assets were determined to be impaired as of December 31, 2023.

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

(in thousands)	As of December 31, 2023			
	Gross Carrying Amount	Accumulated Amortization	Impact of Impairment	Net
Amortized intangible assets:				
Customer relationships	$ 8,164	$ (7,395)	$ -	$ 769
Trade names	1,689	(1,283)	-	406
Developed technology	471	(471)	-	-
Non-contractual customer relationships	433	(433)	-	-
Noncompete agreement	527	(523)	-	4
Alliance agreement	527	(527)	-	-
Others	167	(167)	-	-
Total	$ 11,978	$ (10,799)	$ -	$ 1,179

(in thousands)	As of December 31, 2022			
	Gross Carrying Amount	Accumulated Amortization	Impact of Impairment	Net
Amortized intangible assets:				
Customer relationships	$ 8,628	$ (7,050)	$ (464)	$ 1,114
Trade names	1,689	(1,196)	-	493
Developed technology	471	(471)	-	-
Non-contractual customer relationships	433	(433)	-	-
Noncompete agreement	527	(486)	-	41
Alliance agreement	527	(488)	-	39
Others	167	(167)	-	-

Total	$ 12,442	$ (10,291)	$ (464)	$ 1,687

Amortization expense related to definite-lived intangible assets totaled $0.5 million and $0.9 million for the years ended December 31, 2023 and 2022, respectively. The $1.2 million of intangible assets at December 31, 2023, have a weighted average remaining life of 9.5 years.

The following table details the estimated amortization expense of the definite-lived intangible assets for the next five years:

(in thousands)

Years ended December 31:	
2024	$ 332
2025	255
2026	204
2027	169
2028	108
Thereafter	111
	$ 1,179

Goodwill

(in thousands)

	Goodwill	**Impairment**	**Net**
Engineering	$ 8,278	$ (3,370)	$ 4,908
Workforce Solutions	8,431	(8,431)	-
Net book value at December 31, 2023	$ 16,709	$ (11,801)	$ 4,908

	Goodwill	**Impairment**	**Net**
Engineering	$ 8,278	$ (3,370)	$ 4,908
Workforce Solutions	8,431	(7,040)	1,391
Net book value at December 31, 2022	$ 16,709	$ (10,410)	$ 6,299

7. Contract Receivables

Contract receivables represent our unconditional rights to consideration due from a broad base of both domestic and international customers. Net 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,	
	2023	**2022**
Billed receivables	$ 5,720	$ 6,074
Unbilled receivables	4,729	5,146
Allowance for credit loss	(283)	(1,156)
Total contract receivables, net	$ 10,166	$ 10,064

During the first quarter of 2023, the Company adopted ASU 2016-13, "Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments." This ASU replaces the incurred loss impairment model with an expected credit loss impairment model for financial instruments, including accounts receivable. Under the new guidance, an entity recognizes its estimate of lifetime expected credit losses as an allowance, which the FASB believes will result in more timely recognition of such losses. Under the CECL impairment model, the Company develops and documents its allowance for credit losses on its contract receivables based on three portfolio segments by customer geographic location: North America, China, Rest of World (ROW). The determination of portfolio segments is based primarily on the qualitative consideration of the nature of the Company's business operations and the characteristics of the underlying trade receivables. During the years ended December 31, 2023 and 2022, we recorded credit loss expense of $232 thousand and $221 thousand, respectively.

During January 2024, we invoiced $4.5 million of the unbilled amounts related to the balance at December 31, 2023.

The following table sets forth the activity in allowance for credit losses:

(in thousands)	As of and for the Years ended December 31,	
	2023	**2022**
Beginning balance	$ 1,156	$ 1,010
Adoption of ASC326 Current Expected Credit Losses (CECL)	57	-
Adjusted beginning balance	1,213	1,010
Current period provision for expected credit loss	178	221
Write-offs charged against the allowance, net of recoveries	(1,070)	(7)
Currency adjustment	(38)	(68)
Ending balance	$ 283	$ 1,156

8. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following:

(in thousands)	December 31, 2023	December 31, 2022
Income tax receivable	$ 38	$ 78
Prepaid expenses	796	947
ERC receivable	-	1,028
Other current assets	45	112
Total	$ 879	$ 2,165

Prepaid expenses primarily include prepayment for insurance and other subscription-based services. The Employee Retention Credits not yet received as of December 31, 2022, was fully collected as of December 31, 2023.

9. Equipment, Software and Leasehold Improvements

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

(in thousands)	December 31, 2023	December 31, 2022
Computer and equipment	$ 2,381	$ 2,363
Software	2,292	2,291
Leasehold improvements	805	659
Furniture and fixtures	840	838
	6,318	6,151
Accumulated depreciation	(5,564)	(5,379)
Equipment, software and leasehold improvements, net	$ 754	$ 772

Depreciation expense was approximately $0.2 and $0.3 million for the years ended December 31, 2023 and 2022, respectively.

Capitalization of internal-use software costs of $0.1 million related to the ongoing systems upgrade and implementation effort were recorded in software for the year ended December 31, 2022. There were no capitalized internal-use software costs during the year ended December 31, 2023.

10. Product Warranty

Accrued warranty

For contracts that contain a warranty provision, we provide an accrual for estimated future warranty costs based on historical experience and projected claims. Our contracts may contain warranty provisions ranging from one year 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, 2023	As of and for the years ended December 31, 2022
Beginning balance	$ 502	$ 748
Current year provision	(133)	(44)
Current year claims	(83)	(195)
Currency adjustment	(2)	(7)
Ending balance	$ 284	$ 502

The current and non-current warranty balance is as follows:

	December 31, 2023	December 31, 2022
Current	$ 176	$ 370
Non-current	108	132
Total Warranty	$ 284	$ 502

11. 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 principal 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.

As of December 31, 2023 and 2022, we considered the recorded value of certain of our financial assets and liabilities, which consist primarily of cash and cash equivalents, contract receivable and accounts payable, to approximate fair value based upon their short-term nature.

Our convertible debt issued in February 2022, amended in June 2023 and February 2024, and our new convertible debt issued in June 2023 (see Note 12) includes certain embedded redemption features that are required to be bifurcated as embedded derivatives and measured at fair value on a recurring basis. We estimate the fair value using a Monte Carlo simulation based on estimates of our future stock price and assumptions about the possible redemption scenarios.

The Company used the Monte Carlo simulation model to determine the fair value of the Warrants and Cash-Settled PRSUs, which required the input of subjective assumptions. The fair value of the Warrants and Convertible Note redemption features as of December 31, 2023 was estimated with the following assumptions.

	Amended 2022 Convertible Note	The "2022 Warrants"	2023 Convertible Note	The "2023 Warrants"
Exercise Price	$ 19.40	$ 19.40	$ 5.00	$ 5.00
Common Stock Price	$ 2.01	$ 2.01	$ 2.01	$ 2.01
Risk Free Rate	5.13%	3.93%	4.41%	3.81%
Volatility	90.0%	90.0%	90.0%	90%
Term (in years)	0.4 yrs.	3.2 yrs.	1.5 yrs.	4.5 yrs.

The following table presents assets measured at fair value at December 31, 2023:

(in thousands)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Derivative liability	$ -	$ -	$ 588	$ 588
Warrant liability	-	-	520	520
Cash settled performance-vesting restricted stock units	-	-	24	24
Balance at December 31, 2023	$ -	$ -	$ 1,132	$ 1,132

The following table presents assets measured at fair value at December 31, 2022:

(in thousands)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Level 3 Total
Derivative liability	$ -	$ -	$ 285	$ 285
Warrant liability	-	-	267	267
Cash settled performance-vesting restricted stock units	-	-	51	51
Balance at December 31, 2022	$ -	$ -	$ 603	$ 603

The following table summarizes changes in the fair value of our Level 3 liabilities during the twelve months ended December 31, 2023.

(in thousands)	Embedded Redemption Features	Warrant	Cash Settled PRSUs	Level 3 Total
Balance at December 31, 2022	$ 285	$ 267	$ 51	$ 603
FV of derivatives with new convertible note issuance	286	1,120	-	1,406
Change in FV included in gain on derivative instruments, net	17	(867)	-	(850)
Stock compensation less payments made	-	-	(27)	(27)
Balance at December 31, 2023	$ 588	$ 520	$ 24	$ 1,132

12. Debt

Convertible Notes

On February 23, 2022, we entered into a Securities Purchase Agreement, as amended, with Lind Global Fund II LP ("Lind Global") pursuant to which we issued to Lind Global a two-year, secured, interest-free convertible promissory note in the amount of $5.75 million (the "2022 Convertible Note") and a common stock purchase warrant to acquire 128,373 shares of our Common Stock (the "2022 Warrant"). We entered into an amendment and restatement of the 2022 Convertible Note on June 23, 2023. The 2022 Convertible Note does not bear interest but was issued at a $0.75 million discount ("OID"). We received proceeds of approximately $4.8 million net of the OID and expenses.

On June 23, 2023, the Company entered into a second Securities Purchase Agreement (the "2023 Purchase Agreement") with Lind Global, pursuant to which we issued to Lind Global that certain Senior Convertible Promissory Note, dated February 23, 2022 (the "2023 Convertible Note" and, together with the 2022 Convertible Note, the "Convertible Notes")(see Note 1) and a common stock purchase warrant to acquire 426,427 shares of our Common Stock (the "2023 Warrant"). The 2023 Convertible Note does not bear interest but was issued at a $0.3 million discount ("OID"). We received proceeds of approximately $1.4 million net of the OID and expenses.

