

ADVANCED ENERGY INDUSTRIES INC

FORM 424B3

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Address	1625 SHARP POINT DR FT COLLINS, Colorado 80525
Telephone	970-221-4670
CIK	0000927003
Industry	Electronic Instr. & Controls
Sector	Technology
Fiscal Year	12/31

686,503 Shares

Advanced Energy Industries, Inc.

Common Stock

This prospectus relates to the public offering, which is not being underwritten, of up to 686,503 shares of our common stock by the selling stockholders identified in this prospectus. The prices at which the stockholders may sell the shares will be determined by the prevailing market for the shares or in negotiated transactions. We will not receive any proceeds from the sale of shares offered under this prospectus.

Our common stock is traded on the Nasdaq National Market under the symbol "AEIS." The last reported sale price on August 2, 2000 was \$43.5625.

SEE "RISK FACTORS" BEGINNING ON PAGE 4 OF THIS PROSPECTUS TO READ ABOUT IMPORTANT FACTORS YOU SHOULD CONSIDER BEFORE PURCHASING SHARES OF THE COMMON STOCK.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY OTHER REGULATORY BODY HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is August 3, 2000

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We have not authorized any person to make a statement that differs from what is in this prospectus. If any person does make a statement that differs from what is in this prospectus, you should not rely on it. This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any state in which the offer or sale is not permitted. The information in this prospectus is complete and accurate as of its date, but the information may change after that date.

ADVANCED ENERGY INDUSTRIES, INC.

OVERVIEW

We design, manufacture and support power conversion and control systems. These systems are important components of industrial manufacturing equipment that modifies surfaces or deposits or etches thin film layers on computer chips, CDs, flat panel displays such as computer screens, DVDs, windows, eyeglasses, solar panels and other products. Our systems refine, modify and control the raw electrical power from a utility and convert it into power that is uniform and predictable. This allows manufacturing equipment to produce and deposit very thin films at an even thickness on a mass scale.

The ongoing demand for improvements in the performance, capacity and speed of computer chips, flat panel displays and other products drives manufacturers to develop more advanced technology to produce thinner, more consistent and more precise layers of film. Thin film production processes enable manufacturers to control and alter the electrical, magnetic, optical and mechanical characteristics of materials. Our systems are used primarily in plasma-based thin film production processes. Plasma is commonly created by applying enough electrical force to a gas at reduced pressure to separate electrons from their parent atoms. Plasma-based process technology was developed to address the limitations of wet chemistry and thermal process technologies and to enable new applications. Plasma-based processes are inherently more controllable and more accurate for many applications than other thin film production processes because of the electrical characteristics of plasma.

We market and sell our systems primarily to large, global original equipment manufacturers of semiconductor, flat panel display, data storage and other industrial thin film manufacturing equipment. We have sold our systems worldwide to more than 100 OEMs and directly to more than 500 end-users. Our principal customers include Applied Materials, Balzers, Eaton, Lam Research, Novellus, Singulus and ULVAC. The semiconductor capital equipment industry accounted for approximately 59% of our total sales in 1997, 49% in 1998, 61% in 1999 and 62% in the first three months of 2000.

We incorporated in Colorado in 1981 and reincorporated in Delaware in 1995. Our main offices are located at 1625 Sharp Point Drive, Fort Collins, Colorado 80525, and our telephone number is (970) 221-4670.

RECENT DEVELOPMENTS

In April 2000, we acquired Noah Holdings, Inc. ("Noah"), a privately-held manufacturer of solid state temperature control systems used to control process temperatures during semiconductor manufacturing. We believe that this acquisition will enable us to increase our product offerings and provide more value to our customers.

On July 6, 2000, we entered into an agreement to acquire Engineering Measurements Company, a publicly-held manufacturer of electronic and electro-mechanical precision instruments for measuring and controlling the flow of liquids, steam and gases. Subject to numerous terms and conditions, we expect that this merger will be completed in the fourth quarter of 2000.

