GSE SYSTEMS INC

FORM 10-K
(Annual Report)

Filed 03/29/02 for the Period Ending 12/31/01

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Symbol	GVP
SIC Code	7372 - Prepackaged Software
Industry	Software
Sector	Technology
Fiscal Year	12/31

GSE SYSTEMS INC

FORM 10-K
(Annual Report)

Filed 3/29/2002 For Period Ending 12/31/2001

Address	9189 RED BRANCH ROAD
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Industry	Software & Programming
Sector	Technology
Fiscal Year	12/31

Conformed

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2001

OR
[ ] 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 0-26494

GSE Systems, Inc.

(Exact name of registrant as specified in its charter)

Delaware	52-1868008
(State of incorporation)	(I.R.S. Employer Identification Number)
9189 Red Branch Road, Columbia, Maryland	21045
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (410) 772-3500

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

Common Stock, $.01 par value
(Title of each class)

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

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

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

The aggregate market value of Common Stock held by non-affiliates as of March 8, 2002 was $21,422,354 based on closing price of such stock on that date. Number of shares of Common Stock outstanding as of March 8, 2002: 5,869,138

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates certain information by reference from the Registrant's definitive proxy statement to be filed for its 2002 Annual Meeting of Shareholders.

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 2001

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* to be incorporated by reference from the Proxy Statement for the registrant's 2002 Annual Meeting of Shareholders.

Cautionary Statement Regarding Forward-Looking Statements.

This report contains certain forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed forward-looking statements. These statements are based on management's current beliefs and expectations and are subject to numerous risks and uncertainties and changes in circumstances. Actual results may differ materially from these forward-looking statements due to changes in global, economic, business, governmental, technical, competitive, market and regulatory factors.

PART I

ITEM 1. BUSINESS.

GSE Systems, Inc. ("GSE Systems", "GSE" or the "Company") is a world leader in real-time power plant simulation and process automation and control. The Company provides simulation solutions and services to the nuclear and fossil electric utility industry, as well as process industries such as the chemical and petrochemical industries. In addition, the Company provides plant optimization and safety improvement software primarily to the power industry. The Company's process automation products optimize batch and hybrid plant control for the specialty chemical, food and beverage, and pharmaceutical industries. The Company operates through two business segments, Power Simulation and Process Automation.

In addition to these two core businesses, GSE has invested in the use of simulation and control technologies to reduce the product development cycle for the pharmaceutical and chemical industries through its participation in the Netherlands-based company Avantium International BV.

Recent Developments.

Power Simulation Business

The Company's Power Simulation Business Unit ("Power") continued its efforts to expand its leadership in nuclear simulation technology to the fossil simulation marketplace. In 2000, GSE released its "G-Suite" software tools which target fossil simulation applications. These tools elevate the level of simulation beyond traditional training to allow the operator to optimize plant performance. In 2001, GSE was awarded $3.1 million of new orders for fossil simulators in the United States, including an award from American Electric Power in March 2001 for two full-scope fossil training simulators, bringing GSE's total fossil orders in the last two years to $9.6 million. In 2001, 21.7% of Power's worldwide revenue was generated by fossil projects.

The deregulation of the electric power industry and the 2001 California energy crisis underscored the importance of efficient and reliable operations of power stations. The use of simulation to address these issues has resulted in new opportunities for GSE to improve the simulation fidelity of existing simulators and the supply of new simulators around the world. While GSE simulators are primarily utilized for power plant operator training, the uses are expanding to include engineering, plant modification studies, and operation efficiency improvements for both nuclear and fossil utilities. During plant construction, simulators are used to test control strategies and ensure on-time start-up. After commissioning, the same tools can be used to increase plant availability and optimize plant performance for the life of the facility.

President Bush's National Energy Policy encourages the improvement of nuclear plant operating performance from 90%, the current level, to 92%. In the second quarter of 2001, GSE released several products using advanced signal analysis techniques to help nuclear plants achieve this increase in operating performance. GSE's Pegasus Plant Surveillance and Diagnosis System help improve plant availability, safety and economy. Pegasus is a software package for semi-automatic plant surveillance and diagnostics and enables site engineers to perform detailed analysis for specified component faults, allowing the identification of degraded performance and replacement of components before they fail. SensBase provides comprehensive sensor test services, thus ensuring that changes in transmitters and other instruments do not jeopardize the function of the nuclear plant protection systems. BRUS, a noise analysis program package, is a collection of signal analysis tools which allow users to detect developing abnormalities in the plant.

In the latter part of 2001, the Company entered into two strategic marketing alliances which are expected to help expand the Power business. The first alliance is with General Physics Corporation, the leading supplier of operator instructional training programs for the Power industry. Whereas GSE is the leading manufacturer of operating training simulators for the Power industry, the alliance with General Physics Corporation will allow a more encompassing solution to both companies' client base and strengthen their respective product lines. In addition to cooperating in marketing of individual products, the companies will combine some of General Physics' extensive training materials and programs with GSE's power plant simulation models to provide truly interactive and adaptive total training solutions. GSE will also help sell and distribute General Physics' GFE product to GSE's customer base.

The second alliance is with PowerGen's Simulator Training Systems Group, a premier supplier of simulation systems and technology for Combined Cycle Gas Turbine (CCGT) power plants. The Simulator Training Systems Group has developed a range of distributed control system emulation tools necessary to effectively simulate the control systems for fossil and nuclear power plants. GSE has the extensive knowledge, models and tools necessary to simulate the functionality of power plant systems. By combining the tool sets and jointly marketing this capability worldwide, the companies believe they can both significantly expand their offering and provide greater value to users in the nuclear, fossil and CCGT power industry.

Process Automation Business

In order to return the Company's Process Control Business Unit ("Process") to profitability, the Company implemented a restructuring plan in 2000 that included personnel reductions, the outsourcing of Process' manufacturing and assembly operations, and the November 2000 sale of Process' unprofitable European operations based in Belgium. The restructuring was completed in the first quarter 2001 with the sale of the Business Unit's VirtualPlant technology and assets to Avantium International B.V. ("Avantium") in exchange for Avantium stock.

To expand within its traditional customer base and gain new customers, Process embarked upon a program to develop a lower-cost, next generation process controller using the latest microprocessor technology. This new controller will be part of the second quarter 2002 D/3 product release which will also include enhanced alarming and improved security features. This new version of the D/3 product will allow the Company to bridge the cost gap between programmable logic controllers (PLCs) and the distributed control systems while providing the increased performance of a full-function distributed control system. This more cost effective solution will enable existing customers to apply automation to areas of their plants that could not previously afford the benefits of a full distributed control system. The Company has initiated a campaign to find expanded distribution channels for its new products, particularly in smaller, batch applications where previously the power of the D/3 could not be cost effectively applied.

Plant Security Business

In light of recent security concerns at nuclear plants and other sensitive locations, the Company has begun marketing the technology it acquired several years ago for plant access control and intrusion detection. The Company has implemented its system at several nuclear power plants in the US and is pursuing applications at other facilities. The system is a command and control center that integrates information card readers, retinal scanners, closed circuit TV and other field devices used for intrusion detection and personnel access control. The Company has recently hired a manager to develop a business plan for the expansion of this security business. The Company is also teaming with ManTech Security Technologies Company, a subsidiary of one of its principle shareholders, to provide turnkey capabilities to the nuclear industry. Services include threat and vulnerability assessments, risk mitigation plans, cost/benefit analysis, security system design, implementation, testing and

training.

The Company also believes it is uniquely qualified to apply its plant design and operations knowledge as well as simulation technology to help customers analyze security threats and develop strategies to test plant recovery strategies in the event of an incident.

VirtualPlant Strategy

During 1999 and 2000, the Company created and implemented its VirtualPlant business and marketing strategy. VirtualPlant combined simulation with control systems to create a real-time representation of an operating manufacturing plant. VirtualPlant would allow a customer to create an environment for simulation-enhanced experimentation, thereby reducing the amount of physical experimentation necessary to achieve an optimal design for a new process product.

In February 2000, while implementing the VirtualPlant strategy, the Company participated in the founding of Avantium International B.V. Avantium, a Netherlands-based high technology company, employs high-speed experimentation and simulation technologies in contract research and development in the area of new product development and process chemistry. In connection with Avantium's founding, the Company licensed certain of its simulation software and automation system products in exchange for 251,501 shares of Avantium preferred stock and 352,102 shares of Avantium common stock, thus giving the Company a 10% equity interest in Avantium. GSE was subsequently hired by Avantium to provide software to automate and maximize Avantium's lab environment. Avantium also hired the Company to make certain improvements and enhancements to the software it licensed to Avantium.

In early 2000, GSE determined that outside investment was required to support its VirtualPlant business, however, the Company was unsuccessful in attracting the needed capital on acceptable terms. Accordingly, the Company sold its VirtualPlant assets and technology to Avantium in March 2001. Avantium purchased certain fixed assets and intellectual property (including the Company's BatchCAD and BatchWizard software products) and employed certain of the Company's personnel in the U.S. and the UK. GSE received 200,000 shares of Avantium preferred stock and 280,000 shares of Avantium common stock, which increased its equity interest in Avantium to approximately 19% and the carrying value of its investment to $7.5 million. The Company licensed its process control and simulation software exclusively to Avantium solely for the research and development market. The Company received a royalty-free license to use and produce upgrades of the BatchWizard Software owned by Avantium in the manufacturing market.

On February 7, 2002 Avantium completed a private placement round of financing which resulted in 20 million Euros in new capital and the conversion of 11 million Euros of convertible debt. The equity issuance and debt conversion diluted GSE's ownership in Avantium to 6.1%. The estimated fair market value of Avantium following the financing was $47.4 million. Accordingly the Company concluded that this transaction was evidence of "an other than temporary decline" in the fair value of its investment in Avantium. Thus, in the fourth quarter 2001, the Company wrote down its investment in Avantium to $2.9 million and recognized a $4.6 million pre-tax charge.

Research and Development

Throughout the year, GSE continued to invest in its core products of D/3 Distributed Control System and Power simulation technology. As mentioned above, the Company enhanced the capabilities of the D/3 through significant investment in a lower-cost, next generation process controller using the latest microprocessor technology. This new controller will be part of the second quarter 2002 D/3 product release which will also include enhanced alarming improved security features. GSE also invested in the development of a Windows 2000 version of its FlexBatch Recipe and Process Management software.

The Company has made significant progress in applying Java Technology on its Power Simulation tools in 2001. The first release of the Java Instructor Station has been implemented on two on-going full scope fossil simulators. Additional tools are expected to be released in the third and fourth quarters of 2002.

Background.

GSE Systems was formed on March 30, 1994 to consolidate the simulation and related businesses of S3 Technologies, General Physics International Engineering & Simulation and EuroSim, each separately owned and operated by ManTech International Corporation, GP Strategies Corporation and Vattenfall AB, respectively. On December 30, 1994, GSE Systems expanded into the process control automation and supply chain management consulting industry through its acquisition of the process systems division of Texas Instruments Incorporated, which the Company operates as GSE Process Solutions, Inc. ("Process Solutions").

In April 1996, the Company aligned its operating groups into three strategic business units to better serve its then primary vertical markets - Power, Process and Oil & Gas. The realignment allowed the Company to focus on providing all of its technologies to these markets, while addressing the specific needs of each market and delivering industry specific solutions.

In May 1996, the Company acquired Erudite Software & Consulting, Inc. ("Erudite"), a regional provider of client/server technology, custom application software development, training services, hardware/software sales, and network design and implementation services. The acquisition facilitated the Company's efforts to enter the client/server information technology solutions market. Erudite was subsequently combined with a small pre-existing consulting group within the Company to form the Company's Business Systems business unit.

In December 1997, the Company acquired 100% of the outstanding common stock of J.L. Ryan, Inc. ("Ryan"), a provider of engineering modifications and upgrade services to the power plant simulation market. The combination of the Company's pre-existing technology with the technical staff of the acquired Ryan business positioned the Company to be more competitive for modifications and upgrade service projects within the nuclear simulation market.

After incurring substantial losses in 1997, management decided to divest the Company's unprofitable business units and concentrate its resources on its core businesses, Power Simulation and Process Automation. Accordingly, in April 1998, the Company sold substantially all of the assets of Erudite to Keane, Inc. and in November 1998, the Company divested certain assets of the Oil & Gas business unit to Valmet Automation (USA), Inc.

In April 1999, the Company acquired certain assets and employed the associates of BatchCAD Limited. The BatchCAD product was a key element in the Company's VirtualPlant business and marketing strategy.

In early 2000, while implementing the VirtualPlant strategy, the Company participated in the founding of Avantium International B.V. Avantium, a Netherlands-based high technology company, employs high-speed experimentation and simulation technologies in contract research and development in the area of new product development and process chemistry. In connection with Avantium's founding, the Company licensed certain of its simulation software and automation system products in exchange for Avantium preferred and common stock. GSE was subsequently hired by Avantium to provide software to automate and maximize Avantium's lab environment. Avantium also hired the Company to make certain improvements and enhancements to the software it licensed to Avantium.

In March 2001, the Company sold its VirtualPlant business to Avantium in order to maximize its investment in the VirtualPlant strategy.

Power Simulation Business.

Industry

The real-time simulation industry grew from the need to train people on complex and potentially dangerous operations, without placing life or capital assets at risk. Real-time simulation has been used for the training of plant operators for the power industry, including both nuclear power plants and conventional fossil fuel power plants (i.e., coal, oil, and natural gas), since the early 1970s. Real-time simulation usage has traditionally centered on initial training of operators and follow-on training of operators in emergency conditions that can best be achieved through simulation replicating actual plant operations.

In the nuclear power industry, use of a simulator that accurately reflects the current actual plant design is mandated by the U.S. Nuclear Regulatory Commission. This mandate resulted from the investigation of the accident at the Three Mile Island nuclear plant in 1979, which was attributed, at least in part, to operator error. The NRC requires nuclear plant operators to earn their licenses through simulator testing. Each nuclear plant simulator must pass a certification program to ensure that the initial plant design and all subsequent changes made to the actual plant control room or plant operations are accurately reflected in the simulator. Plant operating licenses are tied to simulator certification.

Full scope power plant simulators are a physical representation of the entire plant control room. The control panels are connected to an input/output (I/O) system, which converts analog electrical signals to digital signals understood by the simulation computer. The simulation computer houses the mathematical models, which simulate the physical performance of the power plant's systems such as the reactor core, steam boiler, cooling water, steam turbine, electrical generator, plant system controls and electrical distribution systems. Partial scope simulators can be viewed as a subset of a full scope simulator. Instead of simulating the entire performance of the power plant, a partial scope simulator might represent one or two critical systems such as the steam turbine and/or electrical generator operation.

In the past, training simulators had to strike a delicate balance between providing an accurate engineering representation of the plant, while still operating in "real-time" in order to provide effective training. As computing power has increased, so too has the capacity of simulators to provide more accurate plant representations in real-time based upon simulation models developed from engineering design codes.

Simulation also is used to validate proposed plant equipment changes to confirm the results of such changes, prior to making the change in the plant, which can save time and money, as well as reduce the risk of unsafe designs, for the utility.

Demand for new simulators in the nuclear power industry shifted to the international market in the 1990s, as the domestic market was limited to upgrades and replacement of existing simulators. However, the Company believes that the new National Energy Policy's emphasis on the importance of nuclear power to the U.S. energy supply may result in the extension of the useful lives of U.S. nuclear power plants. Any service life extension of a nuclear power plant is likely to require major upgrades to the plant's equipment and technology, including its simulator.

Fossil fuel plant simulators are not required by law or regulation, but are justified as a cost-effective approach to train operators on new digital control systems being implemented at many fossil fuel power plants. The size, complexity and price of a fossil plant simulator are much lower than for simulators used for nuclear plants. Fossil plant simulators have traditionally used lower fidelity (less sophisticated) mathematical models to provide an approximate representation of plant performance. The demand for highly accurate models did not exist in the early market for fossil simulators since the main use of the simulator was to train operators on the functionality of distributed control systems for plant start-up activities.

The deregulation of the power industry has forced utilities to view their assets differently. Power plants must now be profit centers, and gaining the maximum efficiency from the plant to become, or remain, competitive is a paramount issue. The mindset of the operator has shifted, as plant operators now must perform within narrower and narrower performance margins while still maintaining safe operations. GSE now sees its fossil fuel plant customers recognizing the benefits of high fidelity simulation models that provide highly accurate representations of plant operations to help plant operators and management determine optimal performance conditions.

Industry deregulation has also resulted in the consolidation and redistribution of assets on a global basis. U.S. utilities are purchasing generating assets around the world, and foreign utilities are investing in U.S. assets, creating the need for real-time integration of plant information from a variety of sources and a variety of legacy information systems in a cost-effective manner. Dataquest estimated that the annual spending on information technology for U.S. utilities in 2001 totaled $15.4 billion (including $3.3 billion on software and $6.5 billion on services); such spending is forecasted to increase to $22.5 billion in 2002. The Company is considering either developing or acquiring technology that will enhance the ability of disparate databases to communicate and provide rapid and customized information across the plant.

According to the National Energy Policy, "To meet projected demand over the next two decades, America must have in place between 1,300 and 1,900 new electric plants. Much of this new generation will be fueled by natural gas. However, existing and new technologies offer us the opportunity to expand nuclear generation as well." More power plants will require new plant operators. New plant operators will require more training programs. The Company believes that more training programs will require more training tools, which will result in more demand for power plant simulators and related products and services. Therefore, the Company believes that these projections, if they come to fruition in whole or even in part, represent a market opportunity for its real-time simulation, plant optimization, asset management and condition monitoring products and services.

GSE's solution

The Company's Power Simulation business is a leader in the development, marketing and support of high fidelity, real-time, dynamic simulation software for the electric utility industry. The Company has built or modified about 65 of the approximately 75 full-scope simulators serving about 103 operating nuclear power plants in the United States. Outside the United States, GSE has built or modified about 73 of the approximately 167 full-scope simulators serving approximately 329 operating nuclear power plants.

In addition to operator training, the Company's simulation products and services permit plant owners and operators to simulate the effects of changes in plant configuration and performance conditions to optimize plant operation. These features allow the Company's customers to understand the cost implications of replacing a piece of equipment, installing new technology or holding out-of-service assets. GSE has also developed a suite of tools based on sophisticated signal analysis and simulation techniques to help its customers manage their assets by determining equipment degradation before it severely impacts plant performance.

The Company has also focused on upgrading older technology used in power plants to the Microsoft Windows NT platform and has successfully deployed such new technology upgrades for plant process computers, safety parameter display systems, and plant access security systems. As nuclear plants in the U.S. continue to age, the Company will seek more business in this upgrade market.

GSE provides both turnkey solutions, including simulated hardware and proprietary software, to match a specific plant, and discrete simulation technology for specific uses throughout a plant. Its substantial investment in simulation technology has led to the development of proprietary software tools. These tools significantly reduce the cost and time to implement simulation solutions and support long-term maintenance. The Company's high fidelity, real-time simulation technology for power plant fluid, logic and control, electrical systems and associated real time support software, "SimSuite Power", is available for UNIX and Windows NT computer platforms. This technology is specifically designed to provide user friendly graphic interfaces to the Company's high fidelity simulator.

In addition to the simulator market, the Company offers products aimed at improving performance of existing plants by reducing the number of unplanned outages due to equipment failure. Using advanced signal analysis techniques, the Company's tools can predict when certain plant equipment needs to be replaced. Replacement of critical equipment prior to failure permits effective planning and efficient use of maintenance time during scheduled off-line periods. In the future, the Company will apply this technology to its process control systems to help customers better manage plant assets.