(in thousands)	2022 Convertible Note Amount	2023 Convertible Note Amount	Total Convertible Notes Amount
2022 Convertible Note issued	$ 5,750	$ 1,800	$ 7,550
Debt discount	(750)	(300)	(1,050)
Issuance cost:			
Commitment fee	(175)	(52)	(227)
Balance of investor's counsel fees	(43)	(34)	(77)
Net proceeds of Convertible Note	$ 4,782	$ 1,414	$ 6,196
Additional OID costs not in original funds flow	(121)	(15)	(136)
Fair value of Warrant Liabilities on issuance	(724)	(1,119)	(1,843)
Fair value of Conversion Features on issuance	(306)	(286)	(592)
Allocated OID costs to Convertible Note	25	30	55
Allocation of Discounts on Troubled Debt Restructuring	(660)	660	-
Interest expense accrued on Convertible Note as of December 31, 2023	2,946	283	3,229
Principal and interest payments as of December 31, 2023	(5,462)	-	(5,462)
Balance of 2022 Convertible Note as of December 31, 2023	$ 480	$ 967	$ 1,447

The Convertible Notes provide for variable monthly principal repayments beginning 180 days from issuance (with respect to the 2022 Convertible Note) and 12 months from issuance (with respect to the 2023 Convertible Note). Remaining monthly principle payments range from $0.1 to $0.2 million and can be made in the form of cash, shares, or a combination of both at the discretion of GSE.

The following table details the future principal payments of the Convertible Note, gross of debt discounts:

(in thousands)

Years ended December 31:	
2024	$ 1,849
2025	750
Thereafter	-
	$ 2,599

Prior to the June 2023 amendments, described below, the 2022 Convertible Note was convertible into our Common Stock at any time after the earlier of six months from issuance of the Convertible Note or the date of an effective registration statement filed with the SEC covering the underlying shares. The conversion price of the 2022 Convertible Note was equal to $19.40 per share, subject to customary adjustments. The 2022 Convertible Note matured in February 2024, although we were permitted to prepay the 2022 Convertible Note, provided that Lind Global had the option to convert up to one third of the outstanding principal of the 2022 Convertible Note at a price per share equal to the lesser of the Repayment Share price or the conversion price (as described below).

The 2022 Convertible Note is guaranteed by each of our subsidiaries and is secured by a first priority lien on all of our assets. The 2022 Convertible Note is not subject to any financial covenants and events of default under the 2022 Convertible Note are limited to events related to payment, market capitalization, certain events pertaining to conversion and the underlying shares of Common Stock and other customary events including, but not limited to, bankruptcy or insolvency. Upon the occurrence of an event of default, the 2022 Convertible Note will become immediately due and payable at an amount equal to 120% of the outstanding principal, subject to any cure periods described in the 2022 Convertible Note, and the customer may demand that all or a portion of the outstanding principal amount be converted into shares of common stock at the lower of the then current conversion price and 80% of the average of the three lowest daily volume-weighted average price ("VWAPs") during the twenty days prior to delivery of the conversion notice. If there is a change of control of the Company, Lind Global has the right to require us to prepay the outstanding principal amount of the 2022 Convertible Note.

On June 23, 2023, the Company and Lind Global agreed to amend and restate the 2022 Convertible Note. The 2022 Convertible Note, as now amended, is now secured, interest free convertible promissory note in the principal amount of $2,747,228, such amount being the outstanding balance of the 2022 Convertible Note as of June 23, 2023. Just prior to the amendment, there was an event of default (EOD) related to the total market capitalization provision in the original 2022 Convertible Note. The EOD that occurred was waived, and we incurred a 20% charge included in the amended and restated 2022 Convertible Note, which the Company has treated as additional interest. The 2022 Convertible Note now has a maturity date of August 23, 2024 was payable, commencing on July 23, 2023, in twelve (12) consecutive monthly payments of $186,343 each and two (2) final payments of $255,556 each. The remainder of the terms of the 2022 Convertible Note, including terms around payment, prepayment, default and conversion, are unchanged.

On October 6, 2023, the Company and Lind Global entered into that certain First Amendment to the 2022 Convertible Note ("A&R Note Amendment"), amending the 2022 Convertible Note to extend the beginning period of required compliance with certain default provisions until January 31, 2024. The A&R Note Amendment amended Section 2.1 pertaining to events of default by deleting and replacing Section 2.1(r), which previously provided for an event of default under the Note in the event that the Company's Market Capitalization was below $7 million for ten (10) consecutive days. As amended, the A&R Note provided that, at any time after January 31, 2024, an event of default will occur in the event that the Company's Market Capitalization is below $7 million for ten (10) consecutive days. Prior to the Amendment, the "Conversion Price" in Section 3.1(b) of the A&R Note "was $19.40, and shall be subject to adjustment as provided herein." The A&R Note Amendment amended the definition of "Conversion Price" "the lower of (i) $19.40 and (ii) eighty-five percent (85%) of the average of the three (3) lowest daily VWAPs during the twenty (20) Trading Days prior to the delivery by the Holder of the applicable notice of conversion." There was no accounting impact related to this amendment as conversion options are already bifurcated as an embedded derivative and recorded at fair value at each reporting period.

The 2022 Warrant entitles Lind Global to purchase up to 128,373 shares of our Common Stock until February 23, 2027, at an exercise price of $19.40 per share, subject to customary adjustments described therein. The Warrant is recorded at fair value upon issuance of $0.7 million and is classified as a current liability to be remeasured at each reporting period (see Note 8). The discount created by allocating proceeds to the Warrant results in a debt discount to be amortized as additional interest expense over the term of the Convertible Note.

On June 23, 2023 in connection with the 2022 amended and restated Convertible Note transaction, the Company evaluated the amendment and concluded it qualified as a troubled debt restructuring. The restructuring did not result in a gain or loss but revised the effective interest rate used to amortized the note going forward.

On June 23, 2023, the Company entered into a second Securities Purchase Agreement (the "2023 Purchase Agreement") with Lind Global, pursuant to which the Company issued to Lind Global the 2023 Convertible Note at the same time that the Company and Lind Global amended and restated the 2022 Convertible Note. The closing occurred on June 23, 2023, and consisted of the issuance of a secured, two-year interest free convertible promissory note with a funding amount of $1,500,000 and a principal amount of $1,800,000 (as defined above, the "2023 Convertible Note") and the issuance of common stock purchase warrant to acquire 426,427 shares of the Company's common stock (the "2023 Warrant" and, together with the 2022 Warrant, the "Warrants"). The proceeds from the transactions contemplated by the 2023 Purchase Agreement were for general working capital purposes and other corporate purposes.

On October 6, 2023, the Company and Lind Global entered into that certain First Amendment to Senior Convertible Promissory Note, amending the Company's 2023 Convertible Note (the "Note Amendment") to extend the beginning period of required compliance with certain default provisions until January 31, 2024. The Note Amendment amended Section 2.1 of the 2023 Convertible Note pertaining to events of default by deleting and replacing Section 2.1(r), which previously provided for an event of default under the Note in the event that the Company's Market Capitalization (as defined in the Note) was below $7 million for ten (10) consecutive days. As amended, the Note provides that, at any time after January 31, 2024, an event of default will occur in the event that the Company's Market Capitalization is below $7 million for ten (10) consecutive days.

Commencing one year after the issuance of the 2023 Convertible Note, the Company shall pay the outstanding principal amount of the 2023 Convertible Note in twelve (12) consecutive monthly payments of $150,000 each. At the option of the Company, the monthly payment can be made in cash, shares of the common stock of the Company (the "Repayment Shares") at a price based on 90% of the average five (5) consecutive daily VWAPs during the twenty (20) days prior to the payment date, or a combination of cash and Repayment Shares, subject to the terms of the 2023 Convertible Note. The Repayment Shares must either be eligible for immediate resale under Rule 144 or be registered. The number of Repayment Shares is limited such that, when added to the number of shares of common stock issued and issuable pursuant to the transactions contemplated by the 2023 Purchase Agreement, it may not exceed 493,727 shares of common stock unless the Company obtains stockholder approval to issue additional Repayment Shares. The holder of the 2023 Convertible Note may elect with respect to no more than two (2) of the above described monthly payments to increase the amount of such monthly payment up to $300,000 each in Repayment Shares upon notice to the Company. Any such increased payment shall be deducted from the amount of the last monthly payment owed under the 2023 Convertible Note. The Company can prepay Lind Global all the outstanding principal amount of the 2023 Convertible Note, provided that Lind Global shall have the option to convert up to one third (1/3) of the outstanding principal amount of the 2023 Convertible Note at a price per share equal to the lesser of the Repayment Share price or the conversion price (as described below).