On July 21, 2000, we entered into an agreement to acquire Sekidenko, Inc., a privately-held manufacturer of optical fiber temperature measurement and control solutions for the semiconductor and related industries. Subject to numerous terms and conditions, we expect that this merger will be completed in August 2000.

STRATEGY

We have achieved a market leadership position in the semiconductor equipment, flat panel display and data storage industries by applying our large base of expertise in the interaction between plasma-based processes and power conversion and control systems to design highly precise, customized power conversion and control systems that provide a wide range of power frequencies for plasma-based thin film processes. Our strategy is to continue to build upon our leadership positions in these industries while exploring other emerging markets. We believe our five key growth opportunities are:

EXPANDING LEADERSHIP IN OUR CORE MARKETS. We believe we are the market share leader in the semiconductor capital equipment, data storage and flat panel display markets. We plan to continue to increase our penetration in these three markets by introducing new products and solutions for our existing customers and targeting new customers, but our primary focus will continue to be on the semiconductor capital equipment market. For example, in the semiconductor capital equipment market we believe that significant opportunities exist for us to introduce new products for processes or applications such as:

- * etch applications using radio frequency power;
- * gas abatement;
- * on-line measurement of power characteristics; and
- * copper electroplating.

PROVIDING INTEGRATED SOLUTIONS FOR CUSTOMERS. We believe that customers want solutions that improve process control and yield, and decrease their total cost and time to market. We are developing integrated systems to provide more complete solutions that meet our customers' plasma-based process requirements. We are identifying currently fragmented applications of technology involving significant power, measurement and control content, and developing integrated, high performance, robust and cost- effective solutions for these applications.

TARGETING EMERGING APPLICATIONS. We are targeting emerging applications that have the potential to benefit from more efficient and reliable use of power in manufacturing processes for telecommunications networking equipment, automotive parts, tools, architectural glass and other industrial products.

PURSUING ACQUISITIONS TO FUEL GROWTH. We actively seek complementary technologies and companies as a means to expand our presence in existing and emerging markets and to provide integrated solutions for customers and potential customers. We have acquired and integrated four companies in the last two years. We continually evaluate companies whose products and technologies could enhance our system level capabilities.

CAPITALIZING ON WORLDWIDE INFRASTRUCTURE. Our principal customers are large, global OEMs that require that their suppliers have a well-developed worldwide infrastructure. We plan to continue to take advantage of and expand our established global infrastructure, operating skills and comprehensive product portfolio to better serve these customers and to attract new customers with international support needs.

SALES AND MARKETING

We sell our systems primarily through direct sales personnel to customers in the United States, Europe and Asia, and through distributors in China, France, Israel, Italy, Singapore, and Sweden. Sales outside the United States represented 23% of our total sales during 1997, 28% in 1998, 29% in 1999 and 31% in the first three months of 2000. We maintain sales and service offices across the United States in California, Colorado, Massachusetts, Minnesota, New Jersey and Texas. We maintain sales and service offices outside the United States in Germany, Japan, South Korea, the United Kingdom and Taiwan.

RF POWER PRODUCTS ACQUISITION

In October 1998, we acquired RF Power Products, which designs, manufactures and supports radio frequency (RF) power conversion and control systems consisting of generators and matching networks. Generators provide RF power and matching networks provide control over power flow to the customers' equipment. We believe our ability to offer an expanded line of RF systems to our existing customer base has strengthened those relationships. We sell these products principally to semiconductor capital equipment manufacturers. We also sell similar systems to capital equipment manufacturers in the flat panel display and thin film data storage industries and are exploring applications for these systems in other industries.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below and the other information in this prospectus and in the documents incorporated by reference before deciding whether to purchase our common stock.