Other products of the Power Simulation business include:

Java Applications & Development Environment (JADE), a Java-based application that provides a window into the simulation instructor station and takes advantage of the web capabilities of Java, allowing customers to access the simulator and run simulation scenarios from anywhere they have access to the web.

SimExec, a Windows NT-based real-time simulation executive system that controls all real-time simulation activities and allows for an off-line software development environment in parallel with the training environment.

eXtreme I/S, a Windows NT-based Instructor Station that allows the use of Microsoft Word and PowerPoint to control the real-time simulation environment. eXtreme I/S is a user-friendly tool for classroom training and electronic report generation. It provides real-time plant performance directly from the simulator during classroom training, which drastically increases learning efficiency.

Pegasus Surveillance and Diagnosis System, a software package for semi-automatic plant surveillance and diagnostics, incorporates sophisticated signal processing and simulation techniques to help operators evaluate the condition and performance of plant components. Pegasus permits plant management to identify degraded performance and replace components before they fail.

SIMON, a computer workstation system used for monitoring stability of boiling water reactor plants. SIMON assists the operator in determining potential instability events, enabling corrective action to be taken to prevent unnecessary plant shutdowns.

Vista PIN, a PC-based plant information system, provides unparalleled flexibility usefulness and ease of maintenance while decreasing the cost of ownership. Vista PIN provides real-time display of process parameters, trends, alarm status, and historical data archiving with on-line retrieval.

The Power Simulation business also provides consulting and engineering services to help users plan, design, implement, and manage/support simulation and control systems. Services include application engineering, project management, training, site services, maintenance contracts and repair.

Strategy

The goal of the Power Simulation business is to expand its business on three fronts. First, it intends to continue serving its traditional customer base and to be prepared to meet increased demand if traditional simulation use grows in relation to increased electric capacity in the United States. Second, it intends to market its existing and upgraded simulation products and its newly developed signal analysis products as plant optimization, asset management and condition monitoring tools. And, third, it intends to leverage its existing engineering staff to provide additional services to domestic and international clients.

Traditional Simulation Market. The National Energy Policy considers nuclear power a key component of the power supply in the United States. Nuclear power currently accounts for about 20% of the electrical power grid capacity in the United States and the NEP indicates that this percentage will likely remain the same even as total capacity increases. Any new nuclear power plants will likely be of the advanced reactor designs created by Westinghouse, General Electric and ABB, or the new pebble-bed gas cooled reactor under construction by a consortium of companies. These new designs require new simulators and training programs, as they are different from the nuclear power plant designs currently in operation. In addition to new power plants, if any, under the NEP, existing nuclear power plants will likely be required to remain on-line for a longer period than originally expected. In order to stay in operation, many plants will require life extension modifications. Since all existing nuclear power plants went on-line before 1979, their designs and technology can also benefit from the substantial advances in plant design and technology developed over the past 20 years. For example, several of the Company's U.S. utility customers are considering replacing their existing hard panel control rooms with modern distributed control systems as are common in fossil fuel plants, and which have been implemented in Europe for several years. Significant changes to control room instrumentation generally require modification or replacement of the plant simulator. With the largest installed base of nuclear plant simulators in the world, the Company believes it is uniquely positioned to serve this market segment with new simulation products and services.

Another component of the National Energy Policy is to "up-rate" the existing capacity to increase electrical yield without building new power plants. By changing the capacity of certain equipment in a plant, the utility can gain upwards of a 10% increase in output. Again, any such changes must be reflected in the control room simulator, and operators must be trained on the new equipment before implementation.

In addition to the new demand for power in the United States, several emerging regions of the world are expanding their electrical capacity with both nuclear and fossil fuel power plants. The Company believes this expansion includes the need for integrated simulation and training programs and has developed products that will enable it to exploit the fossil fuel simulation marketplace. GSE is increasing its marketing efforts in this area. It has increased the number of bids submitted for fossil simulators over the past eighteen months and has increased the number of orders obtained, including a multi-million dollar order for a full-scope fossil plant simulator in India in 2000.

Simulation Beyond Training. The Company believes that the deregulation of the electric power industry has increased the importance of efficient and reliable operation of power plants. In addition to operator training, the Company's simulation products can meet this increased need for efficiency by assisting plant operators in understanding the cost implications of replacing equipment, installing new technology and maintaining out-of-service assets. In order to exploit this potential, the Company has increased the fidelity of its simulation products and is marketing its services to increase the fidelity of simulators that are already in operation.

As computing power and networking technologies improve, several of the Company's customers have started to migrate simulation technology from the training organization to the engineering organization. The same full scope simulation software that drives the simulated control room panels in a simulator can be used with graphical representations of the panels so engineers can test design changes and see how the balance of the plant will react to such changes. GSE has developed a Java-based application to allow customers easier access to, and use of, the simulation capabilities across the organization through network communication.

Optimize Existing Engineering Resources. GSE's Power domestic service organization focuses on simulator upgrades and retrofits. This group employs over 20 engineers, and the Company employs over 60 engineers in the United States capable of servicing the upgrade/retrofit market. In addition to domestic resources, GSE has developed a network of trained engineers in Russia, Ukraine, Czech Republic, Bulgaria, India and China. These foreign resources provide low cost engineering and software development capabilities and are readily available to supplement the United States engineering staff as necessary.

In addition, the Power Simulation business has grown through acquisitions and will continue to pursue acquisitions and investment opportunities that will create value and enhance cash flow. The Company targets acquisitions and investments that provide:

Cost saving opportunities

Enhanced positioning in existing markets

Entry into new geographic and industry markets

Turnaround opportunities for under-performing businesses

Strategic Alliances

Power's strategic alliances have enabled the Company to penetrate regions outside the United States by combining the Company's technological expertise with the regional presence and knowledge of local market participants. These strategic alliances have also permitted the reduction of research and development and marketing costs by sharing such costs with other companies.

In recent years, an increasing amount of the Company's international business has come from contracts in Eastern Europe, including the republics of the former Soviet Union, the Pacific Rim and India. In order to acquire and perform these contracts, the Company entered into strategic alliances or partnerships with various entities including Automation Systems Co. Inc., a subsidiary of Beijing Jihang Automation (China); All Russian Research Institute for Nuclear Power Plant Operation (Russia); Kurchatov Institute (Russia); Macmet Ltd. (India); PowerGen (England); Risk Engineering Ltd. (Bulgaria); Samsung Electronics (Korea); Toyo Engineering Corporation (Japan); and the Institute for Information Industry (Taiwan).

In addition to traditional partners, GSE has developed a marketing cooperation arrangement with the Power Technology group of PowerGen, the UK's largest power company. PowerGen may be purchased by E.ON, the world's largest investor-owned utility. This relationship gives GSE access to the European fossil simulation market, as well as the tools necessary to simulate the Siemens Teleperm control system, one of the more popular control systems being offered to U.S. nuclear power plants.

Competition

The Power Simulation business encounters intense competition. In the nuclear simulation market, GSE competes directly with larger firms primarily from Canada, Germany and France, such as Canadian Aerospace & Electronics (CAE), STN Atlas and CSF Thomson. The fossil simulation market is represented by smaller companies in the U.S. and overseas. Several of the Company's competitors have greater capital and other resources than it has, including, among other advantages, more personnel and greater marketing, financial, technical and research and development capabilities. Customer purchasing decisions are generally based upon price, the quality of the technology, experience in related projects, and the financial stability of the supplier.

Customers

The Power Simulation business has provided approximately 200 simulation systems to an installed base of over 75 customers worldwide. In 2001, approximately 71% of the Power Simulation revenue was generated from end users outside the United States. Customers include, among others, Ameren, Arizona Public Service, Carolina Power and Light Company, Commonwealth Edison Company, Eskom South Africa, Karnaraft Sakerhet & Utbildning AB, Korean Electric Power Company, Nationalina Elecktrischecka Kompania, Orgrez SC, Battelle's Pacific Northwest National Laboratory, Taiwan Power Company, and West Bengal Development Corp.

For the years ended December 31, 2001, 2000, and 1999 one Power Simulation customer (Battelle's Pacific Northwest National Laboratory) accounted for approximately 17%, 22%, and 13%, respectively, of GSE's consolidated revenues. The Pacific Northwest National Laboratory is the purchasing agent for the Department of Energy and the numerous projects GSE performs in Eastern and Central Europe.

Sales and Marketing

The Company markets its Power Simulation products and services through a network of direct sales staff, agents and representatives, systems integrators and strategic alliance partners. A direct sales force is employed in the continental United States. Market-oriented business and customer development teams define and implement specific campaigns to pursue opportunities in the power marketplace.

The Company's ability to support its multi-facility, international and/or multinational Power Simulation clients is facilitated by its network of offices and strategic partners in the U.S. and overseas. Power Simulation offices are maintained in Maryland and Georgia, and outside the U.S., in Sweden and Japan. In addition to the offices located overseas, the Company's ability to conduct international business is enhanced by its multilingual and multicultural work force. GSE has strategic relationships with systems integrators and agents representing its interests in:

Russia	South Africa
Germany	Mexico
Switzerland	Brazil
Bulgaria	Taiwan
Spain	Korea
Czech Republic	Japan
India	People's Republic of China

Process Automation Business.

Industry

Process control systems automate manufacturing and other processes, thereby reducing labor and other production costs and maximizing production efficiency. According to the Automation Research Council, worldwide revenues for process automation systems totaled over $7.8 billion in 2000 and are projected to be $9.5 billion in 2005. The sales of process control systems have been driven by customer desires to improve production efficiency and reliability. The capital-intensive and competitive nature of manufacturing requires companies to focus on designing, monitoring, and modifying the production processes in the most efficient and profitable manner. Process control systems consist of rugged microprocessor-based hardware, which is physically distributed throughout a plant and linked by digital communications to control centers. These systems allow users to monitor and control various functions. The graphic information and control displays utilized by these systems enhance the customer's strategic production and emergency decision-making capabilities.

Two parts of the industry, the batch and hybrid controls markets, are of particular interest to GSE. The batch controls market focuses on products made in batches versus a continuous process. The Company believes the need for traceability and increased government requirements (e.g., EPA, FDA) is fueling the growth of batch control systems in the United States. The hybrid controls market focuses on the integration of manufacturing automation and business systems. The Company believes that the growth in e-business and the need to optimize performance of supply chains are increasing the need for real-time plant and production information that can be met by hybrid control systems.

GSE's solution

The Process Automation business designs, develops and delivers process control, data acquisition, client/server and business software, systems and services. These products permit the Company's customers to maximize the use of plant assets by making real-time process information more easily available, thereby enabling faster and better informed operating decisions.

Process Automation products and services are targeted at the following industries in which the Company's personnel have substantial experience:

Specialty chemicals Pharmaceutical Food and beverage Metals

The flagship product in the Process Automation business is the D/3 DCS, a distributed control system product that is highly flexible and designed to meet open standards. D/3 DCS is a real-time system, which uses multiple process control modules to monitor, measure, and automatically control variables in both continuous and complex batch processes. D/3 DCS also forms the platform for plant-wide information

for operators, engineers and management.

Other products of the Process Automation business include the following:

FlexBatch, a flexible batch manufacturing system used to facilitate the rapid creation of various batch production processes.

TotalVision, a graphical system that provides a client/server-based human-machine interface for real-time process and plant information.

VPTV, a web-enabled version of the TotalVision package.

SABL, a sophisticated batch and sequential manufacturing software language that permits the scheduling and tracking of raw materials and finished products, data collection and emergency shutdown procedures.

The Process Automation offerings also include real-time dynamic simulation tools and products that are used to develop high fidelity simulations for chemical processing and other industrial plants. The most prominent set of simulation products and tools is called SimSuite Pro. SimSuite Pro facilitates design verification, process optimization and operator training in various types of manufacturing operations.

Strategy

The goal of the Process Automation business is to expand its leading position as a provider of process automation solutions and services to its target markets of batch and hybrid control for the specialty chemical, food and beverage, and pharmaceutical industries. GSE's strategy has the following key elements:

Improving technology. The D/3 DCS distributed control system is designed as an open standard that can work with a customer's existing software. In 2000, the Company expanded its open system software to permit communication with third-party I/O and implemented additional Microsoft technology such as Windows 2000 and Microsoft's OLE for process control to permit layering of third-party applications on its system. In addition, the Company implemented graphical utilities to increase the ease of use of this powerful system. These new tools and interfaces allow customers to use their existing equipment when they wish to upgrade their process automation technology. In 2002, the Company will finish modifying its process control module (PCM) to increase its operating speed and reduce its manufacturing costs. The Company expects that this will allow it to bridge the cost gap between programmable logic controllers (PLCs) and the distributed control systems while providing the increased performance of a full-function distributed control system. The Company will continue to provide value-added differentiation through plant optimization and asset management technologies ported from the Company's power simulation market applications.

Expand its expertise to new industries. GSE has experience in the specialty chemical, food and beverage, pharmaceutical, and metals industries. The Company will continue to focus its efforts on these industries, but will seek to apply the technical expertise that it has developed to other industries.

Leverage its expertise through sale of engineering consulting services. The Process Automation group has developed a significant amount of expertise in manufacturing processes. In the past, it has provided field service to customers of its products pursuant to its warranty or an extended service plan. The Company is currently expanding these services to provide applications, hardware and systems engineering consulting services to its customers to improve the integration and performance of their process automation technology.

Competition

The process automation industry is a highly competitive environment that has undergone considerable consolidation over the past few years. The industry is populated with numerous large process control vendors, many of which have substantially greater financial, marketing and other resources than GSE has. Examples include such companies as Foxboro, Siemens, Honeywell and Emerson. The principal factors affecting competition include price, technology, ease of use, reliability, application experience and support programs, and the financial stability of the supplier. The Company competes by employing a "focus" strategy that ensures its new product development protects its customers' previous investments in applications software and process I/O, thereby maintaining or significantly increasing barriers to change.

Customers

The Company has provided over 300 process control systems to an installed base of over 125 customers worldwide. In 2001, approximately 8% of worldwide Process Automation revenue was generated from end users outside the United States. The Company's customers include, among others, Archer Daniels Midland Company, Aristech, Bethlehem Steel Corporation, Cargill Incorporated, Eastman Chemical Company, Formosa Plastics Company, GE Plastics, Merck & Co., Inc., Miller Brewing Company, and Westinghouse Savannah River Company. For the years ended December 31, 2001, 2000 and 1999 one Process Automation customer (Westinghouse Savannah River Company) accounted for approximately 24%, 11%, and 5%, respectively, of the Company's consolidated revenues.

Sales and Marketing

Process Automation markets its products and services through a network of direct sales staff, agents and representatives, systems integrators and strategic alliance partners. It employs a direct sales force in the continental United States that is regionally based, market focused and trained on its product and service offerings. Market-oriented business and customer development teams define and implement specific campaigns to pursue opportunities in the power, process and manufacturing marketplaces. This effort is supported by a regional support organization focused on the current customer installed base.

The Company's ability to support its multi-facility, international and/or multinational clients is facilitated by its network of offices in the U.S. and overseas. Process maintains U.S. offices in:

Louisiana
Maryland
Minnesota
New Jersey
North Carolina
Ohio
Pennsylvania
South Carolina
Texas

Process Automation has strategic relationships with systems integrators and agents representing its interests in:

Belgium
Korea
Netherlands
Taiwan
People's Republic of China

Competitive Advantages.

The Company believes that it is in a strong position to compete in both the Power Simulation and Process Automation markets based upon the following strengths:

Technical and Applications Expertise. GSE is a leading innovator and developer of real-time software with more than 30 years of experience producing high fidelity real-time simulators and over 25 years in producing fully integrated computerized process control systems in more than 25 counties. As a result, the Company has acquired substantial applications expertise in the energy and industrial process industries. The company employs a highly educated and experienced multinational workforce of more than 250 employees, including approximately 180 engineers and scientists. Approximately half of these engineers and scientists have advanced science and technical degrees in fields such as chemical, mechanical and electrical engineering, applied mathematics and computer sciences.

Proprietary Software Tools. GSE has developed a library of proprietary software tools including auto-code generators and system models that substantially facilitate and expedite the design, production and integration, testing and modification of software and systems. These tools are used to automatically generate the computer code and systems models required for specific functions commonly used in simulation and process control applications, thereby enabling it or its customers to develop high fidelity real-time software quickly, accurately and at lower costs.

Open System Architecture. GSE's software products and tools are executed on standard operating systems with third-party off-the-shelf hardware. The hardware and operating system independence of its software enhances the value of its products by permitting customers to acquire less expensive hardware and operating systems. The Company's products work in the increasingly popular Microsoft operating environment, allowing full utilization and integration of numerous off-the-shelf products for improved performance.

International Strengths. Approximately 40% of the Company's 2001 revenue was derived from international sales of its products and services. GSE has a multinational sales force with offices located in Nykoping, Sweden, and Tokyo, Japan and agents and representatives in 22 other countries. To capitalize on international opportunities and penetrate foreign markets, the Company has established strategic alliances and partnerships with several foreign entities.

Plant Security Systems

Industry

Prior to the events of September 11, 2001, the nuclear power plant security industry was focused on upgrading existing security systems to new computing technology. Each plant has an access control and intrusion detection system in compliance with regulations promulgated by the Nuclear Regulatory Commission (NRC). The market was focused on upgrading existing control systems with newer computing hardware and more powerful database systems. The requirements included the ability to interface to new field sensing devices such as CCTV, microwave sensors, and more sophisticated biometric devices such as hand geometry and retinal scanners. The market is very diverse, serviced by a number of vendors without clear dominance.

After the events of September 11, 2001, concern over the vulnerability of nuclear plants to terrorist attacks has heightened. The NRC has issued new directives to increase plant security, and the industry is formulating its strategy and response. Of significance is the NRC and industry re-evaluation of the "design basis threat" for nuclear plants. New terrorist capabilities and strategies must now be factored into plant protection, addressing both external threats and potential internal threats.

In addition to nuclear power reactors, there are numerous research reactors and nuclear waste storage and processing facilities throughout the country. Concern also centers on reactors in Eastern Europe, and the Department of Energy is currently developing its strategy regarding nuclear plant security as it relates to US policy and national security.

In addition to nuclear power, the domestic chemical industry is evaluating its vulnerability to terrorist threats. The American Chemistry Council is recommending that manufacturers of chemical products step up their role in protecting America's homeland. There are over 15,000 chemical plants in the U.S. that have large quantities of extremely toxic or volatile chemicals. Unlike the nuclear power industry, there are no common standards of security across plants in the chemical industry.

GSE's Solution

GSE's Plant Access Security System, named Pass, provides access control and intrusion detection for large industrial applications such as nuclear power plants that require personnel tracking. This system is redundant, stable, and includes such standard features as: access control and intrusion detection, CCTV integration, biometrics and on-line personnel photos, dynamic map displays, advanced event processing, security communications, and systems integration.

GSE had three installations of its Plant Access Security System in operation at nuclear facilities in the United States prior to September 11, 2001. GSE sees significant growth potential in the nuclear security market and has hired technical and marketing staff to analyze this potential and develop a business plan for the Company's real-time security system business.

In addition to plant access control systems, the Company believes the plant design and operations knowledge it has gained through simulation give it the expertise to help utilities uncover and assess plant vulnerabilities. The Company's simulation capability can be used to assist the industry in testing threat scenarios and response time frames.