Upon the occurrence of an event of default as described in the 2023 Convertible Note, the 2023 Convertible Note will become immediately due and payable at the default premium described in the 2023 Convertible Note, subject to any cure periods described in the 2023 Convertible Note. Events of default include, but are not limited to, a payment default on any other indebtedness in excess of $250,000; the shares no longer publicly being traded or cease to be listed on a trading market; if after six months, the shares are not available for immediate resale under Rule 144; and the Company's market capitalization is below $7,000,000 for ten (10) consecutive days. Upon an event of default, subject to any applicable cure period, the holder of the 2023 Convertible Note can, among other things, accelerate payment of the 2023 Convertible Note and demand full payment and demand that all or a portion of the outstanding principal amount be converted into shares of common stock at the at the lower of the then current conversion price and 85% of the average of the three (3) lowest daily VWAPs during the twenty (20) days prior to delivery of the conversion notice. If there is a change of control of the Company, Lind Global has the right to require the Company to prepay 105% of the outstanding principal amount of the 2023 Convertible Note. A change of control includes a change in the composition of a majority of the Board of Directors of the Company, at a single shareholder meeting, a change, without prior written consent of Lind Global where a majority of the individuals that were directors as of June 20, 2023 cease to be directors of the Company (provided that any individual who is nominated by the board of directors (or a duly authorized committee thereof) as of June 20, 2023 and is elected or appointed as a director of the Company shall be deemed a member of the board of directors of the Company for all such purposes), a shareholder acquiring beneficial ownership of more than 50% of the common stock of the Company, or the sale or other disposition of the Company of all or substantially all of its assets. The 2023 Convertible Note is convertible into common stock of the Company at any time after the earlier of six (6) months from issuance or the date the registration statement is effective, provided that no such conversion may be made that would result in beneficial ownership by Lind Global and its affiliates of more than 4.99% of the Company's outstanding shares of common stock. The conversion price of the 2023 Convertible Note is equal to $5.00, subject to customary adjustments.

The 2023 Warrant entitles Lind Global to purchase up to 426,427 shares of common stock of the Company until the earlier of (a) June 23, 2028 and (b) a merger, sale event or other reclassification of the Company's common stock, at an exercise price of $5.00 per share, subject to customary adjustments described therein. The 2023 Warrant is in addition to the 2022 Warrant.

The Company evaluated the 2022 Convertible Note and concluded that certain embedded redemption features are required to be accounted for as a derivative liability. Embedded redemption features were recorded at fair value upon issuance of $0.3 million and are classified as current liabilities to be remeasured at each reporting period (see Note 11). The discount created by allocating proceeds to the derivative liability results in a debt discount to be amortized as additional interest expense over the term of the Convertible Notes. The Warrants are accounted for as a derivative liability based on certain features included within the Convertible Note which caused the Company to not be able to assert that it would have sufficient shares in all cases to be able to settle the Warrants. As such, the proceeds (approximately $4.8 million, net of original issue discounts and other payments to lender) were allocated first to the fair value of the Warrants with the residual allocated to the Convertible Notes host instrument. The proceeds allocated to the Convertible Notes were further allocated first to the bifurcated derivative liability based on its fair value with the residual being allocated to the Convertible Notes host instrument.

Upon issuance of the 2023 Convertible Note, the Company re-evaluated the 2022 Convertible Note, in accordance with ASC 815-40-25-10 and its sequencing policy, and concluded that the embedded conversion option is required to be bifurcated and accounted for as a derivative liability as a result of the Company not being able to assert that it would have sufficient shares in all cases to be able to settle the conversion of the 2022 Convertible Note. The embedded conversion option will be combined with the bifurcated redemption features as a single derivative and is classified as a current liability to be remeasured at each reporting period. The discount resulting from bifurcating the embedded conversion option will be amortized as additional interest expense over the term of the 2022 Convertible Note.

The direct and incremental costs incurred are allocated to the Convertible Note and the Warrant based on a systematic and rational approach. The costs allocated to the Warrants have been expensed as incurred while those allocated to the Convertible Note have been capitalized and will be amortized as interest expense over the life of the Convertible Notes based on the effective interest rate. The Company will record ongoing changes to the fair value of the derivative liabilities as other non-operating income (expense).

The Convertible Notes are evaluated as a potentially dilutive security in both periods of loss and income for diluted earnings per share purposes. The Warrants are considered a participating security and was not included in the calculation of basic earnings per share for the year ended December 31, 2023 as Company reflected net loss for this period. The Warrant will be included in the calculation of diluted earnings per share in periods of net income.

The issuance costs with respect to the Convertible Notes, which are recorded as a debt discount, are deferred and amortized using the effective interest method as additional interest expense over the terms of the Convertible Note at an effective interest rate of 68.6%.

The Company incurred total interest expense related to the Convertible Notes of $1.9 million, including $0.5 million default charge and the amortization of the various discounts for the year ended December 31, 2023. The Company incurred total interest expense related to the Convertible Notes of $1.3 million for the year ended December 31, 2022.

Subsequent to the reporting period, on February 12, 2024, the Company and Lind Global entered into an agreement to amend certain provisions of the Convertible Notes (as amended) to extend the beginning period of required compliance with certain default provisions until June 1, 2024. The agreement amended Section 2.1 pertaining to events of default, to extend the period in which an event of default would occur, as defined above, to anytime after June 1, 2024, previously anytime after January 31, 2024 as provided in the October 6th amendment defined above. But for the amendment, the Company would have incurred an event of default after the tenth (10^{th}) trading day following January 31, 2024 if the market capitalization of the Company was less than seven million dollars ($7,000,000). The amendments amended the definition of “Conversion Price” in the 2023 Convertible Note to “the lower of (i) $5.00 and (ii) eighty-five percent (85%) of the average of the three (3) lowest daily VWAPs during the twenty (20) Trading Days prior to the delivery by the Holder of the applicable notice of conversion.” No other concession was given with this amendment and legal fees were expenses as incurred.

At December 31, 2023, the outstanding debt under the Convertible Note agreement was as follows:

	Principal	Debt Discounts	Net
Current portion of Long-Term Debt	$ 1,849	$ (1,039)	$ 810
Long-Term Debt less current portion	750	(113)	637
Balance of Convertible Notes as of December 31, 2023	$ 2,599	$ (1,152)	$ 1,447

At December 31, 2022, the outstanding debt under the Convertible Note agreement was as follows:

	Principal	Debt Discounts	Net
Current portion of Long-Term Debt	$ 3,833	$ (795)	$ 3,038
Long-Term Debt less current portion	320	(10)	310
Balance of Convertible Notes as of December 31, 2022	$ 4,153	$ (805)	$ 3,348

Revolving Line of Credit (“RLOC”)

In February 2022, using proceeds from the Convertible Note, we repaid in full, all outstanding indebtedness of $1.8 million owed in connection with that certain Amended and Restated Credit and Security Agreement (“RLOC”) between us, our subsidiaries, and Citizens Bank, N.A. (“Citizens”), and such RLOC was thereafter terminated. We continue to maintain a cash management account and certain letters of credit with Citizens and, accordingly, have entered into a certain Cash Management Agreement with Citizens, as well as certain Cash Pledge Agreements in amounts corresponding to the current outstanding letters of credits with customers. As of December 31, 2023, we had four letters of credit totaling $1.1 million outstanding to certain customers which were secured with restricted cash.

13. Income Taxes

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

(in thousands)	Years ended December 31, 2023	Years ended December 31, 2022
Domestic	$ (8,584)	$ (15,128)
Foreign	(118)	(164)
Total	$ (8,702)	$ (15,292)

The provision (benefit) for income taxes is as follows:

(in thousands)	Years ended December 31, 2023	Years ended December 31, 2022
Current:		
Federal	$ -	$ -
State	33	42
Foreign	(23)	95
Subtotal	10	137
Deferred:		
Federal	-	(47)
State	12	(39)
Foreign	-	-
Subtotal	12	(86)
Total	$ 22	$ 51

The effective income tax rate for the years ended December 31, 2023 and 2022 differed from the statutory federal income tax rate as presented below:

	Effective Tax Rate percentage (%) Years ended December 31, 2023	2022
Statutory federal income tax rate	21.0%	21.0%
State income taxes, net of federal tax benefit	2.4%	2.4%
Effect of foreign operations	(0.3)%	(0.3)%
Change in valuation allowance	(16.5)%	(20.7)%
Stock-based compensation	(2.1)%	(0.9)%
Convertible Note transactions	(5.0)%	(1.2)%
Uncertain tax positions	0.3%	(0.7)%
Other	(0.1)%	0.1%
Effective tax rate	(0.3)%	(0.3)%

The difference between the effective tax rate and statutory rate in 2023 primarily resulted from a change in valuation allowance, permanent differences related to disallowed interest expense and mark-to-market adjustments on the Convertible Note which is a disqualified debt instrument for tax purposes, accruals related to uncertain tax positions, the tax impact of stock compensation vests, and state tax expense.