RISKS RELATED TO OUR BUSINESS

OUR QUARTERLY OPERATING RESULTS ARE SUBJECT TO SIGNIFICANT FLUCTUATIONS, WHICH COULD NEGATIVELY IMPACT OUR FINANCIAL CONDITION, RESULTS OF OPERATIONS AND STOCK PRICE.

Our quarterly operating results have fluctuated significantly and we expect them to continue to experience significant fluctuations. Downward fluctuations in our quarterly results have historically resulted in decreases in the price of our common stock. Quarterly operating results are affected by a variety of factors, many of which are beyond our control. These factors include:

- * changes or slowdowns in economic conditions in the semiconductor and semiconductor capital equipment industries and other industries in which our customers operate;
- * the timing and nature of orders placed by major customers;
- * customer cancellations of previously placed orders and shipment delays;
- * pricing competition from our competitors;
- * component shortages resulting in manufacturing delays;
- * changes in customers' inventory management practices;
- * the introduction of new products by us or our competitors; and
- * costs incurred by responding to specific feature requests by customers.

In addition, companies in the semiconductor capital equipment industry and other electronics companies experience pressure to reduce costs. Our customers exert pressure on us to reduce our prices, shorten delivery times and extend payment terms. These pressures could lead to significant changes in our operating results from quarter to quarter.

In the past, we have incurred charges and costs related to events such as acquisitions, restructuring and storm damages.

The occurrence of similar events in the future could adversely affect our operating results in the applicable quarter.

Our operating results in one or more future quarters may fall below the expectations of analysts and investors. In those circumstances, the trading price of our securities would likely decrease.

THE SEMICONDUCTOR AND SEMICONDUCTOR CAPITAL EQUIPMENT INDUSTRIES ARE HIGHLY VOLATILE AND OUR OPERATING RESULTS ARE AFFECTED TO A LARGE EXTENT BY EVENTS IN THOSE INDUSTRIES.

The semiconductor industry historically has been highly volatile and has experienced periods of oversupply resulting in significantly reduced demand for semiconductor fabrication equipment, which includes our systems. During downturns, some of our customers have drastically reduced their orders to us and have implemented substantial cost reduction programs. Sales to customers in the semiconductor capital equipment industry accounted for 59% of our total sales in 1997, 49% in 1998, 61% in 1999 and 62% in the first three months of 2000. We expect that we will continue to depend significantly on the semiconductor and semiconductor capital equipment industries for the foreseeable future.

A rapid decrease in demand for our products can occur with limited advance notice because we supply subsystems to equipment manufacturers and make a substantial and increasing proportion of our shipments on a just-in-time basis. This decrease in demand can adversely impact our business and financial results disproportionately because of its unanticipated nature.

A SIGNIFICANT PORTION OF OUR SALES ARE CONCENTRATED AMONG A FEW CUSTOMERS.

Our four largest customers accounted for 51% of our total sales in 1997, 47% in 1998, 53% in 1999 and 54% in the first quarter of 2000. Our largest customer accounted for 31% of our total sales in 1997, 23% in 1998, 32% in 1999 and 36% in the first quarter of 2000. The loss of any of these customers or a material reduction in any of their purchase orders would have a material adverse effect on our business, financial condition and results of operations.

THE MARKETS IN WHICH WE OPERATE ARE HIGHLY COMPETITIVE.

We face substantial competition, primarily from established companies, some of which have greater financial, marketing and technical resources than we do. Our primary competitors are ENI, a subsidiary of Astec (BSR) plc, Applied Science and Technology (ASTeX), Huettinger, Shindigen, Kyosan, Comdel and Daihen. We expect that our competitors will continue to develop new products in direct competition with ours, improve the design and performance of their systems and introduce new systems with enhanced performance characteristics.

To remain competitive, we need to continue to improve and expand our systems and system offerings. In addition, we need to maintain a high level of investment in research and development and expand our sales and marketing efforts, particularly outside of the United States. We may not be able to make the technological advances and investments necessary to remain competitive.