Strategy

The Company plans to differentiate itself through offering services beyond just the access control system implementation. The Company is teaming with ManTech Security Technologies Company to provide turnkey capabilities to the nuclear industry. Services range from threat and vulnerability assessments, risk mitigation plans, cost/benefit analysis, security system design to implementation, testing and training.

Competition and Competitive Advantage

The nuclear plant access control and intrusion detection system market is not dominated by any vendor. The Company believes that it is in a strong position to compete due to its superior technology and ability to provide a broader scope of services through its strategic partners. The Company's experience and reputation as a reliable supplier to the nuclear industry and as a systems integrator of complex real-time nuclear plant computer systems (Simulators, Security Systems, Plant Process and Control Computers) gives the Company unique access to the industry.

Sales and Marketing

The Company has provided plant access security systems to three nuclear power plants in the US. Customers include Carolina Power and Light and Connecticut Yankee Atomic Power Company. The Company will market its plant access control systems in the nuclear power and chemical markets through its direct sales channel, sales agents and strategic alliance partners.

Intellectual Property.

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

The Company has several U.S. patents that were issued in the 1996 timeframe, none of which (individually or collectively) have a significant role in the Company's current business operations. In accordance with Title 35 U.S. Code Section 154, these patents have a duration of 20 years from the filing date of the application, subject to any statutory extension, provided they are properly maintained. The Company believes that all of the Company's trademarks (especially those that use the phrase "GSE Systems") are valid and will have an unlimited duration as long as they are adequately protected and sufficiently used. The Company's licenses are perpetual in nature and will have an unlimited duration as long as they are adequately protected and the parties adhere to the material terms and conditions.

GSE's registered trademarks include D/3, D/3 DCS, SABL, TotalVision, and RETACT. Registration is pending or is being considered for other relevant trademarks, including GFLOW+, GLOGIC+, GCONTROL+, and GPower+. Some of these trademarks have also been registered in foreign countries. The Company also claims trademark rights to SimSuite Power, SimSuite Pro, Java Applications & Development Environment (JADE), SimExec, eXtreme I/S, RACS, PEGASUS Plant Surveillance and Diagnosis System, SIMON, Vista PIN, VPTV, and VPbatch.

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

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

Industries Served.

The following chart illustrates the approximate percentage of the Company's 2001, 2000, and 1999 revenues, attributable to each of the Company's reporting segments:

Industries served

	2001	2000	1999
Process	50%	45%	52%
Power	50%	55%	48%
Total	100%	100%	100%

Contract Backlog.

The Company does not reflect an order in backlog until it has received a contract that specifies the terms and milestone delivery dates. As of December 31, 2001, the Company's aggregate contract backlog totaled approximately $21.5 million, with $10.8 million in contract backlog for the Power Simulation business and $10.7 million in contract backlog for the Process Automation business. The entire backlog is expected to be converted to revenue by December 31, 2002. As of December 31, 2000, the Company's aggregate contract backlog totaled approximately $22.9 million, made up of $14.3 million for the Power Simulation business and $8.6 million for the Process Automation business.

Employees.

As of December 31, 2001, the Company had 256 employees, a 16% decrease from December 2000. The reductions were primarily associated with the sale of the VirtualPlant assets and technology and the transfer of certain of the Company's personnel in the U.S. and the UK to Avantium.

Segment Information.

See Note 19, Segment information, in the "Notes to Consolidated Financial Statements" for a discussion of the Company's business segments.

RISK FACTORS.

The Company's expense levels are based upon its expectations as to future revenues, so it may be unable to adjust spending to compensate for a revenue shortfall. Accordingly, any revenue shortfall would likely have a disproportionate effect on the Company's operating results.

The Company's operating results have fluctuated in the past and may fluctuate significantly in the future as a result of a variety of factors, including purchasing patterns, timing of new products and enhancements by the Company and its competitors, and fluctuating foreign economic conditions. Since the Company's expense levels are based in part on its expectations as to future revenues, the Company may be unable to adjust spending in a timely manner to compensate for any revenue shortfall and such revenue shortfalls would likely have a disproportionate adverse effect on operating results. The Company believes that these factors may cause the market price for its common stock to fluctuate, perhaps significantly. In addition, in recent years the stock market in general, and the shares of technology companies in particular, have experienced extreme price fluctuations. The Company's common stock has also experienced a relatively low trading volume, making it further susceptible to extreme price fluctuations.

Risk of International Sales and Operations.

Sales of products and the provision of services to end users outside the United States accounted for approximately 40% of the Company's consolidated revenues in 2001. The Company anticipates that international sales and services will continue to account for a significant portion of its revenues in the foreseeable future. As a result, the Company may be subject to certain risks, including risks associated with the application and imposition of protective legislation and regulations relating to import or export (including export of high technology products) or otherwise resulting from trade or foreign policy and risks associated with exchange rate fluctuations. Additional risks include potentially adverse tax consequences, tariffs, quotas and other barriers, potential difficulties involving the Company's strategic alliances and managing foreign sales agents or representatives and potential difficulties in accounts receivable collection. The Company currently sells products and provides services to customers in emerging market economies such as Russia, Ukraine, Bulgaria, and the Czech Republic. The Company has taken steps designed to reduce the additional risks associated with doing business in these countries, but the Company believes that such risks may still exist and include, among others, general political and economic instability, lack of currency convertibility, as well as uncertainty with respect to the efficacy of applicable legal systems. There can be no assurance that these and other factors will not have a material adverse effect on the Company's business, financial condition or results of operations.

The Company relies on two customers for a substantial portion of its revenues. The loss of either of these customers would have a material adverse effect upon the Company's revenues and results of operations.

For the years ended December 31, 2001, 2000, and 1999, one Power Simulation customer (Battelle's Pacific Northwest National Laboratory) accounted for approximately 17%, 22%, and 13%, respectively, of the Company's consolidated revenues. The Pacific Northwest National Laboratory is the purchasing agent for the Department of Energy and the numerous projects the Company performs in Eastern and Central Europe. For the years ended December 31, 2001, 2000 and 1999, one Process Automation customer (Westinghouse Savannah River Company) accounted for approximately 24%, 11%, and 5%, respectively, of our consolidated revenues. If the Company lost either of these customers, the Company's revenue and results of operations would be materially and adversely affected.

The Company's business is substantially dependent on sales to certain industries. Any disruption in these industries would have a material adverse effect upon the Company's revenues.

In 2001, 38% of GSE's revenue was from customers in the nuclear power industry. The Company will continue to derive a significant portion of its revenues from customers in the nuclear power industry for the foreseeable future. The Company's ability to supply nuclear power plant simulators and related products and services is dependent on the continued operation of nuclear power plants and, to a lesser extent, on the construction of new nuclear power plants. A wide range of factors affect the continued operation and construction of nuclear power plants, including the political and regulatory environment, the availability and cost of alternative means of power generation, the occurrence of future nuclear incidents, and general economic conditions.

In 2001, 37% of the Company's revenue was from customers in the chemicals industry. Accordingly, the Company's future performance is dependent to a certain extent upon the demand for the Company's products by customers in the chemical industry. The Company's revenues may be subject to period-to-period fluctuations as a consequence of industry cycles, as well as general domestic and foreign economic conditions and other factors affecting spending by companies in the Company's target process industries.

The Company's substantial indebtedness could adversely affect its financial condition.

The Company has substantial indebtedness. In addition, it may increase its indebtedness in the future. The following are important statistics about the Company and its indebtedness:

On December 31, 2001, the Company had total long-term debt of $6.7 million, representing 33% of its total capitalization.

At December 31, 2001, the Company's available borrowing base was $5.8 million, of which approximately $5.0 million had been utilized.

The Company's level of indebtedness could have important consequences to the stockholders. For example, it could:

Make the Company more vulnerable to economic downturns.

Potentially limit the Company's ability to withstand competitive pressures.

Impair the Company's ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions or general corporate purposes.

Make the Company more susceptible to the above risks because borrowings under the Company's credit facility will bear interest at fluctuating rates.

If GSE is unable to generate sufficient cash flows from operations in the future the Company may be unable to repay or refinance all or a portion of its then existing debt or to obtain additional financing. The Company cannot be sure that any such refinancing would be possible or that any additional financing could be obtained on acceptable terms.

The Company's debt agreements impose significant operating and financial restrictions, which may prevent it from capitalizing on business opportunities.

GSE's debt agreements impose significant operating and financial restrictions. These restrictions affect, and in certain cases limit, among other things, the Company's ability to:

- incur additional indebtedness and liens;

- make capital expenditures;

- make investments and acquisitions and sell assets;

- consolidate, merge or sell all or substantially all of its assets.

There can be no assurance that these restrictions will not adversely affect the Company's ability to finance its future operations or capital needs

or to engage in other business activities that may be in the interest of stockholders.

The Company is dependent on product innovation and research and development, which costs are incurred prior to revenues for new products and improvements.

The Company believes that its success will depend in large part on its ability to maintain and enhance its current product line, develop new products, maintain technological competitiveness and meet an expanding range of customer needs. The Company's product development activities are aimed at the development and expansion of its library of software modeling tools, the improvement of its display systems and workstation technologies, and the advancement and upgrading of its simulation and process control technologies. The life cycles for software modeling tools, display system software, process control and simulation technologies are variable and largely determined by competitive pressures. Consequently, the Company will need to continue to make significant investments in research and development to enhance and expand its capabilities in these areas and to maintain its competitive advantage.

The Company relies upon its intellectual property rights for the success of its business; however, the steps it has taken to protect its intellectual property may be inadequate.

Although the Company believes that factors such as the technological and creative skills of its personnel, new product developments, frequent product enhancements and reliable product maintenance are important to establishing and maintaining a technological leadership position, the Company's business depends, in part, on its intellectual property rights in its proprietary technology and information. The Company relies upon a combination of trade secret, copyright, patent and trademark law, contractual arrangements and technical means to protect its intellectual property rights. The Company enters into confidentiality agreements with its employees, consultants, joint venture and alliance partners, customers and other third parties that are granted access to its proprietary information, and limits access to and distribution of its proprietary information. There can be no assurance, however, that the Company has protected or will be able to protect its proprietary technology and information adequately, that the unauthorized disclosure or use of the Company's proprietary information will be prevented, that others have not or will not develop similar technology or information independently, or, to the extent the Company owns patents, that others have not or will not be able to design around those patents. Furthermore, the laws of certain countries in which the Company's products are sold do not protect the Company's products and intellectual property rights to the same extent as the laws of the United States.

The industries in which GSE operates are highly competitive. This competition may prevent the Company from raising prices at the same pace as its costs increase.

The Company's businesses operate in highly competitive environments with both domestic and foreign competitors, many of whom have substantially greater financial, marketing and other resources than the Company. The principal factors affecting competition include price, technological proficiency, ease of system configuration, product reliability, applications expertise, engineering support, local presence and financial stability. The Company believes that competition in the simulation and process automation fields may further intensify in the future as a result of advances in technology, consolidations and/or strategic alliances among competitors, increased costs required to develop new technology and the increasing importance of software content in systems and products. The Company believes that its technology leadership, experience, ability to provide a wide variety of solutions, product support and related services, open architecture and international alliances will allow it to compete effectively in these markets. As the Company's business has a significant international component, changes in the value of the dollar could adversely affect the Company's ability to compete internationally.

GSE will continue to pursue new acquisitions and joint ventures, and any of these transactions could adversely affect its operating results or result in increased costs or other problems.

The Company intends to continue to pursue new acquisitions and joint ventures, a pursuit which will consume substantial time and resources. Identifying appropriate acquisition candidates and negotiating and consummating acquisitions can be a lengthy and costly process. The Company may also encounter substantial unanticipated costs or other problems associated with the acquired businesses. The risks inherent in this strategy could have an adverse impact on the Company's results of operation or financial condition.

The chemicals and nuclear power industries, two of the Company's largest customer groups, are associated with a number of hazards which could create significant liabilities for the Company.

The Company's business could expose it to third party claims with respect to product, environmental and other similar liabilities. Although the Company has sought to protect itself 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. The failure or malfunction of one of the Company's systems or devices could create potential liability for substantial monetary damages and environmental cleanup costs. Such damages or claims could exceed the applicable coverage of the Company's insurance. Although management has no knowledge of material liability claims against the Company to date, such potential future claims could have a material adverse effect on the business or financial condition of the Company. Certain of the Company's products and services are used by the nuclear power industry primarily in operator training. Although the Company's contracts for such products and services typically contain provisions designed to protect the Company from potential liabilities associated with such use, there can be no assurance that the Company would not be materially adversely affected by claims or actions which may potentially arise.

The Company is controlled by the Company's principal stockholders, whose interests may not be aligned with those of the Company's other stockholders.

As of March 8, 2002 ManTech, GP Strategies, the Company's directors and executive officers beneficially own approximately 47% of GSE's outstanding common stock. In addition ManTech owns 39,000 shares of Series A preferred stock, which convert into an aggregate of 1,474,480 shares of common stock. If fully converted by ManTech, ManTech will beneficially own approximately 35% of GSE's outstanding common stock, and GP Strategies will beneficially own approximately 17% of GSE's outstanding common stock. ManTech and GP Strategies disclaim beneficial ownership of all shares, including those subject to option, that are owned by affiliated individuals. ManTech has granted GP Strategies an option to acquire 19,500 shares of the Series A preferred stock from ManTech. If ManTech exercises its option to convert the Series A preferred stock to common stock, and GP Strategies exercises its option to acquire 50% of the Series A preferred stock held by ManTech and also converts those shares to common stock, ManTech will beneficially own approximately 25% and GP Strategies will beneficially own approximately 26%, of GSE's outstanding common stock. If these stockholders vote together as a group, they will be able to control the Company's business and affairs, including the election of individuals to the board of directors, and the outcome of actions that require stockholder approval including mergers, sales of assets, and to prevent, or to cause, a change of control of the Company.

ITEM 2. PROPERTIES.

The Company's Power Simulation business unit is headquartered in a facility in Columbia, Maryland (approximately 53,000 square feet) which also houses the Company's corporate headquarters offices and support functions. The Process Automation business unit is located in a 34,000 square foot facility in Baltimore, Maryland. The leases for both of these facilities expire in 2008.

In addition, the Company leases office space domestically in Georgia, Louisiana, Texas, Pennsylvania, North and South Carolina, and internationally in Japan, and Sweden. The Company leases these facilities for terms ending between 2002 and 2004. In March 2001, the lease for the Company's UK operations was transferred to Avantium as part of the VirtualPlant asset sale.

ITEM 3. LEGAL PROCEEDINGS.

The Company is from time to time involved in legal proceedings incidental to the conduct of its business. The Company currently is not a party to legal proceedings that, in the opinion of management, are likely to have a material adverse effect on the Company's business, financial condition or results of operations.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.

No matter was submitted to a vote of security holders during the quarter ended December 31, 2001.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS.

The following table sets forth, for the periods indicated, the high and low sale prices for the Company's common stock reported by the American Stock Exchange:

2001		
Quarter	High	Low
First	$ 1 4/5	$ 1 1/5
Second	$ 2 5/9	$ 1
Third	$ 2 5/9	$ 1 3/5
Fourth	$ 3 1/9	$ 1 5/8

2000		
Quarter	High	Low
First	$ 9	$ 3
Second	$ 8 2/3	$ 3
Third	$ 4 5/8	$ 2
Fourth	$ 3 3/8	$ 1 1/5

The Company's common stock is listed on the American Stock Exchange, where it trades under the symbol "GVP".

There were approximately 35 holders of record of the common stock as of March 8, 2002. Based upon information available to it, the Company believes there are approximately 700 beneficial holders of the common stock. The Company has never declared or paid a cash dividend on its common stock. The Company currently intends to retain future earnings to finance the growth and development of its business and, therefore, does not anticipate paying any cash dividends in the foreseeable future on its common stock. The Company has issued 39,000 shares of convertible preferred stock which accrue dividends at an annual rate of 6% payable quarterly. The Company expects to declare and pay such dividends when due provided such payment is not otherwise restricted. < The Company believes factors such as quarterly fluctuations in results of operations and announcements of new products by the Company or by its competitors may cause the market price of the common stock to fluctuate, perhaps significantly. In addition, in recent years the stock market in general, and the shares of technology companies in particular, have experienced extreme price fluctuations. The Company's common stock has also experienced a relatively low trading volume, making it further susceptible to extreme price fluctuations. These factors may adversely affect the market price of the Company's common stock.

ITEM 6. SELECTED FINANCIAL DATA.

Historical consolidated results of operations and balance sheet data presented below, have been derived from the historical financial statements of the Company. For information and disclosures regarding the Company's business segments, see Note 19, Segment information, in the "Notes to Consolidated Financial Statements".

	Years ended December 31,				
(in thousands, except per share data)	2001	2000	1999	1998	1997
Contract revenue	$ 50,331	$ 55,715	$ 66,699	$ 73,818	$ 79,711
Cost of revenue	36,381	40,822	41,629	49,814	58,326
Gross profit	13,950	14,893	25,070	24,004	21,385
Operating expenses:					
Selling, general and administrative	10,857	17,853	22,646	20,345	27,320
Depreciation and amortization	1,375	1,695	1,680	1,768	2,368
Employee severance and termination costs	-	-	-	-	1,124
Total operating expenses	12,232	19,548	24,326	22,113	30,812
Operating income (loss)	1,718	(4,655)	744	1,891	(9,427)
Gain (loss) on sales of assets	3,273	(990)	-	550	-
Write-down of investment in Avantium Technologies B.V.	(4,605)	-	-	-	-
Interest expense, net	(886)	(687)	(450)	(350)	(765)
Other income (expense), net	406	55	40	326	(1,228)
Income (loss) before income taxes	(94)	(6,277)	334	2,417	(11,420)
(Benefit from) provision for income taxes	(353)	2,537	233	1,020	(2,717)
Net income (loss)	$ 259	$(8,814)	$ 101	$1,397	$(8,703)
Earnings (loss) per common share: -Basic	$ 0.05	$(1.70)	$ 0.02	$ 0.28	$(1.72)
-Diluted	$ 0.05	$(1.70)	$ 0.02	$ 0.27	$(1.72)
Weighted average common shares outstanding:					
-Basic	5,217	5,182	5,066	5,066	5,066
-Diluted	5,259	5,182	5,351	5,107	5,066

	As of December 31,				
	2001	2000	1999	1998	1997
Working capital	$7,018	$5,522	$8,665	$4,058	$1,646
Total assets	33,674	35,949	43,027	48,743	48,362
Long-term liabilities	7,218	12,390	9,083	3,350	2,369
Stockholders' equity	13,852	8,713	17,170	17,089	15,924

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

Results of Operations.

The following table sets forth the results of operations for the periods presented expressed in thousands of dollars and as a percentage of revenues.