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 assets and liabilities is as follows:

(in thousands)	As of December 31, 2023	As of December 31, 2022
Deferred tax assets:		
Net operating loss carryforwards	$ 9,372	$ 7,853
Accruals	330	62
Reserves	139	409
Stock-based compensation expense	228	283
Intangible assets	2,228	2,356
Goodwill	1,687	1,551
Operating lease liability	121	132
Fixed assets	27	65
Sec. 174 R&D costs	228	129
Other	196	231
Total deferred tax asset	14,556	13,071
Valuation allowance	(14,008)	(12,572)
Total deferred tax asset less valuation allowance	548	499
Deferred tax liabilities:		
Software development costs	(17)	(59)
Indefinite-lived intangibles	(440)	(346)
Operating lease - right of use asset	(109)	(100)
Other	-	-
Total deferred tax liability	(566)	(505)
Net deferred tax liability	$ (18)	$ (6)

We file tax returns in the United States federal jurisdiction and in several state and foreign jurisdictions. Because of the net operating loss carryforwards, we are subject to U.S. federal and state income tax examinations for tax years 2003 and forward, and is subject to foreign tax examinations by tax authorities for the years 2018 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.

In assessing the ability to realize our 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. Our ability to realize the deferred tax assets depends primarily upon the preponderance of positive evidence that could be demonstrated by three-year cumulative positive earnings, reversal of existing deferred temporary differences, and generation of sufficient future taxable income to allow for the utilization of deductible temporary differences.

As of each reporting date, our management considers new evidence, both positive and negative, that could impact management's view with regard to future realization of deferred tax assets to estimate if sufficient future taxable income will be generated to use the existing deferred tax assets. This analysis is performed on a jurisdiction by jurisdiction basis.

We performed an analysis of the valuation allowance position for its worldwide deferred tax assets and determined that a valuation allowance continues to be necessary on its U.S. and foreign deferred tax assets at December 31, 2023.

Beginning in 2022, the Tax Cuts and Jobs Act of 2017 (the TCJA) eliminated the option to deduct research and development expenses currently and requires taxpayers to amortize such costs over a period of five years for expenses incurred in the United States and a period of 15 years for expenses incurred outside the United States. While it is possible the federal government may enact future legislation which would repeal this provision of the TCJA, there is no assurance such legislation will be enacted or whether, if enacted, such legislation would be enacted on a retrospective basis to 2022. This provision of the TCJA resulted in increases of $100 thousand and $129 thousand in deferred tax assets, and an equal increase to the Company's valuation allowance, during the year ended December 31, 2023 and December 31, 2022, respectively, related to research and development expenses incurred during the period. There was no material impact to the Company's current or deferred tax provision or operating cash flows during the year ended December 31, 2023 and December 31, 2022 as a result of this provision of the TCJA given the Company incurred net operating losses (NOLs) during both periods. The Company does not currently expect this provision of the TCJA will have a material impact on its tax provision or operating cash flows for the year ended December 31, 2023, however, the actual impact of this provision to future periods is uncertain as of this time.

As of December 31, 2023, our largest deferred tax asset was $9.4 million of net operating net loss carry forwards. It primarily relates to a U.S. net operating loss carryforward of $7.8 million; $3.8 million of the net operating loss carryforward expires in various amounts between 2024 and 2038; $4.0 million of the net operating loss carryforward is an indefinite-lived deferred tax asset. We do not believe that it is more likely than not that we will be able to realize its deferred tax assets for its U.S. and foreign deferred tax assets at December 31, 2023 and therefore we have maintained a $14.0 million valuation allowance for our net deferred tax assets. The Company has a deferred tax liability in the amount of $18 thousand at December 31, 2023 related to the portion of Goodwill which cannot be offset by deferred tax assets, which is included as a part of other non-current liabilities on the consolidated balance sheets.

As of December 31, 2023 and 2022, our consolidated cash and cash equivalents totaled $2.3 million and $2.8 million, respectively, including cash and cash equivalents held at non-U.S. entities totaling $1.2 million and $0.8 million, respectively. The non-U.S. entities include operating subsidiaries located in China. We do not assert permanent reinvestment in China. Accordingly, we analyzed the cumulative earnings and profits and determined the US deferred liability related to this position is immaterial.

Uncertain Tax Positions

During 2023 and 2022, we recorded tax liabilities for certain foreign tax contingencies. We recorded these uncertain tax positions in income taxes payable on the consolidated balance sheets.

The following table outlines our uncertain tax liabilities, including accrued interest and penalties for each jurisdiction:

	China		South Korea		UK		
(in thousands)	**Tax**	**Interest and Penalties**	**Tax**	**Interest and Penalties**	**Tax**	**Interest and Penalties**	**Total**
Balance, January 1, 2022	$ 220	$ 428	$ 644	$ 335	$ 45	$ 30	$ 1,702
Increases	-	4	-	51	-	61	116
Decreases	(17)	-	(22)	-	(5)	-	(44)
Balance, December 31, 2022	$ 203	$ 432	$ 622	$ 386	$ 40	$ 91	$ 1,774
Increases	-	25	-	57	-	-	82
Decreases	(5)	-	(19)	-	(40)	(91)	(155)
Balance, December 31, 2023	$ 198	$ 457	$ 603	$ 443	$ -	$ -	$ 1,701

14. Capital Stock

We are authorized to issue 62,000,000 total shares of capital stock, of which, 60,000,000 are designated as common stock and 2,000,000 are designated as preferred stock. Our Board of Directors has the authority to establish one or more classes of stock and to determine, within any class of stock, the preferences, rights and other terms of such class.

As of December 31, 2023, the Company has reserved 750,000 shares of common stock for issuance under the Plan (as further defined below); zero shares of common stock are reserved for issuance upon exercise of outstanding stock options pursuant to the Plan (because no options have presently been granted, and 164,837 shares of common stock are reserved for issuance upon vesting of certain outstanding restricted stock units. There are no shares available for future grants under the Plan (as further defined below).

The Company has registered approximately 1.7 million shares related to the Convertible Notes and separately reserved such shares for the potential issuance in accordance with the terms of the Convertible Notes (Note 12). As of December 31, 2023, 1.5 million shares remain in this plan for issuance.

15. Stock-Based Compensation

Long-term incentive plan

During 1995, we 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 was amended and restated effective April 22, 2016 and expires on April 21, 2026; the total number of shares that could be issued under the Plan is 750,000. As of December 31, 2023, we have issued 585,163 shares under the Plan, zero stock options and 164,837 non-cash settled restricted stock units (RSUs) were outstanding under the Plan, while zero shares remain for future grants under the Plan.

We recognize 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. We recognize the cumulative effect of a change in the number of awards expected to vest in compensation expense in the period of change. We have not capitalized any portion of our stock-based compensation. Our forfeiture rate is based on actuals.

During the years ended December 31, 2023 and 2022, we recognized $1.2 million and $2.0 million, respectively, of stock-based compensation expense under the fair value method. Accordingly, we recognized associated deferred income tax expense of $179 thousand and $140 thousand before valuation allowance, respectively, during the years ended December 31, 2023 and 2022.

During the years ended December 31, 2023 and 2022, we issued RSUs and PRSUs to employees which vest upon the achievement of specific market-based or time-based measures. The fair value of RSU’s is calculated using the stock price on the grant date and expensed ratably over the service period. The fair value for PRSU’s is determined using a Monte Carlo simulation model and expensed ratably over the derived service period, which typically ranges between one year and five years.

The following table summarizes the information about vested and unvested restricted stock units for the years ended December 31, 2023 and 2022.

	Number of Shares	Weighted Average Fair Value
Nonvested RSUs at January 1, 2022	159,567	$ 17.70
RSUs granted	179,025	14.89
RSUs forfeited	(47,297)	21.34
RSUs vested	(78,870)	16.82
Nonvested RSUs at December 31, 2022	212,425	$ 13.99
Nonvested RSUs at January 1, 2023	212,425	$ 13.99
RSUs granted	199,810	2.17
RSUs forfeited	(60,612)	11.01
RSUs vested	(176,786)	7.87
Nonvested RSUs at December 31, 2023	174,837	$ 7.29

As of December 31, 2023, we had $0.6 million of unrecognized compensation expense related to the RSUs expected to be recognized on a pro-rata straight line basis over a weighted average remaining service period of approximately 0.9 years.

GSE's 1995 long-term incentive program ("LTIP") provides for the issuance of performance-vesting and time-vesting restricted stock units to certain executives and employees. Vesting of the performance-vesting restricted stock units ("PRSU") is contingent upon the employee's continued employment and the Company's achievement of certain performance goals during designated performance periods as established by the Compensation Committee of the Company's Board of Directors. We recognize compensation expense, net of estimated forfeitures, for PRSUs on a straight-line basis over the performance period based on the probable outcome of achievement of the financial targets. At the end of each reporting period, we estimate the number of PRSUs that are expected to vest, based on the probability and extent to which the performance goals will be met, and take into account these estimates when calculating the expense for the period. If the number of shares expected to be earned changes during the performance period, we make a cumulative adjustment to compensation expense based on the revised number of shares expected to be earned.

Restricted Stock Units

During the year ended December 31, 2023, we granted approximately 140,044 RSUs with an aggregate fair value of approximately $0.4 million. During the year ended December 31, 2022, we granted approximately 99,025 time-based RSUs with an aggregate fair value of approximately $1.5 million. During the year ended December 31, 2023, we forfeited 5,575 RSUs compared to 10,583 RSUs forfeited for the year ended December 31, 2022. During the year ended December 31, 2023, we vested 156,786 RSUs compared to 58,870 RSUs vested during the year ended December 31, 2022. A portion of the time-based RSUs vest quarterly in equal amounts over the course of eight quarters, and the remainder vest annually in equal amounts over the course of one to three years.