New products developed by competitors or more efficient production of their products could increase pressure on the pricing of our systems. In addition, electronics companies, including companies in the semiconductor capital equipment industry, have been facing pressure to reduce costs. Either of these factors may require us to make significant price reductions to avoid losing orders. Further, our current and prospective customers consistently exert pressure on us to lower prices, shorten delivery times and improve the capability of our systems.

Failure to respond adequately to such pressures could result in a loss of customers or orders.

WE MAY NOT BE ABLE TO INTEGRATE OUR ACQUISITIONS.

We have experienced significant growth through acquisitions and continue to actively pursue acquisition opportunities. Our acquisitions to date generally have been in markets in which we have limited experience. We may not be able to compete successfully in these markets or might not be able to operate the acquired businesses efficiently. Our business and results of operations could be adversely affected if integrating these acquisitions results in substantial costs, delays or other operational or financial problems.

Future acquisitions could place additional strain on our operations and management. Our ability to manage future acquisitions will depend on our success in:

- * evaluating new markets and investments;
- * monitoring operations;
- * controlling costs;
- * integrating acquired operations and personnel;
- * maintaining effective quality controls; and
- * expanding our internal management, technical and accounting systems.

Also, in connection with future acquisitions we may issue equity securities which could be dilutive, incur debt, recognize substantial one-time expenses or create goodwill or other intangible assets that could result in significant amortization expense.

WE ARE GROWING AND MAY BE UNABLE TO MANAGE OUR GROWTH EFFECTIVELY.

We have been experiencing a period of growth and expansion. This growth and expansion is placing significant demands on our management and our operating systems. We need to continue to improve and expand our management, operational and financial systems, procedures and controls, including accounting and other internal management systems, quality control, delivery and service capabilities.

In order to manage our growth, we may also need to spend significant amounts of cash to:

- * fund increases in expenses;
- * acquire additional facilities and equipment;
- * take advantage of unanticipated opportunities, such as major strategic alliances or other special marketing opportunities, acquisitions of complementary businesses or assets, or the development of new products; or
- * otherwise respond to unanticipated developments or competitive pressures.

If we do not have enough cash on hand, cash generated from our operations or cash available under our credit facility to meet these cash requirements, we will need to seek alternative sources of financing to carry out our growth and operating strategies. We may not be able to raise needed cash on terms acceptable to us, or at all. Financings may be on terms that are dilutive or potentially dilutive. If alternative sources of financing are required but are insufficient or unavailable, we will be required to modify our growth and operating plans to the extent of available funding.

SHORTAGES OF COMPONENTS NECESSARY FOR OUR PRODUCT ASSEMBLY CAN DELAY OUR SHIPMENTS.

Manufacturing our power conversion and control systems requires numerous electronic components. Dramatic growth in the electronics industry has significantly increased demand for these components, particularly in the first quarter of 2000. This demand has resulted in periodic shortages and allocations of needed components, and we expect to experience additional shortages and allocations from time to time. Shortages and allocations could cause shipping delays for our systems, adversely affecting our results of operations. Shipping delays also could damage our relationships with current and prospective customers.

OUR DEPENDENCE ON SOLE AND LIMITED SOURCE SUPPLIERS COULD AFFECT OUR ABILITY TO MANUFACTURE PRODUCTS AND SYSTEMS.

We rely on sole and limited source suppliers for some of our components and subassemblies that are critical to the manufacturing of our systems. This reliance involves several risks, including the following:

- * the potential inability to obtain an adequate supply of required components;
- * reduced control over pricing and timing of delivery of components; and
- * the potential inability of our suppliers to develop technologically advanced products to support our growth and development of new systems.