	Years ended December 31,					
	2001	%	2000	%	1999	%
Contract revenue	$ 50,331	100.0 %	$ 55,715	100.0 %	$66,699	100.0 %
Cost of revenue	36,381	72.3 %	40,822	73.3 %	41,629	62.4 %
Gross profit	13,950	27.7 %	14,893	26.7 %	25,070	37.6 %
Operating expenses:						
Selling, general and administrative	10,857	21.6 %	17,853	32.1 %	22,646	34.0 %
Depreciation and amortization	1,375	2.7 %	1,695	3.0 %	1,680	2.5 %
Total operating expenses	12,232	24.3 %	19,548	35.1 %	24,326	36.5 %
Operating income (loss)	1,718	3.4 %	(4,655)	(8.4)%	744	1.1 %
Gain (loss) on sales of assets	3,273	6.5 %	(990)	(1.8)%	-	0.0 %
Write-down of investment in Avantium Technologies B.V.	(4,605)	(9.1)%	-	0.0 %	-	0.0 %
Interest expense, net	(886)	(1.8)%	(687)	(1.2)%	(450)	(0.7)%
Other income, net	406	0.8 %	55	0.1 %	40	0.1 %
Income (loss) before income taxes	(94)	(0.2)%	(6,277)	(11.3)%	334	0.5 %
(Benefit from) provision for income taxes	(353)	(0.7)%	2,537	4.5 %	233	0.3 %
Net income (loss)	$ 259	0.5 %	$ (8,814)	(15.8)%	$ 101	0.2 %

Critical Accounting Policies and Estimates.

As further discussed in Note 2 to the consolidated financial statements, in preparing the Company's financial statements, management makes several estimates and assumptions that affect the Company's reported amounts of assets, liabilities, revenues and expenses. Those accounting estimates that have the most significant impact on the Company's operating results and place the most significant demands on management's judgment are discussed below. For all of these policies, management cautions that future events rarely develop exactly as forecast, and the best estimates may require adjustment.

Revenue Recognition on Long-Term Contracts. The Company uses the percentage-of completion revenue recognition methodology to record revenue under its long-term fixed-price contracts in accordance with the AICPA Statement of Position 81-1, "Accounting for Performance of Construction-Type and Certain Production-Type Contracts". This methodology recognizes income as work progresses on the contract and is based on an estimate of the income earned to date, less income recognized in earlier periods. The Company bases its estimate of the degree of completion of the contract by reviewing the relationship of costs incurred to date to the expected total costs that will be incurred on the project. The Company's project managers are responsible for estimating the costs to be incurred at the beginning of each project and are responsible for updating the estimate as the project progresses. Management reviews the status of each project periodically with the project managers and determines whether the cost estimates are reasonable. If changes in the estimated costs to complete the projects are required, the cumulative impact on the percentage of completion revenue calculation is recognized in the period identified. Whenever evidence indicates that the estimated total cost of a contract will exceed its total contract value, the Company's operating results are charged for the full amount of the estimated losses immediately. Uncertainties inherent in the performance of contracts include labor availability and productivity, material costs, change order scope and pricing, software modification issues and customer acceptance issues. The reliability of these cost estimates is critical to the Company's revenue recognition as a significant change in the estimates can cause the Company's revenue and related margins to change significantly from the amounts estimated in the early stages of the project.

Capitalization of Computer Software Development costs. In accordance with SFAS 86 "Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed", the Company capitalizes computer software development costs incurred after technological feasibility has been established, but prior to the release of the software product for sale to customers. Once the product is available to be sold, the Company begins to amortize the costs over the estimated useful life of the product, which normally ranges from three to five years. At December 31, 2001, the Company has net capitalized software development costs of $3.8 million. On an annual basis, the Company assesses the recovery of the unamortized software computer costs by estimating the net undiscounted cash flows expected to be generated by the sale of the product. If the undiscounted cash flows are not sufficient to recover the unamortized software costs the Company will write-down the investment to its estimated fair value based on future discounted cash flows. The excess of any unamortized computer software costs over the related net realizable value is written down and charged to income. Significant changes in the sales projections could result in an overstatement of the net realizable value of the capitalized software that is reported on the Company's balance sheet.

Deferred Income Tax Valuation Allowance. Deferred income taxes arise from temporary differences between the tax bases of assets and liabilities and their reported amounts in the financial statements. As required by SFAS 109 "Accounting for Income Taxes", management makes an annual assessment of the realizability of the Company's deferred tax assets. In making this assessment, management considers

whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future taxable income of the Company in making this assessment. A valuation allowance is recorded to reduce the total deferred income tax assets to its realizable value. At December 31, 2001, the Company's deferred tax assets related primarily to a U.S. net operating loss carryforward of $13.5 million which can be utilized over the next twenty years. Management believes it is more likely than not that the Company will generate sufficient taxable income to recover $1.6 million of its deferred tax asset. The recovery of the remaining net deferred tax asset is significantly less certain and, accordingly, the Company has established a valuation allowance for the balance of its deferred tax assets of $4.9 million. If management's estimates of future taxable income are overstated, the amount of the net deferred tax assets on the Company's balance sheet could be overstated. Additionally, if the Company is able to realize higher taxable income the valuation allowance could be reduced.

Comparison of 2001 to 2000.

Contract Revenue. Total contract revenue was $50.3 million and $55.7 million for the years ended December 31, 2001 and 2000, respectively.

The Process business unit's revenue was $25.0 million in 2001 compared with $25.2 million in 2000. Although the decrease was only .8%, the overall composition of the revenues changed significantly. The Company sold its unprofitable Belgian subsidiary, GSE Process Solutions N.V., on November 30, 2000 to Newton Beheer B.V. of the Netherlands, and sold its VirtualPlant technology and assets on March 6, 2001 to Avantium International B.V. ("Avantium"). For the years ended December 31, 2001 and 2000, Process revenues included $507,000 and $7.6 million, respectively, for these two divested businesses. Included in the 2000 Process revenue was $2.9 million from the sale of licenses for five of GSE's software products to Avantium in February, including the object and source codes, in exchange for an equity interest in Avantium. In addition, the Company recorded revenue of $1.3 million for time and material work completed for Avantium. Excluding the revenue for these divested businesses, the Process business unit's revenue increased $6.9 million, or 39%, in 2001 as compared to 2000. The increase in Process' continuing business revenue is mainly attributable to several significant orders received from Westinghouse Savannah River Corporation. In 2001, revenues generated from work performed for Westinghouse Savannah River Corporation totaled 48% of total Process revenues, versus 25% in 2000.

The Power business unit revenue decreased 16.9% in 2001, from $30.5 million in 2000 to $25.3 million in 2001. The decrease in revenue is attributable to the completion of several large international projects in 2001 and fewer upgrades for simulators in the United States in 2001 as compared to 2000.

Gross Profit. Gross profit totaled $14.0 million (27.7% of revenue) for the year ended December 31, 2001, as compared with $14.9 million (26.7% of revenue) for the year ended December 31, 2000. The gross profit and gross profit margins for 2000 reflect the software licenses sold to Avantium in the first quarter 2000. Excluding the gross profit from the sale of software licenses to Avantium, the gross profit margin for 2000 was 22.7%. This increase in gross profit margin in 2001 was due to the following:

- The restructuring of the Process business unit in 2000 and 2001, including the sale of the Company's Belgian subsidiary in late 2000 and the VirtualPlant assets and technology in the first quarter 2001,

- The outsourcing of the Process manufacturing/assembly operation, and

- Personnel reductions.

In December 2000, a $710,000 provision was recorded for certain Process inventory to adjust its carrying value to net realizable value.

Selling, General and Administrative Expenses. Selling, general and administrative ("SG&A") expenses totaled $10.9 million in 2001 (21.6% of revenue), a 39.1% decrease from the $17.9 million (32.0% of revenue) for 2000. The decrease in SG&A reflects reduced sales, marketing and corporate administration headcount, and lower net research and product development expenditures ("R&D"), as discussed below.

Gross R&D totaled $1.6 million in 2001 versus $3.5 million in 2000; capitalized software development costs totaled $809,000 in 2001 versus $1.9 million in 2000; and net R&D, expensed and included in SG&A, was $827,000 in 2001 versus $1.7 million in 2000. The Company's R&D expenditures were reduced significantly in 2001 due to the sale of the VirtualPlant business in March 2001 ($1.0 million was spent on VirtualPlant R&D in 2000) and the completion of three major development projects: VPbatch, the Windows NT version of its FlexBatch Recipe and Process Management software; initiatives to improve product ease of use of SimSuite Pro(TM), its process simulation product; and the release of version 10.2 of the D/3 Distributed Control System in December 2000. R&D expenditures in 2001 were mainly related to improvements in the process control module for the Process D/3 system and the development of a high availability server system.

Depreciation and Amortization. Depreciation expense amounted to $706,000 and $1.2 million during the years ended December 31, 2001 and 2000, respectively. The decrease in depreciation in 2001 is primarily due to disposals of fixed assets as the Company restructured its operations and divested certain businesses.

Amortization of goodwill was $669,000 and $528,000 during the years ended December 31, 2001 and 2000, respectively. The increase in amortization in 2001 reflects the increase in goodwill due to payments made for contingent consideration for prior year acquisitions.

Operating Income (Loss). The Company had operating income of $1.7 million (3.4% of revenue) for the year ended December 31, 2001, as compared with an operating loss of $4.7 million (8.4% of revenue) for the year ended December 31, 2000.

Excluding the operating results of the divested businesses, the Company's operating income for the year ended December 31, 2001 was $2.2 million compared with a loss of $988,000 for the year ended December 31, 2000. The Company attributes its business restructuring initiatives for the improvement in operating income of its remaining businesses.

Gain (loss) on Sales of Assets. On March 6, 2001, the Company sold its VirtualPlant business technology and assets to Avantium. GSE received 8% of Avantium's stock, thus increasing its holdings in Avantium to approximately 19%, and recognized a gain on the sale of $3.3 million, before income taxes. This gain was determined based on the estimated fair market value of the Avantium stock received, based on an independent appraisal, less the book value of the assets sold, approximately $700,000 in severance costs payable to certain former employees of VirtualPlant that were not hired by Avantium, and other transaction expenses.

The loss on sale of assets in 2000 reflects the net pre-tax loss realized on the disposition of GSE Process Solutions NV, the Company's Belgian subsidiary. This sale and related loss is described more fully under Note 18, Acquisitions and dispositions, in the "Notes to Consolidated Financial Statements".

Write-down of Investment in Avantium International B.V. On February 7, 2002, Avantium completed a private placement round of financing which resulted in 20 million Euros in new capital and the conversion of 11 million Euros of convertible debt. The equity issuance and debt conversion diluted GSE's ownership in Avantium to 6.1%. The estimated fair market value of Avantium following the financing was $47.4 million. Accordingly the Company concluded that this transaction was evidence of "an other than temporary decline" in the fair value of its investment in Avantium. Thus, in the fourth quarter 2001, the Company wrote down its investment in Avantium to $2.9 million and recognized a $4.6 million pre-tax charge.

Interest Expense, Net. Net interest expense increased to $886,000 for the year ended December 31, 2001, from $687,000 in 2000. A reduction in the Company's bank debt interest expense due to the reduction in interest rates in 2001 (the Company's interest rate was 9.5% in December 2000 versus 5.5% in December 2001) and a reduction in the average bank debt outstanding ($7.3 million average for the twelve months ended December 31, 2000 versus $5.3 million average for the twelve months ended December 30, 2001) was more than offset by an increase in the interest expense incurred on the Company's subordinated debt due to ManTech. The average subordinated debt outstanding increased from $250,000 in 2000 to $3.5 million in 2001. In addition, interest income earned by the Company's Swedish subsidiary decreased from $219,000 in 2000 to $78,000 in 2001.

Other Income (Expense), Net. For the year ended December 31, 2001, other income (expense), net includes the receipt of a $147,000 equity distribution from the Company's liquidated Joint Venture in China (this investment was written off in a prior year) and foreign currency gains.

For the year ended December 31, 2000, the Company incurred $55,000 of foreign currency gains.

Provision for Income Taxes. The Company recorded an income tax benefit of $353,000 in 2001. This benefit is mainly the result of a decrease in the valuation allowance for the Company's deferred income tax assets. The allowance was decreased to adjust the net deferred tax asset to an amount that management believes will more likely than not be realized. The difference between the statutory U.S. tax rate and the Company's effective rate for 2001 was primarily due to the change in the deferred tax asset valuation reserve and foreign taxes.

The Company recorded a tax provision of $2.5 million in 2000. This provision is mainly the result of an increase in the valuation allowance for the Company's deferred income tax assets. The allowance was increased to reduce the total deferred tax asset to an amount that management believed was more likely than not to be realized. The difference between the statutory U.S. tax rate and the Company's effective rate for 2000 was primarily due to the change in the deferred tax asset valuation reserve and foreign taxes.

Comparison of 2000 to 1999.

Contract Revenue. Total contract revenue was $55.7 million and $66.7 million for the years ended December 31, 2000 and 1999, respectively.

The Process business unit's revenues decreased by $9.4 million, or 27.2%, to $25.2 million in 2000 from $34.6 million in 1999. Beginning in the second half of 1999, the Process business unit experienced an order slowdown as customers postponed additional investments in their process control systems, pending the resolution of Y2K date issue concerns. This order slowdown continued into 2000 as customers either spent their capital funding on other projects (since so much money was spent on upgrading the process control systems in 1998 and 1999) or were faced with tougher economic conditions in 2000 (especially customers in the chemical industry) which forced them to cut back on their overall capital spending. Included in the 2000 Process revenue was $2.9 million from the sale of licenses for five of GSE's software products to Avantium International B.V. ("Avantium") in February, including the object and source codes, in exchange for an equity interest in Avantium. See Note 3, Investment in Avantium International B.V., in the "Notes to Consolidated Financial Statements" for a discussion of this transaction.

The Power business unit revenue decreased by $1.6 million, or 5.0%, to $30.5 million in 2000 from $32.1 million in 1999, primarily due to lower nuclear simulation upgrade orders from Japanese and Eastern European customers.

Gross Profit. In large part due to the lower revenues in 2000, gross profit declined to $14.9 million in 2000 (26.7% of revenue) from $25.1 million in 1999 (37.6% of revenue). The decrease in gross profit as a percentage of revenue is due to the following:

In 1999, the Process business benefited from customer concerns about the Y2K issue and their efforts to upgrade their D/3 systems to Y2K compliant versions. Upgrade projects typically have less hardware and instrumentation components (lower margined items as these are typically "pass-through" purchases) and more license fees and application engineering work which have higher margins. In 2000, a higher percentage of the revenues were generated through maintenance, time and material, spares and training which have lower margins than the upgrade projects. Capitalized software amortization increased from $1.8 million in 1999 to $2.2 million in 2000 due to the completion in 1999 of the NT platform conversion of the D/3 Distributed Control System, the release of version 10.1 of the D/3 product in July 2000, and the completion of several upgrades to the SimSuite Pro Software in July 2000 and the initiation of the amortization of the related capitalized costs. A $710,000 provision was recorded in December 2000 for certain Process inventory to adjust its carrying value to net realizable value.

Selling, General and Administrative Expenses. Selling, general and administrative ("SG&A") expenses totaled $17.9 million in 2000 (32.1% of revenues), a 20.8% decrease from 1999 expenses of $22.6 million (34.0% of revenues). Other than changes in research and developments costs, which decreased $1.2 million and are discussed below, the decrease in SG&A is attributable to:

Fewer sales and marketing personnel and travel costs in the Process business unit due to the restructuring of this business.

Lower sales commissions due to lower Process business unit orders.

A reduction in corporate personnel.

The completion in 1999 of the Company's internal Y2K compliance program for which an outside consultant was utilized as project manager.

A reduction in recruiting and relocation costs of newly hired personnel.

The completion in 1999 of the amortization of the cost of the warrants issued to ManTech and GP Strategies in 1998 in consideration of guarantees issued by these companies for GSE's credit facility.

These reductions were somewhat offset by the initiation of a marketing program in 2000 which was designed to promote the benefits of VirtualPlant, and the products and services associated with the Company's affiliation with Avantium, to major customers around the world.

Gross research and product development expenditures were $3.6 million (6.5% of revenue) and $5.4 million (8.1% of revenue) for the years ended December 31, 2000 and 1999, respectively. Of these expenditures, $1.9 million in 2000 and $2.5 million in 1999 were capitalized. Thus, net research and development ("R&D") costs included in selling, general and administrative expenses were $1.7 million and $2.9 million during the years ended December 31, 2000 and 1999, respectively. The reduction in R&D spending reflects the completion of the conversion of Process' D/3 Distributed Control System to the Microsoft Windows NT platform (Version 10.0, which introduced the new platform, was released in October 1999) and a reduction in personnel as part of the Process business restructuring. The Company's R&D spending continued to be reduced in 2001 due to the sale of the VirtualPlant business in March 2001 ($1.0 million was spent on VirtualPlant R&D in 2000) and the restructuring of the Process business unit.

In 2000, the Company completed the development of its VPbatch product, which is the Windows NT version of its FlexBatch Recipe and Process Management software, and completed the development of version 10.2 (released in December) of the Company's D/3 Distributed Control System. In addition, the Company continued development initiatives to improve the product ease of use of its process simulation products and to create a set of software simulation tools for fossil power utilities.

Depreciation and Amortization. Depreciation expense amounted to $1.2 million and $1.3 million during the years ended December 31, 2000 and 1999, respectively.

Amortization of goodwill was $528,000 and $388,000 during the years ended December 31, 2000 and 1999, respectively. The increase in amortization reflects the increase in goodwill due to payments made for contingent consideration for prior year acquisitions.

Operating Income (Loss). The Company incurred an operating loss of $4.7 million (8.4% of revenue) for the year ended December 31, 2000, compared with operating income totaling $744,000 (1.1% of revenue) in 1999. The decrease reflects the lower revenues in 2000 coupled with the reduction in Process gross margin percent due to product mix as discussed above, the increase in capitalized software amortization in 2000, the provision for write-down of Process inventory, and the investments made by the Company in developing its VirtualPlant marketing and business strategy.

Gain (Loss) on Sales of Assets. The loss on sales of assets in 2000 reflects the net pre-tax loss realized on the disposition of GSE Process Solutions NV, the Company's Belgian subsidiary in the fourth quarter. This sale and related loss is described more fully under Note 18, Acquisitions and dispositions, in the "Notes to Consolidated Financial Statements".

Interest Expense, Net. Interest expense increased to $687,000 in 2000 from $450,000 in 1999. This increase is attributable primarily to an

increase in the Company's borrowings under its line of credit made during the period to fund working capital requirements.

Other Income, Net. Other income was $55,000 in 2000 versus $40,000 in 1999, resulting from recognized currency transaction gains.

Provision for Income Taxes. In 2000, the Company recorded a tax provision of $2.5 million. This provision is mainly the result of an increase in the valuation allowance for the Company's deferred tax assets. The reserve was increased to reduce the total deferred tax asset to an amount that management believed was more likely than not to be realized. The difference between the statutory U.S. tax rate and the Company's effective rate for 2000 is primarily due to the change in the deferred tax asset valuation allowance and foreign taxes. The difference between the statutory U.S. tax rate and the Company's effective rate for 1999 was primarily the effect of foreign operations taxed at different rates, state taxes, and adjustments to the prior year tax provision.

Liquidity and Capital Resources.

As of December 31, 2001, GSE had cash and cash equivalents of $2.0 million versus $1.5 million at December 31, 2000 and $2.7 million at December 31, 1999.

Cash from operating activities. Net cash provided by operating activities was $1.9 million for the year ended December 31, 2001. In 2001, the $4.6 million pre-tax loss on the write-down of the Company's investment in Avantium was a non-monetary transaction as was the $3.3 million gain on the sale of the VirtualPlant technology and assets. Significant changes in the assets and liabilities of the Company in 2001 included:

A $3.3 million increase in billings in excess of revenues earned. The increase reflects significant orders received from two Process customers in the third quarter 2001 that allowed GSE to invoice the customer in full prior to the work being completed.