Performance Restricted Stock Units

During the year ended December 31, 2023, we granted 59,767 PRSUs. These grants are subject to multiple vesting criteria including reaching a 20-day VWAP of $15.0 prior to the expiration of the awards, and a time-vesting restriction, which will vest in equal parts over the next 15 quarters ending December 31, 2026. During the year ended December 31, 2023, we forfeited 55,037 PRSUs and vested (20,000) PRSUs of which, (5,000) PRSUs were cash-settled, respectively.

During the year ended December 31, 2022, we granted 80,000 PRSUs including 20,000 cash-settled grants to employees. These grants are subject to multiple vesting criteria including reaching a 20-day VWAP of $19.4 prior to the expiration of the awards, and a time-vesting restriction, which will vest in equal portions over the next 15 quarters ending December 31, 2025. During the year ended December 31, 2022, we forfeited 36,714 PRSUs and vested (20,000) PRSUs, of which, (5,000) PRSUs were cash-settled, respectively.

16. Leases

We have lease agreements with lease and non-lease components, which are accounted for as a single lease. We apply a portfolio approach to effectively account for the operating lease ROU assets and liabilities. The operating lease ROU amortization was $388 thousand and $632 thousand for the twelve months ended December 31, 2023 and 2022, respectively.

Lease contracts are evaluated at inception to determine whether they contain a lease and whether we obtain the right to control an identified asset. The following table summarizes the classification of operating ROU assets and lease liabilities on the consolidated balance sheets:

(in thousands)

Operating Leases	Classification	December 31, 2023	December 31, 2022
Leased Assets			
Operating lease - right of use assets	Long term assets	$ 413	$ 506
Lease Liabilities			
Operating lease liabilities - Current	Other current liabilities	234	418
Operating lease liabilities	Long term liabilities	357	160
		$ 591	$ 578

We entered into a lease agreement to lease 2,200 square feet of office space on September 26, 2022, and the lease term will end on November 30, 2024. On December 15, 2022, following a March 18, 2022 building fire that impacted our space and ensuing dispute among us and the landlord, we terminated our lease for 1332 Londontown Boulevard, Eldersburg, Maryland (our former headquarters) and entered into a release and settlement agreement whereby we agreed to pay, and the landlord agreed to accept, a reduced monthly payment through May 1, 2023 in exchange for early termination of the lease. The lease termination resulted in a gain of $94 thousand and is reflected in other (loss) income, net for the year ended December 31, 2022. As a part of this agreement, we assigned both active subleases to the landlord effective as of the execution date.

The table below summarizes the lease income and expenses recorded in the consolidated statements of operations incurred year to date ended December 31, 2023, (*in thousands*):

Lease Cost	Classification	Twelve months ended, December 31, 2023	Twelve months ended, December 31, 2022
Operating lease cost [1]	Selling, general and administrative expenses	$ 418	700
Short-term leases costs [2]	Selling, general and administrative expenses	29	60
Sublease income [3]	Selling, general and administrative expenses	-	(62)
Net lease cost		$ 447	698

(1) Includes variable lease costs which are immaterial.

(2) Include leases maturing less than twelve months from the report date.

(3) Sublease portfolio consists of 2 tenants, which sublease parts of our principal executive office located at 1332 Londontown Blvd, Suite 200, Sykesville, MD.

We are obligated under certain noncancelable operating leases for office facilities and equipment. Future minimum lease payments under our noncancelable operating leases as of December 31, 2023 are as follows:

(in thousands)	Gross Future Minimum Lease Payments
2024	$ 263
2025	150
2026	96
2027	90
2028	61
Thereafter	-
Total	$ 660
Less: Interest	69
Present value of lease payments	$ 591

The below table summarizes the weighted-average remaining lease term, presented in years, and the weighted-average discount rate for our operating leases included in the consolidated balance sheet as of December 31, 2023:

Lease Term and Discount Rate	**Twelve months ended December 31, 2023**
Weighted-average remaining lease term (years)	
Operating leases	3.38
Weighted-average discount rate	
Operating leases	6.10%

There was right-of-use assets obtained in exchange for operating lease liabilities of $460 thousand during the year ended December 31, 2023. The table below sets out the classification of lease payments in the consolidated statements of cash flows:

(in thousands)

	Twelve months ended December 31,	
Cash paid for amounts included in measurement of liabilities	**2023**	**2022**
Cash paid for amounts included in measurement of liabilities	$ 453	$ 1,233

17. Employee Benefits

We have a qualified defined contribution plan that covers all U.S. employees under Section 401(k) of the Internal Revenue Code. Under this plan, our stipulated basic contribution matches a portion of the participants' contributions based upon a defined schedule for eligible employees. Our contributions to the plan were approximately $531 thousand and $479 thousand for the years ended December 31, 2023 and 2022, respectively.

18. Segment Information

We have two reportable business segments for which the Company's president and CEO is the chief operating decision maker (CODM) for both. The Engineering segment provides simulation, training and engineering products and services delivered across the breadth of industries we serve. Workforce Solutions include simulation for both training and engineering applications. Example engineering services include, but are not limited to, plant design verification and validation, thermal performance evaluation and optimization programs, and engineering programs for plants for American Society of Mechanical Engineers ("ASME") code and ASME Section XI. The Company provides these services across all market segments through our Systems & Simulation, Programs & Performance, and Design & Analysis subsidiaries. Example training applications include turnkey and custom training services. Contract terms are typically less than two years.

Workforce Solutions segment provides specialized workforce solutions primarily to the nuclear industry, working at clients' facilities. This business is managed through our Training Services and Technical Staffing subsidiaries. The business model, management focus, margins and other factors clearly separate this business line from the rest of the GSE product and service portfolio.

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 before income taxes. Inter-segment revenue is eliminated in consolidation and is not significant.

(in thousands)	Years ended December 31, 2023	Years ended December 31, 2022
Revenue:		
Engineering	$ 31,790	$ 29,919
Workforce Solutions	13,251	17,815
Total revenue	45,041	47,734
Gross profit		
Engineering	10,073	9,557
Workforce Solutions	1,857	2,353
Total gross profit	11,930	11,910
Operating loss		
Engineering	(3,789)	(6,388)
Workforce Solutions	(3,029)	(8,018)
Operating loss	(6,818)	(14,406)
Interest expense	(1,932)	(1,272)
Change in fair value of derivative instruments, net	850	477
Other (loss) income, net	(802)	(91)
Loss before taxes	$ (8,702)	$ (15,292)

The operating loss above for the years ended December 31, 2023 and 2022 include goodwill and intangible asset impairment charges of $1.4 million and $7.5 million for Workforce Solutions, respectively.

Additional information relating to segments is as follows:

(in thousands)	December 31, 2023	December 31, 2022
Engineering	$ 20,980	$ 21,705
Workforce Solutions	1,825	4,791
Total assets	$ 22,805	$ 26,496

For the years ended December 31, 2023 and 2022, 92% and 89%, respectively, of our consolidated revenue was from customers in the nuclear power industry. We design, develop and deliver business and technology solutions to the energy industry worldwide. Revenue, operating (loss) income and total assets for our United States, European, and Asian subsidiaries as of and for the years ended December 31, 2023 and 2022 are as follows:

(in thousands)	Year ended December 31, 2023		
	United States	Asia	Consolidated
Revenue	$ 44,040	$ 1,001	$ 45,041
Operating loss	$ (6,676)	$ (142)	$ (6,818)
Net assets, at December 31	$ 21,202	$ 1,603	$ 22,805

(in thousands)	Year ended December 31, 2022		
	United States	Asia	Consolidated
Revenue	$ 46,622	$ 1,112	$ 47,734
Operating loss	$ (14,225)	$ (181)	$ (14,406)
Net assets, at December 31	$ 24,631	$ 1,865	$ 26,496

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. All revenues in Asia were attributable to our Chinese subsidiary.

Alternatively, revenue from customers domiciled in foreign countries were approximately 12% and 16%, of our consolidated 2023 and 2022 revenue, respectively. Revenue from foreign countries where our customers reside were all individually less than 10% of our consolidated revenue during 2023 and 2022.

19. Supplemental Disclosure of Cash Flow Information

(in thousands)	Year ended December 31,	
	2023	**2022**
Cash paid for interest and income taxes:		
Interest	$ 947	$ 546
Income taxes	$ 79	$ 47
Non-cash financing activities:		
Repayment of convertible note in shares	$ 2,886	$ 824
Establishment of new right-of-use assets	320	60
Establishment of new operating lease liability	(454)	(58)
Discount on issuance of convertible note	$ 300	$ 750

20. Non-consolidated Variable Interest Entity

Through our wholly owned subsidiary, DP Engineering, we effectively hold a 48% membership interest in DP-NXA Consultants LLC (“DP-NXA”).

DP-NXA was established to provide industrial services that include civil, structural, architectural, electrical, fire protection, plumbing, mechanical consulting engineering services to customers. DP-NXA sub-contracts their work to its two owners, NXA Consultants LLC (“NXA”), which owns 52% of the entity, and DP Engineering. DP Engineering and NXA contributed $48 thousand and $52 thousand, respectively, for 48% and 52% interest in DP-NXA. DP Engineering recorded the contributed cash as an equity investment.