We believe that in time we could obtain and qualify alternative sources for most sole and limited source parts or could manufacture the parts ourselves. Seeking alternative sources or commencing internal manufacture of the parts could require us to redesign our systems, resulting in increased costs and likely shipping delays. We may be unable to manufacture the parts internally or redesign our systems, which could result in further costs and shipping delays. These increased costs would decrease our profit margins if we could not pass the costs to our customers. Further, shipping delays could damage our relationships with current and potential customers and have a material adverse effect on our business and results of operations.

WE ARE HIGHLY DEPENDENT ON OUR INTELLECTUAL PROPERTY BUT MAY NOT BE ABLE TO PROTECT IT ADEQUATELY.

Our success depends in part on our proprietary technology. We attempt to protect our intellectual property rights through patents and non-disclosure agreements. However, we might not be able to protect our technology, and competitors might be able to develop similar technology independently. In addition, the laws of certain foreign countries might not afford our intellectual property the same protection as do the laws of the United States. For example, our intellectual property is not protected by patents in several countries in which we do business, and we have limited patent protection in certain other countries. The costs of applying for patents in foreign countries and translating the applications into foreign languages require us to select carefully the inventions for which we apply for patent protection and the countries in which we seek such protection. Generally, we have concentrated our efforts to obtain international patents in the United Kingdom, Germany, France, Italy and Japan because there are other manufacturers and developers of power conversion and control systems in those countries, as well as customers for those systems. Our inability or failure to obtain adequate patent protection in a particular country could have a material adverse effect on our ability to compete effectively in that country.

Our patents also might not be sufficiently broad to protect our technology, and any existing or future patents might be challenged, invalidated or circumvented. Additionally, our rights under our patents may not provide meaningful competitive advantages.

We do not believe that any of our products are infringing any patents or proprietary rights of others, although infringements may exist or might occur in the future. Litigation may be necessary to enforce patents issued to us, to protect our

trade secrets or know-how, to defend ourselves against claimed infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. Litigation could result in substantial cost and diversion of our efforts. Moreover, an adverse determination in any litigation could cause us to lose proprietary rights, subject us to significant liabilities to third parties, require us to seek licenses or alternative technologies from third parties or prevent us from manufacturing or selling our products. Any of these events could have a material adverse effect on our business, financial condition and results of operations.

WE MUST CONSTANTLY DEVELOP AND SELL NEW SYSTEMS IN ORDER TO KEEP UP WITH RAPID TECHNOLOGICAL CHANGES.

The markets for our systems and the markets in which our customers compete are characterized by ongoing technological developments and changing customer requirements. We must continue to improve existing systems and to develop new systems that keep pace with technological advances and meet the needs of our customers in order to succeed. We might not be able to continue to improve our

systems or develop new systems. The systems we do develop might not be cost-effective or introduced in a timely manner. Developing and introducing new systems may involve significant and uncertain costs. Our business, financial condition and results of operations, as well as our customer relationships, could be adversely affected if we fail to develop or introduce improved systems and new systems in a timely manner.

WE MUST ACHIEVE DESIGN WINS TO RETAIN OUR EXISTING CUSTOMERS AND TO OBTAIN NEW CUSTOMERS.

The constantly changing nature of semiconductor fabrication technology causes equipment manufacturers to continually design new systems. We often must work with these manufacturers early in their design cycles to modify our equipment to meet the requirements of the new systems. Manufacturers typically choose one or two vendors to provide the power conversion equipment for use with the early system shipments. Selection as one of these vendors is called a design win. It is critical that we achieve these design wins in order to retain existing customers and to obtain new customers.

We typically must customize our systems for particular customers to use in their equipment to achieve design wins. This customization increases our research and development expenses and can strain our engineering and management resources. These investments do not always result in design wins.

Once a manufacturer chooses a power conversion and control system for use in a particular product, it is likely to retain that system for the life of that product. Our sales and growth could experience material and prolonged adverse effects if we fail to achieve design wins. In addition, design wins do not always result in substantial sales or profits.