A $5.1 million reduction in accounts payable, accrued compensation and accrued expenses. Due to the Company's improved operating cash flow in 2001 and additional subordinated borrowings from ManTech, the Company was able to reduce its outstanding payables and was current with its vendors at December 31, 2001.

Net cash used in operating activities for the year ended December 31, 2000 was $4.5 million. The $2.9 million revenue from the licensing of software to Avantium in the first quarter 2000 in exchange for an equity stake in Avantium was a non-monetary transaction. Significant changes in the Company's assets and liabilities in 2000 included:

A $1.9 million reduction in contract receivables which was mainly related to the decline in overall revenues.

A $1.6 million reduction in inventories. In 1999, the Process stockroom inventory increased approximately $650,000 principally due to purchases of large supplies of various PC boards. In 2000, this inventory decreased approximately $800,000 as the Company made a concerted effort to reduce on-hand inventory. The balance of the decrease is due to a $710,000 provision for excess and slow moving inventory.

A $1.6 million reduction in billings in excess of revenues earned due to the lower business volume in 2000.

For the year ended December 31, 1999, net cash provided by operating activities was $2.6 million. Significant changes in the Company's assets and liabilities in 1999 included a $4.4 million reduction in contract receivables partially due to improvements in internal collection processes; a $1.9 million reduction in accounts payable and accrued expenses; and a $3.3 million reduction in billings in excess of revenues earned.

Cash used in investing activities. Net cash used in investing activities for the year ended December 31, 2001 was $2.4 million, including $1.1 million in cash payments for acquired businesses ($599,000 of contingent consideration for a prior year acquisition and $491,000 for notes payable related to two prior year acquisitions), $477,000 of capital expenditures, and $809,000 of capitalized software development costs.

For 2000, net cash used in investing activities was $3.3 million, including $658,000 in cash payments for acquired businesses ($598,000 of contingent considerations for prior year acquisitions, and $60,000 for notes payable related to a prior year acquisition), $472,000 of capital expenditures, $1.9 million of capitalized software development costs, and $261,000 in connection with the disposition of the Company's Belgium subsidiary.

For 1999, net cash used in investing activities was $4.1 million, comprised of $2.5 million of capitalized software development costs, $1.4 million of capital expenditures, and $930,000 in cash payments for acquired businesses ($300,000 for the Mitech acquisition in 1999, $530,000 for contingent considerations for prior year acquisitions, and $100,000 for notes payable related to a prior year acquisition) partially offset by the receipt of $731,000 from Keane, Inc. as final payment on the 1998 Erudite sale. The decrease in capitalized software costs reflects the completion of the conversion of the Process Automation business' D/3 Distributed Control System to the Microsoft Windows NT Platform. Included in the 1999 capital expenditures was $503,000 of assets purchased from BatchCAD Limited, a United Kingdom-based supplier of batch process development and design consulting services and simulation software tools.

Cash provided by financing activities. Cash provided by financing activities was $1.1 million for the year ended December 31, 2001. GSE reduced its borrowings under its bank line of credit in 2001 by $4.3 million to a total of $5.0 million. However, in 2001 the Company amended its $1.8 million subordinated promissory note to ManTech to increase the amount to $3.9 million, and issued a second subordinated promissory

note to ManTech for $1.0 million. Accordingly, the Company increased its subordinated borrowings from ManTech by $3.4 million in 2001 to a total of $4.9 million. In December 2001 ManTech elected to covert the $3.9 million subordinated promissory note into Series A preferred stock, as permitted by the note. In 2001, the Company entered into three contracts with a customer for the lease of certain hardware and software under 36-month leases and assigned the payments due under these sales-type leases to a third party financing company, receiving proceeds of $2.2 million. The Company also generated $33,000 from the conversion of employee stock options. In 2001, $29,000 of cash collateralized letters of credit expired, and the cash collateral was released.

Cash provided by financing activities was $6.6 million in the year ended December 31, 2000. The Company increased its borrowings under its bank line of credit in 2000 by $3.0 million to a total of $9.3 million. In addition, the Company issued a subordinated promissory note to ManTech that allowed it to borrow up to $1.8 million at an interest rate of prime plus one percent; at December 31, 2000 the Company had borrowed $1.6 million. The Company entered into two contracts with a customer for the lease of certain hardware and software under 36-month leases; the Company received $1.1 million upon assignment of the payments to a third party financing company. The Company also generated $500,000 from the sale of stock to ManTech and an additional $42,000 from the exercise of employee stock options. In 2000, $202,000 of cash collateralized letters of credit expired and the cash collateral was released.

Cash provided by financing activities was $2.0 million in the year ended December 31, 1999. The assignment of two long-term customer sales-type lease contracts to a finance company generated $3.4 million cash, which was partially offset by the paydown of the Company's credit lines ($.5 million), repayments under capital lease obligations ($143,000) and the deposit of $735,000 into a bank account for which the balance was used to collateralize two of the Company's outstanding letters of credit.

Credit Facilities.

The Company has a $10.0 million credit facility with a bank which matures on March 23, 2003. The credit facility provides for borrowings up to a total of $10.0 million to support working capital needs and foreign letters of credit. At December 31, 2001, the Company's available borrowing base was $5.8 million, of which approximately $5.0 million had been utilized. The credit facility requires the Company to comply with certain financial ratios and precludes the Company from paying dividends and making acquisitions beyond certain limits without the bank's consent. At December 31, 2001, the Company was in compliance with the bank covenants. See Note 10, Long-term debt, in the "Notes to Consolidated Financial Statements" for additional details about this line of credit.

In 2000, the Company issued a demand promissory note to ManTech that allowed the Company to borrow up to $1.8 million at an interest rate of prime plus one percent. In addition, ManTech provided $1.8 million in standby letters of credit to the Company's bank as additional collateral for the Company's credit facility. In April 2001, ManTech agreed to allow the Company's bank to draw upon ManTech's $1.8 million letter of credit which supported the Company's credit facility, thus paying down a portion of the Company's bank debt in exchange for additional subordinated debt in the Company. Accordingly, the Company's promissory note to ManTech was amended to increase the amount to $3.9 million. The amended note permitted ManTech to convert the principle amount of the note into GSE Series A convertible preferred stock at a conversion rate of $100 per share. The Company determined that the conversion of this debt did not constitute a beneficial conversion.

ManTech elected to convert its subordinated debt on December 5, 2001. The Series A convertible preferred stock has no voting rights and bears dividends at the rate of 6% per annum payable quarterly. Dividends will accumulate if not paid quarterly and compounded interest will accrue on any unpaid dividends. ManTech at its discretion has the right to convert each share of Series A convertible preferred stock into GSE common stock at a purchase price of $2.645 per share at any time after a one-year holding period from the date of issuance. At the end of the third year from the date of issuance, the Series A convertible preferred stock automatically converts into GSE common stock. Prior to ManTech's conversion of the Series A convertible stock to common stock, GP Strategies has the option to acquire 50% of the Series A convertible preferred stock for $1,950,000 from ManTech.

At a special shareholder's meeting on August 2, 2001, the Company's shareholders approved an amendment to the Certificate of Incorporation increasing GSE's authorized common stock by 10 million shares to a total of 18 million shares. With this new authorization of common stock, the Company intends to reserve 1,474,480 shares for the conversion of the ManTech convertible preferred stock discussed above. In addition, the Company issued 522,611 shares on December 21, 2001 in conjunction with a fixed price rights offering described below.

On June 25, 2001, the Company issued an additional unsecured promissory note to ManTech that allowed the Company to borrow up to $1.0 million at an interest rate of prime plus one percent. The Company used the loan proceeds for working capital purposes. The note is subordinated to the Company's credit facility. In January 2002, the Company repaid ManTech $250,000, plus $36,000 of interest and expects to pay the balance of the loan before the end of the second quarter 2002.

On October 25, 2001, the Company filed a final registration statement with the SEC for a fixed price rights offering which became effective on October 29, 2001. In early November, the Company distributed to non-affiliated holders of its common stock, based on an October 26, 2001 record date, subscription rights to purchase additional shares of common stock at a subscription price of $2.53 per share. Each non-affiliated holder of its common stock received .711 subscription right for each share held as of the record date. Shareholders had until the expiration date of December 21, 2001 to subscribe to the offering. Of the total 2,219,701 shares available, 522,611 shares were subscribed. The proceeds to GSE totaled $1.3 million prior to fees and expenses related to the offering of approximately $139,000. The Company received the cash proceeds from its escrow agent in January 2002. The proceeds were used for a partial repayment of the $1 million loan from ManTech discussed above and working capital requirements.

Other. The following summarizes the Company's contractual cash obligations at December 31, 2001, and the effect these obligations are expected to have on its liquidity and cash flow in future periods:

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	Payments Due by Period (in thousands)				
Contractual Cash Obligations	Total	Less than 1 year	1-3 Years	4-5 Years	After 5 Years
Long Term Debt	$ 4,988	-	$ 4,988	-	-
Related Party Debt	$ 1,100	$1,027	$ 37	$ 36	-
Operating Leases	$ 8,671	$1,593	$ 2,600	$2,568	$1,910
Other Long Term Obligations	$ 240	$ 240	-	-	-
Total Contractual Cash Obligations	$14,999	$2,860	$ 7,625	$2,604	$1,910

As of December 31, 2001, the Company was contingently liable for four letters of credit totaling $504,000. All of these letters of credit represent payment bonds on contracts and have been cash collateralized.

Due to the Company's cash situation at the end of 2000, GSE experienced some difficulties in procuring supplies from its vendors for business operations. In January 2001, the Company entered into a purchasing arrangement with ManTech whereby ManTech dealt directly with some of the Company's vendors, ordered the supplies needed and had the products shipped per the Company's instructions. Purchases under this agreement totaled $843,000 for the year ended December 31, 2001. This purchasing arrangement terminated in June 2001, and the Company has no outstanding obligations to ManTech, in connection with this purchasing arrangement as of December 31, 2001.

The Company has undertaken a number of initiatives during 2000 and 2001 to improve operating results and cash flows. Management believes the initiatives undertaken will enable the Company to maintain compliance with the bank financial covenants as well as provide sufficient cash flow to meet the Company's obligations as they become due. However, the Company's liquidity can be affected by any of the following significant risk factors:

The Company's business is substantially dependent on sales to the nuclear power industry (38% of revenue in 2001) and the chemicals industry (37% of revenue in 2001). Spending by companies in these targeted industries is subject to period-to-period fluctuations as a consequence of industry cycles, economic conditions , political and regulatory environments and other factors.

The Company relies on two customers, Battelle's Pacific Northwest National Laboratory (17% of revenue in 2001) and Westinghouse Savannah River Company (24% of revenue in 2001), for a substantial portion of its revenues. The loss of either of these customers would have a material adverse effect upon the Company' liquidity.

Sales of products and the provision of services to end users outside the United States accounted for approximately 40% of the Company's revenue in 2001. Thus, the Company is subject to risks associated with the application and imposition of protective legislation and regulations relating to import or export or otherwise resulting from trade or foreign policy.

Foreign Exchange.

A portion of the Company's international sales revenue has been and may be received in a currency other than the currency in which the expenses relating to such revenue are paid. When necessary, the Company enters into forward exchange contracts, options and swap as hedges against certain foreign currency commitments to hedge its foreign currency risk.

New Accounting Standards.

Effective January 1, 2001, the Company adopted Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities," and No. 138 "Accounting for Certain Derivative Instruments and Certain Hedging Activities." These statements required that an entity recognize all derivatives as either assets or liabilities in the statement of financial position and measure those instruments at fair value. The adoption of these standards, including the valuation of derivative instruments outstanding on the effective date, did not have a material impact on the Company's consolidated financial statements.

On July 20, 2001 the FASB issued Statement No. 141, "Business Combinations," and Statement No. 142, "Goodwill and Other Intangible Assets." Statement 141 requires that all business combinations be accounted for under a single method -- the purchase method. Use of the

pooling-of-interests method no longer is permitted. Statement 141 requires that the purchase method be used for business combinations initiated after June 30, 2001. Statement 142 requires that goodwill no longer be amortized to earnings, but instead be reviewed for impairment at least annually. The amortization of goodwill ceases upon adoption of the Statement by the Company on January 1, 2002.

In October 2001, the FASB issued Statement No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." The provisions of this statement are effective for fiscal years beginning after December 14, 2001. The Company does not expect the adoption of this standard to have a material impact on the Company's consolidated financial statements.

Other Matters.

To date, management believes inflation has not had a material impact on the Company's operations.

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

The Company's market risk is principally confined to changes in foreign currency exchange rates. During the year ended December 31, 2001, 2% and 3% of the Company's revenues were from contracts which permitted payments in a currency other than U.S. Dollars, principally Swedish Krona and Japanese Yen, respectively. In addition, during the year ended December 31, 2001, 5% of the Company's expenses were incurred in Swedish Krona. The Company's exposure to foreign exchange rate fluctuations arises in part from inter-company accounts in which costs incurred in one entity are charged to other entities in different foreign jurisdictions. The Company is also exposed to foreign exchange rate fluctuations as the financial results of all foreign subsidiaries are translated into U.S. dollars in consolidation. As exchange rates vary, those results when translated may vary from expectations and adversely impact overall expected profitability.

The Company is also subject to market risk related to the interest rates on its existing line of credit. As of March 29, 2002, such interest rates are based on the prime rate plus 75 basis- points.

As of December 31, 2001, $6.0 million of the Company's debt was subject to variable interest rates. A 100 basis-point change in such rates during the year ended December 31, 2001 would have changed the Company's interest expense by approximately $72,000.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

INDEX TO FINANCIAL STATEMENTS

Independent Auditors' Report

The Board of Directors and Stockholders
GSE Systems, Inc.:

We have audited the accompanying consolidated balance sheets of GSE Systems, Inc. and subsidiaries as of December 31, 2001 and 2000, and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of GSE Systems, Inc. and subsidiaries as of December 31, 2001 and 2000, and the results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

/s/KPMG LLP
Baltimore, Maryland
March 15, 2002

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors
and Stockholders of GSE Systems, Inc.:

In our opinion, the consolidated statements of operations, of comprehensive income (loss), of changes in stockholders' equity and of cash flows for the year ended December 31, 1999 (appearing on pages F-3 through F-30 of the GSE Systems, Inc. 2001 Annual Report on this Form 10-K) present fairly, in all material respects, the results of operations and cash flows of GSE Systems, Inc. and its subsidiaries for the year ended December 31, 1999, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion. We have not audited the consolidated financial statements of GSE Systems, Inc. for any period subsequent to December 31, 1999.

/s/ PricewaterhouseCoopers LLP

McLean, Virginia
February 29, 2000

PART I - FINANCIAL INFORMATION
Item 1. Financial Statements

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

	December 31, 2001	December 31, 2000
ASSETS		
Current assets:		
Cash and cash equivalents	$ 2,040	$ 1,465
Restricted cash	164	30
Contract receivables	11,608	14,489
Proceeds of rights offering held by escrow agent	1,322	-
Inventories	1,566	1,587
Prepaid expenses and other current assets	2,335	2,520
Deferred income taxes	587	277
Total current assets	19,622	20,368
Investment in Avantium International B.V.	2,898	2,895
Property and equipment, net	1,762	2,299
Software development costs, net	3,806	5,067
Goodwill, net	2,386	2,996
Deferred income taxes	1,013	847
Restricted cash	340	503
Other assets	1,847	974
Total assets	$ 33,674	$ 35,949
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	$ 2,284	$ 2,347
Accounts payable	2,163	5,669
Accrued expenses	1,217	2,115
Accrued compensation and payroll taxes	1,676	1,940
Billings in excess of revenue earned	4,659	1,366
Accrued warranty reserves	415	462
Income taxes payable	103	171
Other current liabilities	87	776
Total current liabilities	12,604	14,846
Long-term debt	6,690	11,840
Accrued warranty reserves	528	550
Total liabilities	19,822	27,236
Commitments and contingencies		
Stockholders' equity:		
Common stock $.01 par value, 18,000,000 shares authorized, shares issued and outstanding 5,741,138 in 2001 and 8,000,000 shares authorized, shares issued and outstanding 5,193,527 in 2000	57	52
Series A convertible preferred stock $.01 par value, 2,000,000 shares authorized, shares issued and outstanding 39,000 in 2001	-	-
Additional paid-in capital	27,535	22,230
Retained earnings (deficit) - at formation	(5,112)	(5,112)
Retained earnings (deficit) - since formation	(7,313)	(7,555)
Accumulated other comprehensive loss	(1,315)	(902)
Total stockholders' equity	13,852	8,713
Total liabilities and stockholders' equity	$ 33,674	$ 35,949

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, 2001	2000	1999
Contract revenue	$ 50,331	$ 55,715	$ 66,699
Cost of revenue	36,381	40,822	41,629
Gross profit	13,950	14,893	25,070
Operating expenses			
Selling, general and administrative	10,857	17,853	22,646
Depreciation and amortization	1,375	1,695	1,680
Total operating expenses	12,232	19,548	24,326
Operating income (loss)	1,718	(4,655)	744
Gain (loss) on sales of assets	3,273	(990)	-
Write-down of investment in Avantium International B.V.	(4,605)	-	-
Interest expense, net	(886)	(687)	(450)
Other income, net	406	55	40
Income (loss) before income taxes	(94)	(6,277)	334
(Benefit from) provision for income taxes	(353)	2,537	233
Net income (loss)	$ 259	$ (8,814)	$ 101
Basic earnings (loss) per common share	$ 0.05	$ (1.70)	$ 0.02
Diluted earnings (loss) per common share	$ 0.05	$ (1.70)	$ 0.02

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

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

	Years ended December 31,		
	2001	2000	1999
Net income (loss)	$ 259	$ (8,814)	$ 101
Foreign currency translation adjustment	(413)	(184)	(33)
Comprehensive income (loss)	$ (154)	$ (8,998)	$ 68

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

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

	Common Stock Shares	Common Stock Amount	Preferred Stock Shares	Preferred Stock Amount	Additional Paid-in Capital	Retained Earnings (Deficit) At Formation	Retained Earnings (Deficit) Since Formation	Accumulated Other Comprehensive Loss	Total
Balance, January 1, 1999	5,066	$ 50	--	$--	$21,678	$ (5,112)	$ 1,158	$ (685)	$17,089
Foreign currency translation adjustment	--	--	--	--	--	--	--	(33)	(33)
Fair value of warrants issued to non-employees	--	--	--	--	13	--	--	--	13
Net income	--	--	--	--	--	--	101	--	101
Balance, December 31, 1999	5,066	50	--	--	21,691	(5,112)	1,259	(718)	17,170
Common stock issued for options exercised	11	--	--	--	40	--	--	--	40
Common stock issued to ManTech Intl. Corp.	117	2	--	--	499	--	--	--	501
Foreign currency translation adjustment	--	--	--	--	--	--	--	(184)	(184)
Net loss	--	--	--	--	--	--	(8,814)	--	(8,814)
Balance, December 31, 2000	5,194	52	--	--	22,230	(5,112)	(7,555)	(902)	8,713
Fair value of options/warrants issued to non-employees	--	--	--	--	194	--	--	--	194
Options exercised	25	--	--	--	33	--	--	--	33
Conversion of subordinated debt to preferred stock	--	--	39	--	3,900	--	--	--	3,900
Proceeds from rights offering	523	5	--	--	1,178	--	--	--	1,183
Preferred stock dividends declared and payable	--	--	--	--	--	--	(17)	--	(17)
Foreign currency translation adjustment	--	--	--	--	--	--	--	(413)	(413)
Net income	--	--	--	--	--	--	259	--	259
Balance, December 31, 2001	5,742	$ 57	39	$--	$27,535	$ (5,112)	$7,313	$ (1,315)	$13,852