We evaluated the nature of DP Engineering’s investment in DP-NXA and determined that DP-NXA is a variable interest entity (“VIE”). Since we do not have the power to direct activities that most significantly impact DP-NXA, we are not DP-NXA’s primary beneficiary. Furthermore, we concluded that we do not hold a controlling financial interest in DP-NXA since NXA, the VIE’s majority owner, makes all operational and business decisions. We account for DP Engineering’s investment in DP-NXA using the equity method of accounting due to the fact DP Engineering exerts significant influence with its 48% of membership interest, but does not control the financial and operating decisions.

Our maximum exposure to any losses incurred by DP-NXA is limited to DP Engineering’s investment. As of December 31, 2023, DP Engineering has not made any additional contributions to DP-NXA and we believe DP Engineering’s maximum exposure to any losses incurred by DP-NXA was not material. As of December 31, 2023, we do not have existing guarantee with or to DP-NXA, or any third-party work contracted with it.

For the year ended December 31, 2023, the carrying value of the investment in DP-NXA was zero. We do not have any investment income or loss from DP-NXA for the year ended December 31, 2023.

21. Commitments and Contingencies

Per *ASC 450 Accounting for Contingencies*, the Company reviews potential items and areas where a loss contingency could arise. In the opinion of management, other than items disclosed below, we are not a party to any legal proceeding, the outcome of which, in management's opinion, individually or in the aggregate, which would be reasonably possible to have a material effect on our consolidated results of operations, financial position or cash flows. We expense legal defense costs as incurred.

Three former employees of Absolute Consulting, Inc. and Hyperspring, LLC, filed putative class action lawsuits against the Company, alleging that the Company failed to pay overtime wages as required by the Fair Labor Standards Act and state law. The three cases *Natalie Adams v. Absolute Consulting, Inc*., Case No. *6:20-cv-01099, Matthew Waldecker v. Hyperspring, LLC*, Case No. *2:20-cv-1948, Don Pharr v. Absolute Consulting, Inc*., Case No. *23-cv-01558-JRR* were filed on December 2, 2020, December 15, 2020, and June 8, 2023 respectively.

On August 22, 2023, Plaintiffs in Adams, Waldecker and Pharr and GSE Systems, Inc., Hyperspring and Absolute participated in private mediation. The mediation was successful and an agreement in principle was reached before the conclusion of the mediation to resolve and dismiss all three pending matters in exchange for a settlement payment.

The parties' settlement agreement was executed on October 30, 2023 and will result in the dismissal of all three cases. In addition to customary terms, GSE Systems, Hyperspring and Absolute will be obligated to make a series of payments in 2024, eventually totaling $750,000 inclusive of attorneys' fees and costs. This amount is included in accrued legal settlements as of December 31, 2023, and included as a part of selling, general and administrative costs for the year ended 2023.

One former employee of Hyperspring, LLC, had filed charged with the Equal Employment Opportunity Commission, alleging discrimination and retaliation, which Hyperspring, LLC, filed a response denying those claims. On December 19, 2023, a complaint was filed in the United States Eastern District of Tennessee against GSE Systems, Inc and its subsidiaries.

Subsequent to the year ended December 31, 2023, a settlement agreement was executed by the parties on February 29, 2024, dismissing the case with the obligation to pay approximately $260,000 inclusive of attorneys' fees. As such, this amount is included in accrued legal settlements as of December 31, 2023, and included as a part of selling, general and administrative costs for the year ended 2023.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

(a) Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed by us in our 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 rules promulgated by the Securities and Exchange Commission's and the forms and information required to be disclosed by us in such reports is accumulated and communicated to management, including our Chief Executive Officer ("CEO"), who is our principal executive officer, and our Chief Financial Officer ("CFO"), who is our principal financial officer, to allow timely decisions regarding required disclosure. Based on an evaluation of our disclosure controls and procedures as of December 31, 2023, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures were effective.

(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.

Management, including our CEO and CFO, assessed the effectiveness of our internal control over financial reporting as of December 31, 2023. 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).

Based on management's assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2023. Management recognizes there is a reasonable possibility that a material misstatement of our annual or interim financial statements might not be prevented or detected timely.

(c) Changes in Internal Control over Financial Reporting

There were no changes 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, 2023 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

(a) None.

(b) During the three months ended December 31, 2023, no director or officer of the Company adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTION.

Not Applicable.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

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

We have 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 our website at www.gses.com. In addition, we have adopted a Code of Ethics for its principal executive officer and senior financial officers which is also available on our website. We 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 2024 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 SHAREHOLDER 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 2024 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, 2023:

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	-	$ -	
	RSUs	174,837	7.29	
		174,837	$ 7.29	-
Equity compensation plans not approved by security holders		-	$ -	-
Total		174,837	$ 7.29	-

Table above excludes 10,000 RSUs granted under our 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 Notes 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 2024 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 2024 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 Firms (PCAOB ID 686)
Consolidated Balance Sheets as of December 31, 2023 and 2022
Consolidated Statements of Operations for the years ended December 31, 2023 and 2022
Consolidated Statements of Comprehensive Loss for the years ended December 31, 2023 and 2022
Consolidated Statements of Changes in Shareholders' Equity for the years ended December 31, 2023 and 2022
Consolidated Statements of Cash Flows for the years ended December 31, 2023 and 2022
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 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.

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Exhibit	**Description of Exhibits**
2.	**Plan of acquisition, reorganization, arrangement, liquidation, or succession**
2.1	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.
2.2	Amendment to Membership Interests Purchase Agreement, dated as of May 13, 2015. Incorporated herein by reference to Exhibit 10.2 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 14, 2015.
2.3	Stock Purchase Agreement, dated as of September 20, 2017, by and among GSE Systems, Inc., through its wholly owned subsidiary GSE Performance Solutions, Inc., Richard and Cynthia Linton (and certain trusts owned thereby) and Absolute Consulting, Inc. Incorporated herein by reference to Exhibit 2.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on September 20, 2017.
2.4	Membership Interest Purchase Agreement, dated as of May 11, 2018, between True North Consulting LLC, Donald R. Horn, Jenny C. Horn, GSE Performance Solutions, Inc., and Donald R. Horn in his capacity as Seller Representative. Incorporated herein by reference to Exhibit 2.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on May 14, 2018.
2.5	Membership Interest Purchase Agreement, dated as of February 15, 2019, between DP Engineering Co. Ltd., Steven L. Pellerin, Christopher A. Davenport, GSE Performance Solutions, Inc., and Steven L. Pellerin in his capacity as Seller Representative. Incorporated herein by reference to Exhibit 2.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on February 19, 2019.
3.	**Certificate of Incorporation and Bylaws**
3.1	Restatement of Certificate of Incorporation dated November 14, 2016. Incorporated herein by reference to Exhibit 3.1 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on November 14, 2016.
3.2	Amendment to the Certificate of Incorporation of GSE Systems, Inc. Incorporated herein by reference to Exhibit 3.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on June 15, 2018.
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.
3.4	First Amendment to the 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 June 15, 2018.
3.5	Certificate of Amendment to the Restated Certificate of Incorporation of GSE Systems, Inc. Incorporated herein by reference to Exhibit 3.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on October 26, 2023.
10.	**Material Contracts**
10.1	Office Lease Agreement between 1332 Londontown, LLC and GSE Systems, Inc. (dated as of February 27, 2008). Incorporated herein by reference to Exhibit 10.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on March 11, 2008.
10.2	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.
10.3	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.
10.4	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.

10.5	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 15, 2014.
10.6	GSE Systems, Inc. 1995 Long-Term Incentive Plan, amended and restated, dated 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.*
10.7	Form of Option Agreement Under the GSE Systems, Inc. 1995 Long-Term Incentive Plan. Incorporated herein by reference to GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 31, 1997. *
10.8	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. Incorporated herein by reference to Exhibit 10.2 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on November 14, 2016.*
10.9	Form of Amendment to Restricted Share Unit Agreement, dated July 1, 2016. Incorporated herein by reference to Exhibit 99.8 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016. *
10.10	Employment Agreement, dated July 1, 2016, between GSE Systems, Inc. and Emmett A. Pepe. Incorporated herein by reference to Exhibit 99.2 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 5, 2016. *
10.11	Amendment to Employment Agreement between Emmett Pepe and GSE Systems, Inc. dated as of June 12, 2017. Incorporated herein by reference to Exhibit 99.4 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on June 16, 2017.*
10.12	Amendment No. 2 to Employment Agreement between GSE Systems, Inc. and Emmett Pepe, dated as of January 11, 2019. Incorporated herein by reference to Exhibit 99.3 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on January 11, 2019.*
10.13	Employment Agreement between Bahram Meyssami and GSE Systems, Inc. dated as of December 1, 2015. Incorporated herein by reference to Exhibit 10.1 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 15, 2017.*
10.14	Amendment to Employment Agreement between Bahram Meyssami and GSE Systems, Inc. dated as of June 12, 2017. Incorporated herein by reference to Exhibit 99.3 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on June 16, 2017.*
10.15	Employment Agreement between Kyle J. Loudermilk and GSE Systems, Inc., dated as of July 1, 2015. Incorporated herein by reference to Exhibit 10.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 31, 2015. *
10.16	Amendment to Employment Agreement between Kyle J. Loudermilk and GSE Systems, Inc., dated as of June 12, 2017. 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.*
10.17	Amendment No. 2 to Employment Agreement between Kyle Loudermilk and GSE Systems, Inc. dated as of June 12, 2017. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on June 16, 2017.*
10.18	Amendment No. 3 to Employment Agreement, dated January 11, 2019, 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 January 11, 2019.*
10.19	Restricted Share Unit Agreement between Kyle J. Loudermilk and GSE Systems, Inc., dated as of July 1, 2015. Incorporated herein by reference to Exhibit 10.2 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 31, 2015.*