We believe that equipment manufacturers often select their suppliers based on factors such as long-term relationships. Accordingly, we may have difficulty achieving design wins from equipment manufacturers who are not currently customers. In addition, we must compete for design wins for new systems and products of our existing customers, including those with whom we have had long-term relationships.

OUR EFFORTS TO BE RESPONSIVE TO CUSTOMERS MAY LEAD TO THE INCURRENCE OF COSTS THAT ARE NOT READILY RECOVERABLE.

We may incur manufacturing overhead and other costs, many of which are fixed, to meet anticipated customer demand. Accordingly, operating results could be adversely affected if orders or revenues in a particular period or for a particular

system do not meet expectations.

We often require long lead times for development of our systems during which times we must expend substantial funds and management effort. We may incur significant development and other expenses as we develop our systems without realizing corresponding revenue in the same period, or at all.

OUR SUCCESS DEPENDS UPON OUR ABILITY TO ATTRACT AND RETAIN KEY PERSONNEL.

Our success depends upon the continued efforts of our senior management team and our technical, marketing and sales personnel. These employees may voluntarily terminate their employment with us at any time. Our success also depends on our ability to attract and retain additional highly qualified management, technical, marketing and sales personnel. The process of hiring employees with the combination of skills and attributes required to carry out our strategy can be extremely competitive and time- consuming. We may not be able to successfully retain existing personnel or identify, hire and integrate new personnel. If we lose the services of key personnel for any reason, including retirement, or are unable to attract additional qualified personnel, our business, financial condition and results of operations could be materially and adversely affected.

WE CONDUCT MANUFACTURING AT ONLY A FEW SITES.

We conduct the majority of our manufacturing at our facilities in Fort Collins, Colorado and in Voorhees, New Jersey. We also conduct manufacturing for one customer in Austin, Texas. Tower Electronics, a subsidiary, conducts manufacturing only at its facility in Fridley, Minnesota. Noah, a subsidiary, conducts manufacturing only at its facility in San Jose, California. Each facility generally manufactures different systems. In July 1997, a severe rainstorm in Fort Collins caused substantial damage to our Fort Collins facilities and to some equipment and inventory. The damage caused us to stop manufacturing at that facility temporarily and prevented us from resuming full production there until mid-September 1997. Our insurance policies did not cover all of the costs that we incurred in connection with the rainstorm. Future natural or other uncontrollable occurrences at any of our primary manufacturing facilities that negatively impact our manufacturing processes may not be fully covered by insurance and could have a material adverse effect on our operations and results of operations.

WE HAVE LIMITED EXPERIENCE IN MAINTAINING MULTIPLE MANUFACTURING FACILITIES.

The acquisitions of Tower Electronics in 1997, RF Power Products in 1998, and Noah in 2000 provided us with manufacturing facilities located outside of our facilities in Fort Collins, Colorado. Accordingly, we have limited experience in maintaining multiple manufacturing locations. Substantial costs and delays could result if we fail to effectively manage and integrate our geographically separate facilities.

WE MIGHT NOT BE ABLE TO COMPETE SUCCESSFULLY IN INTERNATIONAL MARKETS OR TO MEET THE SERVICE AND SUPPORT NEEDS OF OUR INTERNATIONAL CUSTOMERS.

Our customers increasingly require service and support on a worldwide basis as the markets in which we compete become increasingly globalized. We maintain sales and service offices in Germany, Japan, South Korea, the United Kingdom, and Taiwan.

Sales to customers outside the United States accounted for 23% of our total sales in 1997, 28% in 1998, 29% in 1999 and 31% in the first three months of 2000, and we expect international sales to continue to represent a significant portion of our future sales. International sales are subject to various risks, including:

- * currency fluctuations;
- * governmental controls;
- * political and economic instability;
- * barriers to entry;
- * trade restrictions;
- * changes in tariffs and taxes; and
- * longer payment cycles.

In particular, the Japanese market has historically been difficult for non-Japanese companies, including us, to penetrate.