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, 2001	2000	1999
Cash flows from operating activities:			
Net income (loss)	$ 259	$ (8,814)	$ 101
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	3,394	3,882	3,481
Foreign currency transaction gain	(253)	(255)	(40)
Fair value of options/warrants issued to non-employees	-	-	133
(Gain) loss on sales of assets	(3,273)	990	-
Write-down of investment in Avantium International B.V.	4,605	-	-
Non-monetary consideration received for software licensed to Avantium International B.V.	-	(2,895)	-
Deferred income taxes	(476)	2,273	119
Changes in assets and liabilities:			
Contract receivables	683	1,939	4,382
Inventories	21	1,554	(363)
Prepaid expenses and other assets	(363)	(164)	(563)
Accounts payable, accrued compensation and accrued expenses	(5,154)	(690)	(1,888)
Billings in excess of revenues earned	3,293	(1,599)	(3,282)
Accrued warranty reserves	(69)	(288)	(142)
Other liabilities	(689)	(561)	744
Income taxes payable	(68)	141	(121)
Net cash provided by (used in) operating activities	1,910	(4,487)	2,561
Cash flows from investing activities:			
Proceeds from sale of assets	-	-	731
Cash paid for acquisition of businesses	(1,090)	(658)	(930)
Cash sold in disposition of business	-	(261)	-
Capital expenditures	(477)	(472)	(1,398)
Capitalized software development costs	(809)	(1,868)	(2,460)
Net cash used in investing activities	(2,376)	(3,259)	(4,057)
Cash flows from financing activities:			
Proceeds from issuance of common stock	33	542	-
Proceeds from issuance of notes payable to related party	3,350	1,550	-
Proceeds from issuance of notes payable	-	458	-
(Restrictions) releases of cash as collateral under line of credit, net	29	202	(735)
Increase (decrease) in borrowings under lines of credit	(4,289)	3,044	(513)
Proceeds from assignments of sales-type leases	2,198	1,141	3,432
Other financing repayments	(269)	(346)	(160)
Net cash provided by financing activities	1,052	6,591	2,024
Effect of exchange rate changes on cash	(11)	(75)	(73)
Net increase (decrease) in cash and cash equivalents	575	(1,230)	455
Cash and cash equivalents at beginning of year	1,465	2,695	2,240
Cash and cash equivalents at end of year	$ 2,040	$ 1,465	$ 2,695

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

GSE SYSTEMS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2001, 2000, and 1999

1. Business and liquidity

GSE Systems, Inc. ("GSE Systems", "GSE" or the "Company") develops and delivers business and technology solutions by applying process control, simulation software, systems and services to the energy, process and manufacturing industries worldwide. The Company's solutions and services assist customers in improving quality, safety and throughput; reducing operating expenses; and enhancing overall productivity.

The Company's operations are subject to certain risks and uncertainties including, among others, rapid technological changes, success of the Company's product development, marketing and distribution strategies, the need to manage growth, the need to retain key personnel and protect intellectual property, and the availability of additional financing on terms acceptable to the Company.

2. Summary of significant accounting policies

Principles of consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated.

Accounting estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America 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 financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Revenue recognition

Revenue under fixed-price contracts generally is accounted for on the percentage-of-completion method, based on contract costs incurred to date and estimated costs to complete. Estimated contract earnings are reviewed and revised periodically as the work progresses, and the cumulative effect of any change is recognized in the period in which the change is identified. Estimated losses are charged against earnings in the period such losses are identified. The effect of changes in estimates of contract earnings was to increase gross profit by approximately $353,000 during the year ended December 31, 1999. Such changes were not material during the years ended December 31, 2000 and 2001. Revenues from certain consulting or training contracts are recognized on a time-and-material basis. For time-and-material type contracts, revenue is recognized based on hours incurred at a contracted labor rate plus expenses.

Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and highly liquid investments with maturities of three months or less at the date of purchase.

Inventories

Inventories are stated at the lower of cost, as determined by the average cost method, or market. Slow moving inventory is reflected at its estimated net realizable value. Inventory costs include raw materials and purchased parts.

Property and equipment

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

Software development costs

Certain computer software development costs are capitalized in the accompanying consolidated balance sheets. Capitalization of computer software development costs begins upon the establishment of technological feasibility. Capitalization ceases and amortization of capitalized costs begins when the software product is commercially available for general release to customers. Amortization of capitalized computer software development costs is included in cost of revenue and is provided using the straight-line method over the remaining estimated economic life of the product, not to exceed five years.

Research and development

Development expenditures incurred to meet customer specifications under contracts accounted for under the percentage of completion method are charged to contract costs. Company sponsored research and development expenditures are charged to operations as incurred and are included in selling, general and administrative expenses. The amounts incurred for Company sponsored research and development activities relating to the development of new products and services or the improvement of existing products and services, exclusive of amounts capitalized, were approximately $827,000, $1,679,000, and $2,915,000, for the years ended December 31, 2001, 2000, and 1999, respectively.

Asset impairment

The Company periodically evaluates the recoverability of its long-lived assets by comparing the carrying value of the asset to management's best estimate of the expected future cash flows to be generated by the asset, undiscounted and without interest costs. Impairments are recognized in operating results to the extent that the carrying value exceeds fair value. No impairment losses were recognized in 2001, 2000, or 1999.

Goodwill

Goodwill represents the excess of purchase price for acquired businesses over the fair value of net tangible and intangible assets acquired. These amounts are amortized on a straight-line basis over periods ranging from seven to fifteen years. The Company assesses the recovery of goodwill by determining whether amortization of goodwill over its remaining life can be recovered through undiscounted cash flows of the acquired operations. Goodwill impairment, if any, is measured by determining the amount by which the carrying value of goodwill exceeds its fair value based upon discounting of future cash flows.

Foreign currency translation

Balance sheet accounts for foreign operations are translated at the exchange rate at the balance sheet date, and income statement accounts are translated at the average exchange rate for the period. The resulting translation adjustments are included in accumulated other comprehensive income
(loss) in stockholders' equity. Transaction gains and losses, resulting from changes in exchange rates, are included in other income (expense) in the Consolidated Statements of Operations in the period in which they occur. For the years ended December 31, 2001, 2000, and 1999, foreign currency transaction gains were approximately $253,000, $55,000, and $40,000, respectively.

Warranties

As the Company recognizes revenue under the percentage-of-completion method, it provides an accrual for estimated future warranty costs based on historical and projected claims experience.

Income taxes

Deferred income taxes are provided under the asset and liability method. Under this method, deferred income taxes are determined based on the differences between the financial statement 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. Provision is made for the Company's current liability for federal, state and foreign income taxes and the change in the Company's deferred income tax assets and liabilities. No provision has been made for the undistributed earnings of the Company's foreign subsidiaries as they are considered permanently invested. Amounts of undistributed earnings are not material to the overall consolidated financial statements.

Earnings (loss) per share

Basic earnings per share is computed based on the weighted average number of outstanding common shares for the period. Diluted earnings per share adjusts such weighted average for the potential dilution that could occur if stock options, warrants or other convertible securities were exercised or converted into common stock. Diluted earnings per share is the same as basic earnings per share for the year ended December 31, 2000 because the effects of such items were anti-dilutive. The net income for 2001 was decreased by preferred stock dividends of $17,000 in calculating the per share amounts.

The number of common shares and common share equivalents used in the determination of basic and diluted earnings (loss) per share was as follows:

	Years ended December 31,		
	2001	2000	1999
Weighted average shares outstanding - Basic	5,217,453	5,181,972	5,065,688
Weighted average shares outstanding - Diluted	5,259,016	5,181,972	5,351,474

Concentration of credit risk

The Company is subject to concentration of credit risk with respect to contract receivables. Credit risk on contract receivables is mitigated by the nature of the Company's worldwide customer base and its credit policies. The Company's customers are not concentrated in any specific geographic region, but are concentrated in the energy and manufacturing industries. For the years ended December 31, 2001, 2000 and 1999, one customer accounted for approximately 17%, 22% and 13%, respectively, of the Company's revenues. At December 31, 2001, the contracts receivable balance related to this significant customer was approximately $1.2 million, or 10.4% of contract receivables, of which all was unbilled at year-end. In 2001 and 2000, another customer accounted for approximately 24%, and 11%, respectively, of the Company's revenues. At December 31, 2001, the contracts receivable balance related to this significant customer was approximately $1.6 million, or 13.8% of the balance, of which $484,000 was unbilled at year-end.

Fair values of financial instruments

The carrying amounts of current assets, current liabilities, and long-term debt reported in the Consolidated Balance Sheets approximate fair value.

Off balance sheet risk and foreign exchange contracts

The Company utilizes various derivative financial instruments to manage market risks associated with the fluctuations in foreign currency exchange rates. It is the Company's policy to use derivative financial instruments to protect against market risk arising in the normal course of business. The criteria the Company uses for designating an instrument as a hedge include the instrument's effectiveness in risk reduction and one-to-one matching of derivative instruments to underlying transactions. The Company monitors its foreign currency exposures to maximize the overall effectiveness of its foreign currency hedge positions. Principal currencies hedged include the Euro and the Japanese yen. The Company's objectives for holding derivatives are to minimize the risks using the most effective methods to reduce the impact of these exposures. The Company minimizes credit exposure by limiting counterparties to nationally recognized financial institutions.

Effective January 1, 2001, the Company adopted Statements of Financial Accounting Standards (SFAS) No. 133, "Accounting for Derivative Instruments and Hedging Activities," as amended by SFAS No. 138 which establishes accounting and reporting standards for derivative instruments. The adoption of Statement No. 133 resulted in no cumulative adjustment to income or other comprehensive income at January 1, 2001. All derivatives, whether designated as hedging relationships or not, are required to be recorded on the balance sheet at fair value. If the derivative is designated as a fair value hedge, the changes in the fair value of the derivative and of the hedged item attributable to the hedged risk are recognized in earnings. If the derivative is designated as a cash flow hedge, the change in the fair value of the derivative and of the hedged item are recognized as an element of other comprehensive income. The Company utilizes forward exchange contracts, options and swaps, as defined by Statement No. 133, to hedge certain foreign currency balance sheet exposures.

At December 31, 2001, the Company had contracts for the sale of approximately $866,000 and $52,000 of Japanese Yen and Euros, respectively, at fixed rates. The contracts expire on various dates through November 2002. The Company has not designated the contracts as hedges and accordingly has recorded the estimated fair value of the contracts of $95,000 at December 31, 2001 as other assets in the consolidated balance sheet and other income (expense) in the consolidated statement of operations.

Reclassifications

Certain reclassifications have been made to prior year amounts to conform with the current year presentation.

New Accounting Standards

On July 20, 2001, the FASB issued Statement No. 141, "Business Combinations," and Statement No. 142, "Goodwill and Other Intangible Assets." Statement 141 requires that all business combinations be accounted for using the purchase method. Statement 142 requires that goodwill no longer be amortized to earnings, but instead be reviewed for impairment at least annually. The amortization of goodwill ceases upon adoption of the Statement, which for the Company will be January 1, 2002.

In October 2001, the FASB issued Statement No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." The provisions of this statement are effective for fiscal years beginning after December 15, 2001. The Company does not expect the adoption of this standard to have a material impact on the Company's consolidated financial statements.

3. Investment in Avantium International B.V.

On February 24, 2000, the Company licensed certain of its simulation software products to Avantium International B.V. ("Avantium") in exchange for 251,501 shares of Avantium preferred stock, valued at $2.5 million, and 352,102 shares of Avantium common stock, valued at $349,000. The software license, which is perpetual in nature, gives Avantium the right to use the software in the development of new software products. Each share of preferred stock is convertible into common stock.

Avantium was formed to develop high-speed experimentation and simulation ("HSE&S") technologies for application in new product and process development in pharmaceutical, petrochemical, fine chemical, biotechnology and polymers industries. Avantium expects to develop HSE&S technologies through in-house development and contract research at leading universities, hardware developers and informatics companies. Avantium has various investors, including Shell International Chemical, SmithKline Beecham, W.R. Grace, Akzo Nobel, three major European universities and various venture capital firms.

During the year ended December 31, 2000, the Company recognized software-licensing revenue of $2.9 million based on the fair value of the consideration received from Avantium. The fair value was established based on cash paid by other investors for their respective preferred and common stock interests in Avantium. The Company has delivered all elements of the software and has no other obligations to Avantium, other than standard warranty. The Company accounted for its investment in Avantium using the cost method of accounting based on management's conclusion that the Company did not have significant influence with respect to the operations of Avantium. During the year ended December 31, 2000, the Company also received an additional $2.9 million contract from Avantium to make certain improvements and enhancements to the software on a best efforts basis. The rates and margins in the contract were comparable to those the Company earns performing services for its other customers.

As a result of the experience with Avantium in 2000, the Company concluded that a combination of the relevant interests of the two companies would significantly increase the potential of both organizations. In addition, focusing the technical and marketing resources of Avantium and the GSE VirtualPlant team would produce significant cost savings. Accordingly, on March 6, 2001, the Company sold its VirtualPlant business to Avantium. Avantium purchased certain fixed assets and intellectual property (including BatchCAD and BatchWizard software products), obtained perpetual licenses to certain GSE Process software products, and employed certain personnel in both the U.S. and the UK. GSE received 200,000 shares of Avantium preferred stock and 280,000 shares of Avantium common stock, which increased its equity interest in Avantium to approximately 19% and the carrying value of its investment to $7.5 million. The Company recognized a gain on the sale of its VirtualPlant business of $3.3 million, before income taxes. This gain was determined based on the estimated fair value of the Avantium stock received, based on an independent appraisal, net of the book value of the assets sold and the estimated costs to settle severance with employees terminated from GSE and other transaction expenses. Although the Company retained one seat on the supervisory board of Avantium, management concluded that such seat did not provide the Company with significant influence. Accordingly, the Company continued to account for its investment in Avantium using the cost method. The cost method requires that if a decline in fair value below cost is judged by management to be other than temporary, the cost basis must be written down to fair value as a new cost basis, and the amount of the write-down is included in earnings as a realized loss. Any new cost basis derived in this manner is not changed for subsequent recoveries in fair value.

On February 7, 2002, Avantium completed a private placement round of financing which resulted in 20 million Euros in new capital and the conversion of 11 million Euros of convertible debt. The equity issuance and debt conversion diluted GSE's ownership in Avantium to 6.1%. The estimated fair market value of Avantium following the financing was $47.4 million. Accordingly, the Company concluded that this transaction was evidence of "an other than temporary decline" in the fair value of its investment in Avantium. Thus, in the fourth quarter 2001, the Company wrote down its investment in Avantium to $2.9 million and recognized a $4.6 million pre-tax charge.

4. Contract receivables

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

(in thousands)	December 31,	
	2001	2000
Billed receivables	$ 6,640	$ 9,265
Recoverable costs and accrued profit not billed	5,009	5,548
Allowance for doubtful accounts	(41)	(324)
Total contract receivables	$ 11,608	$ 14,489

5. Inventories

Inventories consist of the following:

(in thousands)	December 31,	
	2001	2000
Raw materials	$ 1,143	$ 1,084
Service parts	423	503
Total inventories	$ 1,566	$ 1,587

6. Prepaid expenses and other current assets

Prepaid expenses and other current assets consist of the following:

(in thousands)	December 31,	
	2001	2000
Investment in sales-type lease - current portion	$ 1,016	$ 1,617
Prepaid expenses	742	459
Employee advances	84	66
Other current assets	493	378
Total	$ 2,335	$ 2,520

7. Property and equipment

Property and equipment consist of the following:

(in thousands)	December 31,	
	2001	2000
Computer equipment	$ 4,730	$ 5,106
Leasehold improvements	878	847
Furniture and fixtures	2,051	2,065
	7,659	8,018
Accumulated depreciation and amortization	(5,897)	(5,719)
Property and equipment, net	$ 1,762	$ 2,299

Depreciation and amortization expense was approximately $706,000, $1,163,000, and $1,292,000, for the years ended December 31, 2001, 2000, and 1999, respectively.

8. Software development costs

Software development costs, net, consist of the following:

(in thousands)	December 31,	
	2001	2000
Capitalized software development costs	$7,725	$9,419
Accumulated amortization	(3,919)	(4,352)
Software development costs, net	$ 3,806	$ 5,067

Software development costs capitalized were approximately $809,000, $1,869,000, and $2,460,000 for the years ended December 31, 2001, 2000, and 1999, respectively. Amortization of software development costs capitalized was approximately $2,019,000, $2,202,000, and $1,801,000 for the years ended December 31, 2001, 2000, and 1999, respectively, and were included in cost of revenue.

9. Goodwill

Goodwill consists of the following:

(in thousands)	December 31,	
	2001	2000
Goodwill, at cost	$ 4,855	$ 4,796
Accumulated amortization	(2,469)	(1,800)
Goodwill, net	$ 2,386	$ 2,996

Amortization expense for goodwill was approximately $669,000, $528,000, and $388,000 for the years ended December 31, 2001, 2000, and 1999, respectively.

10. Long-term Debt

The Company's long-term debt consists of the following notes payable and other financing arrangements:

(in thousands)	December 31,	
	2001	2000
Line of credit with bank	$ 4,988	$ 9,277
Notes payable to related parties (see Note 16)	1,100	1,674
Obligations under financing leases	2,645	2,261
Notes payable, acquisitions	-	489
Notes payable, other	241	486
Total notes payable and financing arrangements	8,974	14,187
Less amounts payable within one year	2,284	2,347
Long-term portion	$ 6,690	$ 11,840

Line of Credit

The Company has a $10.0 million bank line of credit under which the Company and its subsidiaries, GSE Process Solutions, Inc. and GSE Power Systems, Inc., are jointly and severally liable as co-borrowers. The credit facility provides for borrowings to support working capital needs and foreign letters of credit ($2.0 million sublimit). The line is collateralized by substantially all of the Company's assets and provides for borrowings up to 85% of eligible accounts receivable, 50% of eligible unbilled receivables and 40% of eligible inventory (up to a maximum of $1.2 million). GP Strategies Corporation, one of the Company's major stockholders, has provided a limited guarantee totaling $1.8 million. The interest rate on this line of credit is based on the bank's prime rate plus 0.75% (5.50% as of December 31, 2001), with interest only payments due monthly. At December 31, 2001, the Company's available borrowing base was approximately $5.8 million, of which approximately $5.0 million had been utilized. The credit facility expires on March 23, 2003.

The credit facility requires the Company to comply with certain financial ratios and precludes the Company from paying dividends and making acquisitions beyond certain limits without the bank's consent. At December 31, 2001, the Company was in compliance with the covenants.

Notes Payable to Related Parties

In 2000, the Company issued a demand promissory note to ManTech that allowed the Company to borrow up to $1.8 million at an interest rate of prime plus one percent. In addition, ManTech provided $1.8 million in standby letters of credit to the Company's bank as additional collateral for the Company's credit facility. In April 2001, ManTech agreed to allow the Company's bank to draw upon ManTech's $1.8 million letter of credit which supported the Company's credit facility, thus paying down a portion of the Company's bank debt in exchange for additional subordinated debt in the Company. Accordingly, the Company's promissory note to ManTech was amended to increase the amount to $3.9 million. The amended note permitted ManTech to convert the principle amount of the note into GSE Series A convertible preferred stock at a conversion rate of $100 per share. The Company determined that the conversion of this debt did not constitute a beneficial conversion.