10.20	Amendment to Restricted Share Unit Agreement between Kyle J. Loudermilk and GSE Systems, Inc., dated as of July 1, 2016. Incorporated herein by reference to Exhibit 99.2 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016.*
10.21	Restricted Share Unit Agreement (Cash Award) between Kyle J. Loudermilk and GSE Systems, Inc., dated as of July 1, 2016. Incorporated herein by reference to Exhibit 99.3 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016.*
10.22	Restricted Share Unit Agreement (Common Stock Award) between Kyle J. Loudermilk and GSE Systems, Inc., dated as of July 1, 2016. Incorporated herein by reference to Exhibit 99.4 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 1, 2016.*
10.23	Restricted Share Unit Agreement between Emmett A. Pepe and GSE Systems, Inc., dated as of July 1, 2016. Incorporated herein by reference to Exhibit 99.3 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on July 5, 2016.*
10.24	Restricted Share Unit Agreement between Bahram Meyssami and GSE Systems, Inc. dated as of December 1, 2015. Incorporated herein by reference to Exhibit 10.2 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 15, 2017.*
10.25	Amendment to Restricted Share Unit Agreement between Bahram Meyssami and GSE Systems, Inc. dated as of July 1, 2016. Incorporated herein by reference to Exhibit 10.3 of GSE Systems, Inc. Form 10-Q filed with the Securities and Exchange Commission on May 15, 2017.*
10.26	Credit and Security Agreement, by and between Citizens Bank, National Association, GSE Systems, Inc. and GSE Performance Solutions, Inc., dated December 29, 2016. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on January 4, 2017.
10.27	Amended and Restated Credit and Security Agreement, dated as of May 11, 2018, by and among Citizens Bank, National Association, as Bank, and GSE Systems, Inc. and GSE Performance Solutions, Inc., as Borrower. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on May 14, 2018.
10.28	Amendment and Reaffirmation Agreement, dated February 22, 2017, and effective as of December 29, 2016. Incorporated herein by reference to Exhibit 10.36 of GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on March 28, 2017.
10.29	Second Amendment and Reaffirmation Agreement dated as of May 25, 2018. Incorporated herein by reference to Exhibit 10.35 of Form 10-K filed with the Securities and Exchange Commission on June 11, 2020.
10.30	Third Amendment and Reaffirmation Agreement dated as of February 15, 2019, by and among GSE Systems, Inc. and GSE Performance Solutions, Inc., as Borrowers, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc. and DP Engineering Ltd. Co., as Guarantors, and Citizens Bank, National Association, as Bank. Incorporated herein by reference to Exhibit 99.1 of GSE Systems, Inc. Form 8-K filed with the Securities and Exchange Commission on February 19, 2019.
10.31	Form of Indemnification Agreement. Incorporated herein by reference to Exhibit 10.38 of Form 10-K filed with the Securities and Exchange Commission on June 11, 2020.
10.32	Fourth Amendment and Reaffirmation Agreement dated as of March 20, 2019, by and among GSE Systems, Inc., and GSE Performance Solutions, Inc., as Borrowers, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc., and DP Engineering LLC, as Guarantors, and Citizens Bank, National Association, as Bank. Incorporated herein by reference to Exhibit 10.39 of Form 10-K filed with the Securities and Exchange Commission on June 11, 2020.
10.33	Fifth Amendment and Reaffirmation Agreement, dated as of June 28, 2019, by and among Citizens Bank, National Association, as Bank, and GSE Systems, Inc. and GSE Performance Solutions, Inc. as Borrower, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc. and DP Engineering, LLC as Guarantor. Incorporated herein by reference to Exhibit 99.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on July 1, 2019.

10.34	Settlement and Release Agreement, dated as of December 30, 2019, by GSE Performance Solutions, Inc., GSE Systems, Inc. and their subsidiaries and affiliate, on the one hand, and Christopher A. Davenport and Steven L. Pellerin, on the other hand, incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on January 6, 2020.
10.35	Sixth Amendment and Reaffirmation Agreement, dated as of December 31, 2019, by and among Citizens Bank, National Association, as Bank, and GSE Systems, Inc. and GSE Performance Solutions, Inc. as Borrower, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc. and DP Engineering, LLC as Guarantor. Incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on January 8, 2020.
10.36	Seventh Amendment and Reaffirmation Agreement, dated as of March 31, 2020, by and among Citizens Bank, National Association, as Bank, and GSE Systems, Inc. and GSE Performance Solutions, Inc. as Borrower, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc. and DP Engineering, LLC as Guarantor. Incorporated herein by reference to Exhibit 99.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on April 17, 2020.
10.37	Collateral assignment of Rights Under Escrow Agreement dated March 31, 2020, is made by GSE Performance Solutions Inc., in favor of Citizens Bank, National Association. Incorporated herein by reference to Exhibit 10.45 of Form 10-K filed with the Securities and Exchange Commission on June 11, 2020.
10.38	Eighth Amendment and Reaffirmation Agreement, dated as of June 29, 2020, by and among Citizens Bank, National Association, as Bank, and GSE Systems, Inc. and GSE Performance Solutions, Inc. as Borrower, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc. and DP Engineering, LLC as Guarantor. Incorporated herein by reference to Exhibit 10.1 of Form 10-Q filed with the Securities and Exchange Commission on November 16, 2020.
10.39	Ninth Amendment and Reaffirmation Agreement, dated as of March 29, 2021, by and among Citizens Bank, National Association, as Bank, and GSE Systems, Inc. and GSE Performance Solutions, Inc. as Borrower, GSE True North Consulting, LLC, Hyperspring, LLC, Absolute Consulting, Inc. and DP Engineering, LLC as Guarantor. Incorporated herein by reference to Exhibit 99.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on April 2, 2021.
10.40	Paycheck Protection Note, by and between GSE Systems, Inc. and Citizens Bank, N.A., dated April 23, 2020,. Incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on April 30, 2020.
10.41	Tenth Amendment and Reaffirmation Agreement, dated as of November 12, 2021. Incorporated herein by reference to Exhibit 10.41 of Form 10-K filed with the Securities and Exchange Commission on March 31, 2022.
10.42	Securities Purchase Agreement, dated as of February 23, 2022, by and between GSE Systems, Inc. and Lind Global Fund II LP, Incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2022.
10.43	Senior Convertible Promissory Note due February 23, 2024 made by GSE Systems, Inc. in favor of Lind Global Fund II LP, dated February 23, 2022. Incorporated herein by reference to Exhibit 10.2 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2022.
10.44	Common Stock Purchase Warrant issued by GSE Systems, Inc. to Lind Global Fund II LP. Incorporated herein by reference to Exhibit 10.3 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2022.
10.45	First Amendment, dated as of March 9, 2022, to Securities Purchase Agreement, dated February 23, 2022 by and between GSE Systems, Inc. and Lind Global Fund II LP. Incorporated herein by reference to Exhibit 10.45 of Form 10-K filed with the Securities and Exchange Commission on March 31, 2022.
10.46	Securities Purchase Agreement, dated as of June 23, 2023, by and between GSE Systems, Inc. and Lind Global Fund II LP, Incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on June 26, 2023.
10.47	Senior Convertible Promissory Note, dated June 23, 2023, made by GSE Systems, Inc. in favor of Lind Global Fund II LP. Incorporated herein by reference to Exhibit 10.2 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on June 26, 2023.
10.48	Amended and Restated Convertible Promissory Note, dated June 23, 2023, made by GSE Systems, Inc. in favor of Lind Global Fund II LP. Incorporated herein by reference to Exhibit 10.3 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on June 26, 2023.
10.49	Common Stock Purchase Warrant issued by GSE Systems, Inc. to Lind Global Fund II LP, dated June 23, 2023. Incorporated herein by reference to Exhibit 10.4 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on June 26, 2023.
10.50	First Amendment to Senior Convertible Promissory Note, by and between GSE Systems, Inc. and Lind Global Fund II LP, dated October 6, 2023. Incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on October 6, 2023.

10.51	First Amendment to Amended and Restated Senior Convertible Promissory Note, by and between GSE Systems, Inc. and Lind Global Fund II LP, dated October 6, 2023. Incorporated herein by reference to Exhibit 10.2 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on October 6, 2023.
10.52	Second Amendment to Senior Convertible Promissory Note, by and between GSE Systems, Inc. and Lind Global Fund II LP, dated February 12, 2024. Incorporated herein by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 13, 2024.
10.53	Second Amendment to Amended and Restated Senior Convertible Promissory Note, by and between GSE Systems, Inc. and Lind Global Fund II LP, dated February 12, 2024. Incorporated herein by reference to Exhibit 10.2 of our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 13, 2024.
10.54	Letter Agreement between GSE Systems, Inc. and Kyle J. Loudermilk, dated July 28, 2023. Incorporated herein by reference to Exhibit 10.1 of Form 8-K filed with the Securities and Exchange Commission on July 28, 2023.
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, 2020, filed herewith.