Providing support services for our systems on a worldwide basis also is subject to various risks, including:

- * our ability to hire qualified support personnel;
- * maintenance of our standard level of support; and
- * differences in local customers and practices.

Our international activities are also subject to the difficulties of managing overseas distributors and representatives and managing foreign subsidiary operations.

We cannot assure you that we will be successful in addressing any of these risks.

FLUCTUATIONS IN THE CURRENCY EXCHANGE RATE BETWEEN THE U.S. DOLLAR AND FOREIGN CURRENCIES COULD ADVERSELY AFFECT OUR OPERATING RESULTS.

A portion of our sales is subject to currency exchange risks as a result of our international operations. We have experienced fluctuations in foreign currency exchange rates, particularly against the Japanese yen. Beginning in 1997, we entered into various forward foreign exchange contracts as a hedge against currency fluctuations in the yen. We have not employed hedging techniques with respect to any other currencies. Our current or any future hedging techniques might not protect us adequately against sudden or substantial currency fluctuations.

WE MUST MAINTAIN MINIMUM LEVELS OF CUSTOMIZED INVENTORY TO SUPPORT CERTAIN CUSTOMER DELIVERY REQUIREMENTS.

We must keep a relatively large number and variety of customized systems in our inventory to meet client delivery requirements because a substantial proportion of our business involves the just-in-time shipment of systems. Our inventory may become obsolete as we develop new systems and as our customers develop new systems. Inventory obsolescence could have a material adverse effect on our financial condition and results of operations.

WE ARE SUBJECT TO NUMEROUS GOVERNMENTAL REGULATIONS.

We are subject to federal, state, local and foreign regulations, including environmental regulations and regulations

relating to the design and operation of our power conversion and control systems. We must ensure that our systems meet certain safety and emissions standards, many of which vary across the states and countries in which our systems are used. For example, the European Union has published directives specifically relating to power supplies. We must comply with these directives in order to ship our systems into countries that are members of the European Union. In the past, we have invested significant resources to redesign our systems to comply with these directives. We believe we are in compliance with current applicable regulations, directives and standards and have obtained all necessary permits, approvals and authorizations to conduct our business. However, compliance with future regulations, directives and standards could require us to modify or redesign certain systems, make capital expenditures or incur substantial costs. If we do not comply with current or future regulations, directives and standards:

- * we could be subject to fines;
- * our production could be suspended; or
- * we could be prohibited from offering particular systems in specified markets.

WE MAY INVEST IN START-UP COMPANIES AND COULD LOSE OUR ENTIRE INVESTMENT.

We have a majority interest in a start-up company and may invest in other start-up companies that develop products and technologies which we believe may provide us with future benefits. These investments may not provide us with any benefit, and we may not achieve any economic return on any of these investments. Our investments in these start-up companies are subject to all of the risks inherent in investing in companies that are not established. We could lose all or any part of our investments in these companies.

WE LEASE OUR FORT COLLINS, COLORADO FACILITIES AND A CONDOMINIUM FROM ENTITIES IN WHICH TWO INDIVIDUALS WHO ARE INSIDERS AND MAJOR STOCKHOLDERS HAVE FINANCIAL INTERESTS.

We lease our executive offices and manufacturing facilities in Fort Collins, Colorado from Prospect Park East Partnership and from Sharp Point Properties, LLC. Douglas S. Schatz, our Chairman and Chief Executive Officer, holds a 26.7% interest in each of the leasing entities. G. Brent Backman, a member of our board of directors, holds a 6.6% interest in each of the leasing entities. Aggregate rental payments under such leases for 1999 totaled approximately \$1.7 million. We also lease a condominium in Breckenridge, Colorado to provide rewards and incentives to our customers, suppliers and employees. We lease the condominium from AEI Properties, a partnership in which Mr. Schatz holds a 60% interest and Mr. Backman holds a 40% interest. Aggregate rental payments under the condominium lease for 1999 totaled approximately \$36,000. As of July 31, 2000, Mr. Schatz owns approximately 39% of our common stock, and Mr. Backman owns approximately 4% of our common stock.