ManTech elected to convert its subordinated debt into equity on December 5, 2001. The Series A convertible preferred stock has no voting rights and bears dividends at the rate of 6% per annum payable quarterly. Dividends will accumulate if not paid quarterly and compounded interest will accrue on any unpaid dividends. ManTech at its discretion has the right to convert each share of Series A convertible preferred stock into GSE common stock at a purchase price of $2.645 per share at any time after a one-year holding period from the date of issuance. At the end of the third year from the date of issuance, the Series A convertible preferred stock automatically converts into GSE common stock. Prior to ManTech's conversion of the Series A convertible stock to common stock, GP Strategies has the option to acquire 50% of the Series A

convertible preferred stock for $1,950,000 from ManTech.

On June 25, 2001, the Company issued an additional unsecured promissory note to ManTech for $1.0 million at an interest rate of prime plus one percent. The Company used the loan proceeds for working capital purposes. The note is subordinated to the Company's credit facility. In January 2002, the Company repaid ManTech $250,000, plus $36,000 of interest and expects to pay the balance of the loan before the end of the second quarter 2002.

Obligations under financing leases

During 1999, 2000, and 2001 the Company entered into five separate contracts with a customer for the lease of certain hardware and software under 36-month leases. The Company has accounted for the leases as sales-type leases. The Company assigned the payments due under the sales-type leases to a third-party financing company and received proceeds of $2,198,000 in 2001 and $1,141,000 in 2000. Since the Company remains contingently liable for amounts due to the third-party financing company, the remaining investment in and obligation under the financing leases are reflected in the Company's balance sheets as follows:

(in thousands)	December 31,	
	2001	2000
Net investment in sales-type leases:		
Prepaid expense and other assets	$ 1,016	$ 1,617
Other assets - non current	1,629	644
Total net investment	$ 2,645	$ 2,261
Obligation under financing leases:		
Current portion of long-term debts	$ 1,016	$ 1,617
Long-term debts	1,629	644
Total obligations	$ 2,645	$ 2,261

Minimum rentals receivable under these leases at December 31, 2001 amount to $1,335,000 in 2002, $1,221,000 in 2003, and $625,000 in 2004. As of December 31, 2000, the components of the net investment in the sales-type leases are total minimum rentals receivable of $3,181,000, less unearned interest income of $536,000.

Debt maturities

Aggregate maturities of debt outstanding at December 31, 2001 are as follows:

(in thousands)	
2002	$ 2,284
2003	6,064
2004	590
2005	18
2006	18
Total	$ 8,974

11. Income taxes

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

(in thousands)	Years ended December 31,		
	2001	2000	1999
Domestic	$ (135)	$ (6,295)	$ (1,386)
Foreign	41	18	1,720
Total	$ (94)	$ (6,277)	$ 334

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

(in thousands)	Years ended December 31,		
	2001	2000	1999
Current:			
Federal	$ 54	$ (177)	$ -
State	26	75	30
Foreign	43	366	84
Subtotal	123	264	114
Deferred:			
Federal and State	(448)	2,543	110
Foreign	(28)	(270)	9
Subtotal	(476)	2,273	119
Total	$ (353)	$ 2,537	$ 233

The (benefit from) provision for income taxes varies from the amount of income tax determined by applying the applicable U.S. statutory rate to pre-tax
(loss) income as a result of the following:

	Effective tax rate percentage (%) Years ended December 31,		
	2001	2000	1999
Statutory U.S. tax rate	(34.0)%	(34.0)%	34.0 %
State income tax, net of federal tax benefit	31.0	0.8	2.7
Effect of foreign operations	6.2	1.5	6.9
Change in valuation allowance	(447.2)	68.4	-
Adjustments to prior year provision based on actual 1998 tax return amounts	-	-	(14.5)
Other	68.9	3.7	40.7
Effective tax rate	(375.1)%	40.4 %	69.8 %

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

(in thousands)	December 31,	
	2001	2000
Net operating loss carryforwards	$ 5,589	$ 6,240
Software development costs	(1,263)	(1,860)
Expenses not currently deductible for tax purposes	974	1,344
Foreign tax credits	379	339
Property and equipment	(27)	240
Swedish tax deferral	(175)	(270)
Accrued expenses	269	267
Other	784	174
Subtotal	6,530	6,474
Valuation allowance	(4,930)	(5,350)

Total	$ 1,600	$ 1,124

At December 31, 2001, the Company had available $13,456,000 and $2,384,000 of domestic and foreign net operating loss carryforwards, respectively, which expire between 2012 and 2020. In addition, the Company had $379,000 of foreign tax credit carryforwards, which expire between 2003 and 2005. These carryforwards will be utilized to reduce taxable income in subsequent years.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future income in making this assessment. Based upon the level of historical taxable income generated by the Company's Process and Power business units and projections of future taxable income in fiscal 2002 and 2003, management has established a valuation allowance of $4,930,000 and $5,350,000 at December 31, 2001 and 2000, respectively. During 2001, the Company decreased its valuation allowance by $420,000. During 2000, the Company increased its valuation allowance by $4.3 million.

12. Capital stock

At a special shareholder's meeting on August 2, 2001, the Company's shareholders approved an amendment to the Certificate of Incorporation increasing GSE's authorized common stock by eight million shares. As of December 31, 2001, the Company had 20,000,000 total shares of capital stock authorized, of which 18,000,000 are designated as common stock and 2,000,000 are designated as preferred stock. The Board of Directors has the authority to establish one or more classes of preferred stock and to determine, within any class of preferred stock, the preferences, rights and other terms of such class.

On March 6, 2001, with the completion of the sale of VirtualPlant to Avantium (see Note 3), the Company granted warrants to purchase shares of the Company's common stock to two non-employees. The warrants provide the right to purchase 37,500 shares of the Company's common stock at $1.00 per share. In 2001, the Company recognized expense related to the warrants of $115,000.

On March 9, 2001, with the completion of the sale of VirtualPlant to Avantium (see Note 3), the Company arranged a consulting agreement with a terminated employee. In consideration of consulting services, the Company granted fully vested options to purchase 53,000 shares of the Company's common stock at $1.70 per share. In 2001, the Company recognized expense related to these options based on their estimated fair value of $79,000.

As of December 21, 2001, the Company completed a rights offering granting rights to shareholders to purchase additional shares of common stock for a subscription price of $2.53 per share. The rights granted 0.711 for every share of common stock held of record as of October 26, 2001. Each whole right entitled the shareholder to purchase one share of common stock for $2.53 per share. As of December 31, 2001, the Company had a rights offering receivable of $1.3 million due from its escrow agent and accrued $139,000 of costs associated with the completion of the rights offering. The Company received the cash proceeds from its escrow agent in January 2002. The proceeds were used for a partial repayment of a $1 million loan from ManTech and working capital requirements.

In 1998, in connection with the Company's then existing credit facility, the Company had arranged for certain guarantees to be provided on its behalf by GP Strategies and ManTech. In consideration for these guarantees, the Company granted each of ManTech and GP Strategies warrants to purchase shares of the Company's common stock; each of such warrants provides the right to purchase 150,000 shares of the Company's common stock at $2.375 per share. In 1998, the Company recorded $300,000 as the estimated fair value of such warrants and amortized such value over the life of the initial guarantee, which expired in June 1999. During 1999, the Company recognized expense related to these warrants of $120,000.

As of December 31, 2001, the Company has reserved 3,732,635 shares of common stock for issuance upon exercise of stock options and warrants and the conversion of preferred stock.

13. Series A Convertible Preferred Stock

On December 5, 2001, ManTech elected to convert $3.9 million of subordinated debt into Series A convertible preferred stock at a conversion rate of $100 per share. The Company has determined that the conversion of this debt into preferred stock did not constitute a beneficial conversion. The Series A convertible preferred stock has no voting rights and bears dividends at the rate of 6% per annum payable quarterly. Dividends will accumulate if not paid quarterly and compounded interest will accrue on any unpaid dividends. As of December 31, 2001, the Company had accrued dividends payable of $17,000.

In the event of liquidation or dissolution of the Company, payment of available funds shall be made on the Series A convertible preferred stock (including payment in satisfaction of dividend obligations) prior and in preference to the common stock. ManTech at its discretion has the right to convert each share of Series A convertible preferred stock into GSE common stock at a purchase price of $2.645 per share at any time after a one-year holding period from the date of issuance. At the end of the third year from the date of issuance, the Series A convertible preferred stock automatically converts into 1,474,480 shares of GSE common stock. Prior to ManTech's conversion of the Series A convertible stock to common stock, GP Strategies has the option to acquire 50% of the Series A convertible preferred stock for $1,950,000.

14. Stock options

Long term incentive plan

During 1995, the Company established the 1995 Long-Term Incentive Stock Option Plan (the "Plan"), which includes all officers, key employees and non-employee members of the Company's Board of Directors. All options to purchase shares of the Company's common stock under the Plan expire seven years from the date of grant and generally become exercisable in three installments with 40% vesting on the first anniversary of the grant date and 30% vesting on each of the second and third anniversaries of the grant date, subject to acceleration under certain circumstances. At December 31, 2001, the Company had 604,965 shares of common stock reserved for the future grants under the Plan.

Stock option activity under the Plan is as follows:

	2001		2000		1999	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Options outstanding, beginning of period	1,437,105	$ 4.81	1,167,605	$ 4.93	535,206	$ 5.93
Options exercised	(25,000)	(1.33)	(10,880)	(3.56)	-	-
Options canceled	(99,950)	(4.59)	(14,620)	(3.73)	(45,601)	(5.62)
Options granted	547,000	1.95	295,000	5.07	678,000	4.07
Options outstanding, end of period	1,859,155	$ 4.03	1,437,105	$ 4.81	1,167,605	$ 4.93

The following table summarizes information relating to currently outstanding and exercisable options at December 31, 2001:

:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Options Outstanding	Weighted Average Remaining Contract Life in Years	Weighted Average Exercise Price	Options Exercisable	Weighted Average Exercise Price
$1.48 - $2.95	681,100	5.9	$ 2.14	229,600	$ 2.34
$2.96 - $4.43	796,114	4.7	3.67	394,164	3.83
$4.44 - $5.90	212,500	4.8	4.82	212,500	4.82
$5.91 - $7.38	13,000	4.1	6.27	13,000	6.27
$7.39 - $8.85	30,000	3.5	7.50	18,000	7.50
$8.86 - $11.80	200	4.6	11.25	200	11.25
$11.81 - $14.75	126,241	3.7	14.11	126,241	14.11
Total	1,859,155	5.1	$ 4.03	993,705	$ 5.10

The Company accounts for grants under the Plan in accordance with Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations. Accordingly, no compensation expense has been recognized for options granted to employees and directors as these options have been granted at an exercise price equal to the fair value of the underlying common stock on the date of grant. Had compensation expense been determined based on the fair value at the grant dates for awards under the Plan consistent with the fair value method of SFAS No. 123, "Accounting for Stock Based Compensation," the Company's pro forma net loss, and basic and diluted loss per common share would have been approximately $972,000 and $.19, respectively, in 2001; $11.1 million and $2.14, respectively, in 2000; $615,000 and $.12, respectively, in 1999.

The fair value of each option is estimated on the date of grant using a Black-Scholes option-pricing model with the following weighted-average assumptions used for grants during the years ended December 31, 2001, 2000, and 1999: expected volatility of 110%, 110%, and 82%; dividend yield of 0%; risk-free interest rates ranging from 3.6% to 6.2%; and expected terms ranging from 1 to 7 years. The weighted-average fair value of options granted during 2001, 2000, and 1999 was $1.55 per share, $3.93 per share, $2.82 per share, respectively.

15. Commitments and contingencies

Leases

The Company is obligated under certain noncancelable operating leases for office facilities and equipment. Future minimum lease payments under noncancelable operating leases as of December 31, 2001 are as follows:

(in thousands)	
2002	$ 1,595
2003	1,333
2004	1,339
2005	1,326
2006	1,242
Thereafter	1,910
Total	$ 8,745

Total rent expense under operating leases for the years ended December 31, 2001, 2000, and 1999 was approximately $1,924,000, $2,101,000, and $2,013,000, respectively.

Letters of credit and performance bonds

As of December 31, 2001, the Company was contingently liable for approximately $504,000 under four letters of credit used as payment bonds on contracts, all of which were secured by cash deposits classified as restricted cash in the consolidated balance sheet. As of December 31, 2001, the Company was contingently liable for approximately $262,000 under three performance bonds on contracts, all of which were secured by letters of credit of the Company's foreign subsidiary. In addition, the Company has $111,000 in escrow until April 30, 2003 as a performance bond deposit in connection with a simulator contract in Taiwan. This deposit is classified as an other asset in the consolidated balance sheets at December 31, 2001 and 2000.

Contingencies

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

16. Other related party transactions

In January 2000, the Company issued 116,959 shares of its common stock to ManTech for $500,000. The proceeds of the stock issuance were used for working capital.

Due to the Company's liquidity situation at the end of 2000, GSE experienced some difficulties in procuring supplies from its vendors for business operations. In January 2001, the Company entered into a purchasing arrangement with ManTech whereby ManTech dealt directly with some of the Company's vendors, ordered the supplies needed and had the products shipped in accordance with the Company's instructions. Purchases under this agreement totaled $843,000 for the year ended December 31, 2001. This purchasing arrangement terminated in June 2001, and the Company has no outstanding obligations to ManTech, in connection with this purchasing arrangement as of December 31, 2001. The supplies purchased through ManTech were at the same prices at which the Company could have procured the supplies directly.

In September 2001, the Company entered into a sublease agreement with ManTech, allowing ManTech to sublease 2,088 square feet of space at the Company's Columbia, Maryland office through September, 2002. For the year ended December 31, 2001, such sublease rentals amounted to $13,000.

In September, 2001, the Company entered into an alliance with General Physics Corporation, the leading supplier of operator instructional training programs for the Power industry. In addition to cooperating in marketing of individual products, the companies will combine some of General Physics' extensive training materials and programs with GSE's power plant simulation models to provide interactive and adaptive total training solutions. GSE will also help sell and distribute General Physics' GFE product to GSE's customer base.

On December 7, 2001, the Company agreed to make certain cash and in-kind contributions to RedStorm Scientific, LLC ("RedStorm") in exchange for a 10% membership interest in RedStorm. RedStorm is a privately held computational drug design company. Its technology (patents pending), known as Fyrestar, utilizes bio-informatics and computer-aided molecular design to create lead compounds that are developed into successful new drugs. It greatly reduces the significant cost associated with screening thousands of potential compounds common in the drug development process.

The Company paid $50,000 to RedStorm in the fourth quarter of 2001 and will make additional cash payments of $50,000 in each of the first three quarters of 2002. GSE's in-kind contribution consists of the development of a graphical user interface that will allow scientists to easily access and use the Fyrestar technology and the development of additional functionality to Fyrestar, allowing results to be graphically displayed as the calculations take place. This will allow scientists the opportunity to adjust their assumptions in real time, and further improve results. GSE will receive a perpetual, worldwide, royalty-free, non-transferable exclusive license for RedStorm's software products solely in the power and process control markets.

GSE will receive one seat on RedStorm's Board of Managers. Additionally, two of the Company's directors are also on RedStorm's Board of Managers. The Company will account for its investment in RedStorm using the equity method of accounting based on management's conclusion that the Company has significant influence with respect to the operations of RedStorm.

17. Employee benefits

The Company has a qualified defined contribution plan that covers substantially all U.S. employees under Section 401(k) of the Internal Revenue Code. Under this plan, the Company's stipulated basic contribution matches a portion of the participants' contributions based upon a defined schedule. Contributions are invested by an independent investment company in one or more of several investment alternatives. The choice of investment alternatives is at the election of each participating employee. The Company's contributions to the plan were approximately $293,000, $340,000, and $359,000 for the years ended December 31, 2001, 2000, and 1999, respectively.

18. Acquisitions and dispositions

Acquisitions

In April 1999, the Company completed two acquisitions for the Process business unit which were accounted for using the purchase method. The Company purchased certain assets and employed the associates of BatchCAD Limited, a United Kingdom-based supplier of batch process development and design consulting services and simulation software tools. The purchase price was approximately $548,000 payable in cash in three equal installments on January 1, 2000, 2001 and 2002 and was allocated as follows (in thousands):

Purchased software (property and equipment)	$ 481
Trade receivables	45
Property and equipment	22
Total purchase price	$ 548

In 1999, the Company also acquired all proprietary technology and software assets from, and assumed substantially all customer contracts of, Mitech Corporation, a Massachusetts-based supplier of neural network and artificial intelligence software. The purchase price was $350,000 and was allocated 100% to property and equipment as purchased software.

In December 1997, the Company acquired 100% of the outstanding common stock of J.L. Ryan, Inc. ("Ryan") for an initial purchase price of $1,000,000 and contingent consideration based on the performance of the business from 1998 to 2002. A minimum of $250,000 of such earnings payments for each of 1998 and 1999 was guaranteed by the Company. The Company paid $600,000 in cash upon the closing of the transaction and entered into a promissory note payable in four annual installments of $100,000 each beginning on January 2, 1999. This acquisition was accounted for under the purchase method. For the years ended December 31, 2000, and 1999, the contingent consideration in excess of the minimum guaranteed amount was approximately $549,000 and $411,000, respectively, which the Company has recorded as additions to goodwill. For the year ended December 31, 2001, there was no contingent consideration.

Dispositions

On November 30, 2000, the Company completed the sale of its GSE Process Solutions N.V. subsidiary ("GSE Belgium") to Newton Beheer B.V., pursuant to a stock purchase agreement, whereby Newton Beheer B.V. acquired all of the assets and assumed all of the liabilities of GSE Belgium. The aggregate cash sales for GSE Belgium was $1. The Company recognized a loss before income taxes on this transaction of $990,000. Included in the Consolidated Statement of Operations for the year ended December 31, 2000, are revenues of $1.5 million and operating losses of $346,000 attributable to GSE Belgium prior to the sale to Newton Beheer B.V.

19. Segment information

The Company's two reportable segments are its core business units Process and Power. (The Company's VirtualPlant business is reported under the Process segment.) The accounting policies of the segments are the same as those described in Note 2, Summary of significant accounting policies. The Company is primarily organized on the basis of these two business units. The Company has a wide range of knowledge of control and simulation systems and the processes those systems are intended to improve, control and model. The Company's knowledge is concentrated heavily in the process industries, which include the chemicals, food & beverage, and pharmaceuticals fields, as well as in the power generation industry. The Process business unit is primarily engaged in process control and simulation in a variety of commercial industries. Contracts typically range from three to nine months. The Power business unit is primarily engaged in simulation for the power generation industry, with the vast majority of customers being in the nuclear power industry. Contracts typically range from 18 months to three years.

The Company evaluates the performance of its business units utilizing "Business Unit Contribution", which is substantially equivalent to earnings before interest and taxes before allocating any corporate expenses. The segment information regarding the divested businesses is also included below (see, Note 3, Investment in Avantium International B.V. and Note 18, Acquisitions and dispositions).