23	**Consent of Independent Registered Public Accounting Firm**
23.1	Consent of FORVIS 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.
97	
97.1	GSE Systems, Inc. Amended and Restated Clawback Policy, filed herewith.
	* Management contracts or compensatory plans required to be filed as exhibits pursuant to Item 15(b) of this report.

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
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: April 2, 2024
/*s* / KYLE J. LOUDERMILK
Kyle J. Loudermilk, Chief Executive Officer
(Principal Executive Officer)

Date: April 2, 2024
/ *s* / EMMETT A. PEPE
Emmett A. Pepe, Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: April 2, 2024
(Kathryn O’Connor Gardner, Chairman of the Board)
(William Corey, Chairman of the Audit Committee)
(Thomas J. Dougherty, Director)
(Suresh Sundaram, Director)
(Kyle Loudermilk, Director)

By: / *s* / EMMETT A. PEPE
Emmett A. Pepe
Attorney-in-Fact

A Power of Attorney, dated April 1, 2024 authorizing Emmett A. Pepe to sign this Annual Report on Form 10-K for the fiscal year ended December 31, 2023 on behalf of certain of the directors of the Registrant is filed as Exhibit 24.1 to this Annual Report.

Exhibit 21.1

SUBSIDIARIES OF REGISTRANT AT DECEMBER 31, 2023

The following are significant subsidiaries of GSE Systems, Inc. as of December 31, 2023, 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 Process Solutions, Inc.	State of Delaware
GSE Services Company L.L.C.	State of Delaware
GSE Performance Solutions, Inc.	State of Delaware
Hyperspring, LLC	State of Delaware
Absolute Consulting, Inc.	State of Delaware
GSE True North Consulting, LLC	State of Delaware
DP Engineering, LLC	State of Delaware
GSE Systems Slovakia s.r.o	Slovakia

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statements on Forms S-8 (Nos. 333-212241, 333-183427, 333-150249 and 333-138702) and S-3 (No. 333-264114) of GSE Systems, Inc., of our report dated April 2, 2024, with respect to the consolidated financial statements of GSE Systems, Inc., for the years ended December 31, 2023 and 2022 and for each of the two years in the period ended December 31, 2023 included in this Annual Report on Form 10-K for the year ended December 31, 2023. Our report contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ FORVIS, LLP

Tysons, Virginia

April 2, 2024

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: April 1, 2024	/s/ Kyle J. Loudermilk Kyle J. Loudermilk Chief Executive Officer
Date: April 1, 2024	/s/ Emmett A. Pepe Emmett A. Pepe Chief Financial Officer
Date: April 1, 2024	s/ Kathryn O'Connor Gardner Kathryn O'Connor Gardner Chairman of the Board
Date: April 1, 2024	/s/ William Corey William Corey Chairman of the Audit Committee
Date: April 1, 2024	/s/ Thomas J. Dougherty Thomas J. Dougherty Director
Date: April 1, 2024	/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: April 2, 2024

/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:

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

7. 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;

8. 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;

9. 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:

   e) 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;

   f) 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;

   g) 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

   h) 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

10. 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:

   c) 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

   d) 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: April 2, 2024

/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, 2023 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: April 2, 2024	/s/ Kyle J. Loudermilk	/s/ Emmett A. Pepe
	Kyle J. Loudermilk	Emmett A. Pepe
	Chief Executive Officer	Chief Financial Officer

Exhibit 97.1

GSE SYSTEMS, INC.

Amended and Restated Clawback Policy

Introduction

The Board of Directors (the “**Board**”) of GSE Systems, Inc., a Delaware corporation (the “**Company**”), believes that it is in the best interests of the Company and its stockholders to create and maintain a culture that emphasizes integrity and accountability and that reinforces the Company’s pay-for-performance compensation philosophy. The Board has therefore adopted this policy (this “**Policy**”) which provides for the recoupment of certain executive compensation in the event of an accounting restatement resulting from material noncompliance with financial reporting requirements under the federal securities laws. This Policy is designed to comply with Section 10D of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”).

Administration

This Policy shall be administered by the Board or, if so designated by the Board, the Compensation Committee, in which case references herein to the Board shall be deemed references to the Compensation Committee. Any determinations made by the Board shall be final and binding on all affected individuals.

Covered Executives

This Policy applies to the Company’s and its subsidiaries’ current and former executive officers, as determined by the Board in accordance with Section 10D of the Exchange Act and the listing standards of The Nasdaq Stock Market LLC (“**Nasdaq**”), and such other senior executives who may from time to time be deemed subject to the Policy by the Board (“**Covered Executives**”).

Recoupment; Accounting Restatement

In the event the Company is required to prepare an accounting restatement of its financial statements due to the Company’s material noncompliance with any financial reporting requirement under applicable securities laws, the Board will require reimbursement or forfeiture of any excess Incentive Compensation (defined below) received by any Covered Executive during the three (3) completed fiscal years immediately preceding the date on which the Company is required to prepare an accounting restatement. Recoupment of Incentive Compensation pursuant to this Policy is made on a “no fault” basis, without regard to whether any misconduct occurred or any Covered Executive’s responsibility for the noncompliance that resulted in the accounting restatement.

Incentive Compensation

For purposes of this Policy, "**Incentive Compensation**" means any of the following; provided that such compensation is granted, earned, or vested based wholly or in part on the attainment of a financial reporting measure:

- Annual bonuses and other short- and long-term cash incentives;
- Stock options;
- Stock appreciation rights;
- Restricted stock;
- Restricted stock units;
- Performance shares;
- Performance units; and
- Other awards of equity or equity-like compensation provided by the Company and its subsidiaries.

For purposes of this Policy, "financial reporting measures" include:

- Company stock price;
- Total shareholder return;
- Revenues;
- Net income;
- Earnings before interest, taxes, depreciation, and amortization (EBITDA);
- Funds from operations;
- Liquidity measures such as working capital or operating cash flow;
- Return measures such as return on invested capital or return on assets;
- Profit margins and growth rates; and
- Earnings measures such as earnings per share.

Excess Incentive Compensation: Amount Subject to Recovery

The amount to be recovered will be the excess of the Incentive Compensation paid to the Covered Executive based on the erroneous data over the Incentive Compensation that would have been paid to the Covered Executive had it been based on the restated results, as determined by the Board.

If the Board cannot determine the amount of excess Incentive Compensation received by the Covered Executive directly from the information in the accounting restatement, then it will make its determination based on a reasonable estimate of the effect of the accounting restatement.

Method of Recoupment

The Board will determine, in its sole discretion, the method for recouping Incentive Compensation hereunder which may include, without limitation:

- requiring reimbursement of cash Incentive Compensation previously paid;
- seeking recovery of any gain realized on the vesting, exercise, settlement, sale, transfer, or other disposition of any equity-based awards;
- offsetting the recouped amount from any compensation otherwise owed by the Company to the Covered Executive; and/or
- cancelling outstanding vested or unvested equity awards.

In addition, the Board may, in its sole discretion, determine whether and to what extent additional action is appropriate to address the circumstances surrounding the noncompliance so as to minimize the likelihood of any recurrence and to impose such other discipline as it deems appropriate.

No Indemnification

The Company shall not indemnify any Covered Executives against the loss of any incorrectly awarded Incentive Compensation.

Interpretation

The Board is authorized to interpret and construe this Policy and to make all determinations necessary, appropriate, or advisable for the administration of this Policy. It is intended that this Policy be interpreted in a manner that is consistent with the requirements of Section 10D of the Exchange Act and any applicable rules or standards adopted by the Securities and Exchange Commission (the "**SEC**") or any national securities exchange on which the Company's securities are listed.

Effective Date

This Policy was amended and restated and, as such, shall be effective as of the date it is adopted by the Board (the "**Effective Date**") and shall apply to Incentive Compensation that is approved, awarded or granted to Covered Executives on or after that date.

Amendment; Termination

The Board may amend this Policy from time to time in its discretion and shall amend this Policy as it deems necessary to reflect final regulations adopted by the SEC under Section 10D of the Exchange Act and to comply with any rules or standards adopted by a national securities exchange on which the Company's securities are listed. The Board may terminate this Policy at any time.

Other Recoupment Rights

The Board intends that this Policy will be applied to the fullest extent of the law. The Board may require that any employment agreement, equity award agreement, or similar agreement entered into on or after the Effective Date shall, as a condition to the grant of any benefit thereunder, require a Covered Executive to agree to abide by the terms of this Policy. Any right of recoupment under this Policy is in addition to, and not in lieu of, any other remedies or rights of recoupment that may be available to the Company pursuant to the terms of any similar policy in any employment agreement, equity award agreement, or similar agreement and any other legal remedies available to the Company.

Impracticability

The Board shall recover any excess Incentive Compensation in accordance with this Policy unless such recovery would be impracticable, as determined by the Board in accordance with Rule 10D-1 of the Exchange Act and Nasdaq's listing standards.

Successors

This Policy shall be binding and enforceable against all Covered Executives and their beneficiaries, heirs, executors, administrators or other legal representatives.