The table below presents information as of and for the years ended December 31, 2001, 2000, and 1999 about the reportable segments:

(in thousands)	2001		
	Process	Power	Total
Contract revenue	$ 24,999	$ 25,332	$ 50,331
Business unit contribution	$ 3,745	$ 1,672	$ 5,417
Net assets	$ 16,833	$ 14,861	$ 31,694
Additions to long-lived assets	$ 974	$ 372	$ 1,346

	2000		
	Process	Power	Total
Contract revenue	$ 25,208	$ 30,507	$ 55,715
Business unit contribution	$ (4,053)	$ 4,549	$ 496
Net assets	$ 16,831	$ 17,719	$ 34,550
Additions to long-lived assets	$ 1,913	$ 921	$ 2,834

	1999		
	Process	Power	Total
Contract revenue	$ 34,638	$ 32,061	$ 66,699
Business unit contribution	$ 1,026	$ 5,093	$ 6,119

Net assets	$ 21,970	$ 18,276	$ 40,246
Additions to long-lived assets	$ 3,716	$ 982	$ 4,698

Contract revenue for the Process segment includes revenue for the Company's VirtualPlant and Belgian businesses of $7.6 million for the year ended December 31, 2000. Business unit contribution for the Process segment includes losses for VirtualPlant and Belgium of $3.7 million for the year ended December 31, 2000.

For the years ended December 31, 2001, 2000, and 1999, one Power Simulation customer (Battelle's Pacific Northwest National Laboratory) accounted for approximately 17%, 22%, and 13%, respectively, of the Company's consolidated revenue. The Pacific Northwest National Laboratory is the purchasing agent for the Department of Energy and the projects the Company performs in Eastern and Central Europe. For the years ended December 31, 2001, 2000 and 1999, one Process Automation customer (Westinghouse Savannah River Company) accounted for approximately 24%, 11%, and 5%, respectively, of the Company's consolidated revenue.

For the years ended December 31, 2001, 2000 and 1999, 37%, 26% and 31% of the Company's consolidated revenue were from customers in the chemicals industry, respectively, and 38%, 55% and 47% the Company's revenue were from customers in the nuclear power industry, respectively.

A reconciliation of segment business unit contribution to consolidated income before taxes for the years ended December 31, 2001, 2000, and 1999 is as follows:

(in thousands)	Years ended December 31,		
	2001	2000	1999
Segment business unit contribution	$ 5,417	$ 496	$ 6,119
Corporate expenses	(3,293)	(5,096)	(5,335)
Gain (loss) on disposition of assets	3,273	(990)	-
Write-down on investment of Avantium International B.V.	(4,605)	-	-
Interest expense, net	(886)	(687)	(450)
Income (loss) before income taxes	$ (94)	$ (6,277)	$ 334

A reconciliation of segment total assets to total consolidated assets as of the years ended December 31, 2001, 2000, and 1999 is as follows:

(in thousands)	December 31,		
	2001	2000	1999
Segment total assets	$ 31,694	$ 34,550	$ 40,246
Other assets unallocated to segments	1,980	1,399	2,781
Total consolidated assets	$ 33,674	$ 35,949	$ 43,027

The Company designs, develops and delivers business and technology solutions to the energy, process and manufacturing industries worldwide. Revenue, operating income (loss) and identifiable assets for the Company's United States, European, and Asian operations as of and for the years ended December 31, 2001, 2000 and 1999 are as follows:

(in thousands)	2001				
	United States	Europe	Asia	Eliminations	Consolidated
Contract revenue	$ 47,004	$3,327	$ -	$ -	$ 50,331
Transfers between geographic locations	123	37	-	(160)	-
Total contract revenue	$ 47,127	$3,364	$ -	$ (160)	$ 50,331
Operating income (loss)	$ 2,294	$(647)	$ 71	$ -	$ 1,718
Identifiable assets, at December 31	$ 40,168	$1,921	$ 101	$ (8,516)	$ 33,674

	2000				
	United States	Europe	Asia	Eliminations	Consolidated
Contract revenue	$ 44,441	$11,274	$ -	$ -	$ 55,715
Transfers between geographic locations	490	610	-	(1,100)	-
Total contract revenue	$ 44,931	$11,884	$ -	$ (1,100)	$ 55,715
Operating income (loss)	$ (263)	$(4,326)	$ (66)	$ -	$ (4,655)
Identifiable assets, at December 31	$ 44,688	$2,912	$ 199	$ (11,850)	$ 35,949

	1999				
	United States	Europe	Asia	Eliminations	Consolidated
Contract revenue	$ 60,150	$6,549	$ -	$ -	$ 66,699
Transfers between geographic locations	832	223	-	(1,055)	-
Total contract revenue	$ 60,982	$6,772	$ -	$ (1,055)	$ 66,699
Operating income (loss)	$ 1,690	$(946)	$ -	$ -	$ 744
Identifiable assets, at December 31	$ 47,001	$4,568	$ 414	$ (8,956)	$ 43,027

20. Supplemental disclosure of cash flow information

(in thousands)	Years ended December 31,		
	2001	2000	1999
Asset acquisitions financed with note payable issued to seller (see Note 18):	$ -	$ -	$ 598
Software product license sold in exchange for stock of buyer (see Note 3)	$ -	$ 2,895	$ -
Issuance of options/warrants issued to non-employees (see Note 12)	$ 194	$ -	$ -
Conversion of related party note payable to preferred stock (see Note 16)	$ 3,900	$ -	$ -
Cash paid:			
Interest	$ 845	$ 889	$ 481
Income taxes	$ 434	$ 271	$ 683

21. Quarterly financial data (unaudited)

The Company's quarterly financial information has not been audited but, in management's opinion, includes all adjustments necessary for a fair presentation.

(in thousands, except per share data)	Year ended December 31, 2001 Quarterly Data			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Contract revenue	$ 12,478	$ 11,845	$ 13,823	$ 12,185
Operating income (loss)	(209)	464	1,154	309
Net income (loss)	1,714	468	601	(2,524)
Earnings (loss) per common share:				
Basic	$ 0.33	$ 0.09	$ 0.12	$ (0.49)
Diluted	$ 0.33	$ 0.09	$ 0.11	$ (0.48)

	Year ended December 31, 2000 Quarterly Data			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Contract revenue	$ 15,124	$ 13,300	$ 13,694	$ 13,597
Operating income (loss)	1,135	(1,411)	(1,249)	(3,130)
Net income (loss)	537	902)	(869)	(7,580)
Earnings (loss) per common share:				
Basic	$ 0.10	$ (0.17)	$ (0.17)	$ (1.46)
Diluted	$ 0.09	$ (0.17)	$ (0.17)	$ (1.45)

The first quarter 2000 includes contract revenue and related profit from the licensing of software to Avantium, as described in Note 3, Investment in Avantium International B.V.

The fourth quarter 2000 net loss includes the following significant charges: a $710,000 provision to write-down Process inventory, a $990,000 loss on the sale of the Company's Belgian subsidiary (see Note 18, Acquisitions and dispositions), and a $4.3 million income tax charge to increase the deferred tax asset valuation allowance (see Note 11, Income taxes).

The first quarter 2001 net income includes a $3.3 million gain before income taxes on the sale of the Company's VirtualPlant technology and assets to Avantium. The fourth quarter 2001 net income includes a $4.6 million write down of the Company's investment in Avantium (see Note 3 Investment in Avantium International B. V.) and a $420,000 reduction of the Company's deferred tax valuation allowance.

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

None.

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 2001

PART III

The information required in response to Items 10, 11, 12 and 13 is hereby incorporated by reference to the information under the captions "Election of Directors", "Principal Executive Officers of the Company Who Are Not Also Directors", "Executive Compensation", "Voting Securities and Principal Stockholders", "Security Ownership of Management", and "Certain Related Transactions" in the Proxy Statement for the Company's 2002 Annual Meeting of Shareholders.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K.

(a)(1) List of Financial Statements

The following financial statements are included in Item 8:

GSE Systems, Inc. and Subsidiaries

Independent Auditors' Report

Report of Independent Accountants Consolidated Balance Sheets as of December 31, 2001 and 2000 Consolidated Statements of Operations for the years ended December 31, 2001, 2000, and 1999
Consolidated Statements of Comprehensive Income(Loss) for the years ended December 31, 2001, 2000, and 1999 Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2001, 2000, and 1999 Consolidated Statementsof Cash Flows for the years ended December 31, 2001, 2000, and 1999 Notes to Consolidated Financial Statements

(a)(2) List of Schedules

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

(a)(3) List of Exhibits

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

(b) Reports on Form 8-K:

Form 8-K was filed by the Registrant with the Securities and Exchange Commission on October 24, 2001 regarding the Third Amended and Restated Certificate of Incorporation of the Company.

Form 8-K was filed by the Registrant with the Securities and Exchange Commission on December 12, 2001 regarding the Preferred Stock Issuance Agreement by and between GSE Systems, Inc. and ManTech International Corporation (dated December 5, 2001).

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 / Chin-Our Jerry Jen
Chin-Our Jerry Jen

Chief Operating Officer and President

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

Date: March 29, 2002

/ S / Chin-Our Jerry Jen
Chin-Our Jerry Jen, Chief Operating Officer and President
(Principal Executive Officer)

Date: March 29, 2002

/ S / JEFFERY G. HOUGH
Jeffery G. Hough, Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: March 29, 2002

(Jerome I. Feldman, Chairman of the Board)
(Dr. Sheldon L. Glashow, Director)
(Scott N. Greenberg, Director)
(Dr. Roger Hagengruber, Director)
(Joseph W. Lewis, Director)
(John A. Moore, Jr., Director)
(George J. Pedersen, Director)

By: / S / JEFFERY G. HOUGH
Jeffery G. Hough
Attorney-in-Fact

A Power of Attorney, dated March 15, 2001, authorizing Jeffery G. Hough to sign this Annual Report on Form 10-K for the fiscal year ended December 31, 2001 on behalf of certain of the directors of the Registrant is filed as Exhibit 24 to this Annual Report.

EXHIBIT INDEX

The following exhibits are either filed herewith or have been previously filed with the Securities and Exchange Commission and are referred to and incorporated by reference.

Exhibit	Description of Exhibit	Exhibit Number	Page
3.	Articles of Incorporation and Bylaws		
a.	Third Amended and Restated Certificate of Incorporation of the Company. Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on October 24, 2001 and incorporated herein by reference.		
b.	Form of Amended and Restated Bylaws of the Company. Previously filed in connection with Amendment No. 1 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on June 14, 1995 and incorporated herein by reference.		
4.	Instruments Defining Rights of Security Holders, including Indenture.		
a.	Specimen Common Stock Certificate of the Company. Previously filed in connection with Amendment No. 3 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on July 24, 1995 and incorporated herein by reference.		
10.	Material Contracts		
a.	Agreement among ManTech International Corporation, National Patent Development Corporation, GPS Technologies, Inc., General Physics Corporation, Vattenfall Engineering AB and GSE Systems, Inc. (dated as of April 13, 1994). Previously filed in connection with the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on April 24, 1995 and incorporated herein by reference.		
b.	GSE Systems, Inc. 1995 Long-Term Incentive Plan, amended as of April 5, 1999. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 1999 and incorporated herein by reference. *		

Exhibit	Description of Exhibit	Exhibit Number	Page
c.	Form of Option Agreement Under the GSE Systems, Inc. 1995 Long-Term Incentive Plan. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 22, 1996 and incorporated herein by reference. *		
d.	Office Lease Agreement between Sterling Rutherford Plaza, L.L.C. and GSE Systems, Inc. (dated as of February 10, 1998). Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 21, 1998 and incorporated herein by reference.		
e.	Office Lease Agreement between Red Branch Road, L.L.C. and GSE Systems, Inc. (dated February 10, 1998). Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 21, 1998 and incorporated herein by reference.		
f.	Executive Employment Agreements between GSE Systems, Inc. and Directors Jerome I. Feldman, George J. Pedersen, Scott N. Greenberg, and John A. Moore, Jr. (dated January 1, 1999). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 1, 2001 and incorporated herein by reference.		
g.	Warrant Agreements with GP Strategies and ManTech International Corporation (dated September 13, 1999). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 15, 2001 and incorporated herein by reference.		
h.	Change of Control Agreements between GSE Systems, Inc. and Jerry Jen and Jeffery G. Hough (dated March 10, 2000). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 1, 2001 and incorporated herein by reference.		
i.	Loan and Security Agreement among GSE Systems, Inc., GSE Process Solutions, Inc., GSE Power Systems, Inc., and National Bank of Canada, dated March 23, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.		

Exhibit	Description of Exhibit	Exhibit Number	Page
j.	$10,000,000 Promissory Note dated March 23, 2000, from GSE Systems, Inc., GSE Process Solutions, Inc., and GSE Power Systems, Inc. to National Bank of Canada. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.		
k.	ManTech International Corporation Guarantee to National Bank of Canada, dated March 23, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.		
l.	GP Strategies, Inc. Guarantee to National Bank of Canada, dated March 23, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.		
m.	Subscription and Shareholders' Agreement by and among Avantium International B.V., B.V. Licht en Kracht Maatschappij, SmithKline Beecham PLC, S.R. One, Limited, GSE Systems, Inc. Delft University of Technology, Universiteit Twente, Eindhoven University of Technology, the Generics Group Limited, and Alpinvest Holding NV, dated February 24, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.		
n.	Asset Sale and Purchase Agreement between GSE Systems, Inc. and Avantium International B.V. dated March 6, 2001. Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on March 21, 2001 and incorporated herein by reference.		
o.	$2,100,000 Replacement Promissory Note dated March 30, 2001, from GSE Systems, Inc. to ManTech International Corporation.		
p.	Subordination and Intercreditor Agreement by and between National Bank of Canada and ManTech International Corporation dated March 30, 2001.		
q.	Third Modification Agreement dated March 30, 2001 to the Loan and Security Agreement among GSE Systems, Inc., GSE Process Solutions, Inc., GSE Power Systems, Inc., and National Bank of Canada dated March 23, 2000.		

Exhibit	Description of Exhibit	Exhibit Number	Page
r.	Allonge and First Modification to Replacement Promissory Note between GSE Systems, Inc. and ManTech International Corporation (dated April 6, 2001). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 15, 2001 and incorporated herein by reference.		
s.	Executive Compensation Plan for Jerry Jen (dated May 3, 2001). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 1, 2001 and incorporated herein by reference.		
t.	$1,000,000 promissory note dated June 25, 2001 to ManTech International Corporation. Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 1, 2001 and incorporated herein by reference.		
u.	Preferred Stock Issuance Agreement by and between GSE Systems, Inc. and ManTech International Corporation (dated December 5, 2001). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on December 12, 2001 and incorporated herein by reference.		
16.	Letter regarding change in Certified Accountant		
a.	Letter from PricewaterhouseCoopers, dated March 30, 2000, regarding change in certifying accountants. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.		
21.	Subsidiaries.		
a.	List of Subsidiaries of Registrant at December 31, 2001.	21.1	X-21.1-1

Exhibit	Description of Exhibit	Exhibit Number	Page
23.	Consents of Experts and Counsel		
	a. Independent Auditors' Consent.	23.1	X-23.1-1
	b. Consent of Independent Accountants.	23.2	X-23.2-1
24.	Power of Attorney		
	a. Power of Attorney for Directors' and Officers' Signatures on SEC Form 10-K.	24.1	X-24.1-1
99.	Additional Exhibits		
	a. Form of Right of First Refusal Agreement. Previously filed in connection with Amendment No. 3 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on July 24, 1995 and incorporated herein by reference.		

* Management contracts or compensatory plans required to be filed as exhibits pursuant to Item 14 (c) of this report.

Exhibit 21.1

SUBSIDIARIES OF REGISTRANT AT DECEMBER 31, 2001

The companies listed below are directly or indirectly owned 100% by GSE Systems, Inc. and are included in its consolidated financial statements.

o GS Information Systems FSC, Ltd., GSE Systems International Ltd., MSHI, Inc., GSE Power Systems AB, GSE Process Solutions, Inc., and GSE Erudite Software, Inc. are wholly owned subsidiaries of GSE Systems, Inc.

o GP International Engineering & Simulation, Inc. and GSE Services Company L.L.C. are wholly owned subsidiaries of GSE Power Systems, Inc. which is a wholly owned subsidiary of MSHI, Inc.

o GSE Systems UK, Ltd. and GSE Process Solutions B.V. are wholly owned subsidiaries of GSE Process Solutions, Inc.

o GSE Process Solutions Singapore (Pte) Limited is a wholly owned subsidiary of GSE Process Solutions B.V.

o J.L. Ryan, Inc., acquired by GSE Power Systems, Inc. in December 1997, has been merged with and into GSE Power Systems, Inc. as of February 1998, with GSE Power Systems, Inc. being the surviving corporation.

Name	Place of Incorporation or Organization
GS Information Systems FSC, Ltd.	Barbados
GSE Systems International Ltd.	State of Delaware
MSHI, Inc.	State of Virginia
GSE Power Systems AB	Sweden
GSE Process Solutions, Inc.	State of Delaware
GSE Erudite Software, Inc.	State of Delaware
GP International Engineering & Simulation, Inc.	State of Delaware
GSE Services Company L.L.C.	State of Delaware
GSE Power Systems, Inc.	State of Delaware
GSE Systems UK, Ltd.	United Kingdom
GSE Process Solutions B.V.	Netherlands
GSE Process Solutions Singapore (Pte) Limited	Singapore

Exhibit 23.1

Independent Auditors' Consent

The Board of Directors
GSE Systems, Inc.

We consent to the incorporation by reference in the registration statement (No. 333-08805) on Form S-8 of GSE Systems, Inc. of our report dated March 15, 2002 relating to the consolidated balance sheets of GSE Systems, Inc. and subsidiaries as of December 31, 2001 and 2000, and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows for the years then ended, which report appears in the December 31, 2001 annual report on Form 10-K of GSE Systems, Inc.

/s/ KPMG LLP
Baltimore, Maryland
March 28, 2002

Exhibit 23.2

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-08805) of GSE Systems, Inc. of our report dated February 29, 2000 relating to the consolidated financial statements of GSE Systems, Inc., which appears in this Annual Report on Form 10-K.

/s/ PricewaterhouseCoopers LLP

McLean, Virginia
March 28, 2002

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that the undersigned Officers and Directors of GSE Systems, Inc., a Delaware corporation, hereby constitute and appoint Jerry Jen and Jeffery G. Hough, and each of them, the true and lawful agents and attorneys-in-fact of the undersigned with full power and authority in said agents and attorneys-in-fact, and in any one or both of them, to sign for the undersigned and in their respective names as Officers and Directors of the Corporation, the Annual Report of Form 10-K of the Corporation to be filed with the Securities and Exchange Commission, Washington, D.C., under the Securities Exchange Act of 1934, as amended, and any amendment or amendments to such Annual Report, hereby ratifying and confirming all acts taken by such agents and attorneys-in-fact, or any one or more of them, as herein authorized. This Power of Attorney, which is dated as of February 8, 2002, may be executed in any number of counterparts, and such signatures may be by means of facsimile or other means of transmission.

Name	*Title*
/s/ Jerome I. Feldman	*Chairman of the Board*
/s/ Jerry Jen	*President, Chief Operating Officer and Director (Principal Executive Officer)*
/s/ Jeffery G. Hough	*Senior Vice President and Chief Financial Officer (Principal Finance and Accounting Officer)*
/s/ Sheldon L. Glashow, Ph.D.	*Director*
/s/ Scott N. Greenberg	*Director*
/s/ John A. Moore, Jr.	*Director*
/s/ George J. Pedersen	*Director*
/s/ Joseph W. Lewis	*Director*
/s/ Roger L. Hagengruber, Ph.D.	*Director*