RISKS RELATED TO OUR COMMON STOCK

THE MARKET PRICE OF OUR STOCK HAS BEEN AND WILL LIKELY CONTINUE TO BE HIGHLY VOLATILE.

The stock market generally and the market for technology stocks in particular have experienced significant price and volume fluctuations, which often have been unrelated or disproportionate to the operating performance of such companies.

From our IPO in November 1995 through July 31, 2000, the closing prices of our common stock on the Nasdaq National Market have ranged from \$3.50 to \$73.25. The market for our common stock likely will continue to be subject to similar fluctuations. Many factors could cause the trading price of our common stock to fluctuate substantially, including the following:

- * future announcements concerning our business, our customers or our competitors;
- * variations in our operating results;
- * announcements of technological innovations;
- * introduction of new products or changes in product pricing policies by us, our competitors or our customers;
- * changes in earnings estimates by securities analysts or announcements of operating results that are not aligned with the expectations of analysts and investors;
- * economic and competitive conditions in the industries in which our customers operate; and
- * general stock market trends.

OUR EXECUTIVE OFFICERS AND DIRECTORS OWN A SIGNIFICANT PERCENTAGE OF OUR OUTSTANDING COMMON STOCK, WHICH COULD ENABLE THEM TO CONTROL OUR BUSINESS AND AFFAIRS.

Our executive officers and directors owned approximately 47% of our outstanding common stock outstanding as of July 31, 2000. Douglas S. Schatz, our Chairman and Chief Executive Officer, owned approximately 39% of our common stock outstanding as of July 31, 2000. These stockholdings give our executive officers and directors collectively, and Mr. Schatz individually, significant voting power. Depending on the number of shares that abstain or otherwise are not voted, our executive officers and directors collectively, and Mr. Schatz individually, may be able to elect all of the members of our board of directors and to control our business and affairs for the foreseeable future.

ANTITAKEOVER PROVISIONS LIMIT THE ABILITY OF A PERSON OR ENTITY TO ACQUIRE CONTROL OF US.

Our certificate of incorporation and bylaws include provisions which:

- * allow the board of directors to issue preferred stock with rights senior to those of the common stock without any vote or other action by the holders of the common stock;
- * limit the right of our stockholders to call a special meeting of stockholders; and
- * impose procedural and other requirements that could make it difficult for stockholders to effect certain corporate actions.

In addition, we are subject to the anti-takeover provisions of the Delaware General Corporation Law. Any of these provisions could delay or prevent a person or entity from acquiring control of us. The effect of these provisions may be to limit the price that investors are willing to pay in the future for our securities. These provisions might also discourage potential acquisition proposals or could diminish the opportunities for our stockholders to participate in a tender offer, even if the acquisition proposal or tender offer is at a price above the then current market price for our common stock.

CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

Some of the statements contained in or incorporated by reference in this prospectus discuss our plans and strategies for our business or make other forward-looking statements, as this term is defined in the Private Securities Litigation Reform Act. The words "anticipates", "believes", "estimates", "expects", "plans", "intends" and similar expressions are intended to identify these forward-looking statements, but are not the exclusive means of identifying them. These forward-looking statements reflect the current views of our management. However, various risks, uncertainties and contingencies could cause our actual results, performance or achievements to differ materially from those expressed in, or implied by, these statements,

including the following:

- * the success or failure of our efforts to implement our business strategy; and
- * the other risks and uncertainties discussed under the heading "Risk Factors" and elsewhere in this prospectus and in the documents incorporated by reference.

We do not have any obligation to update publicly any forward- looking statements, whether as a result of new information, future events or otherwise. You should carefully consider the information set forth under the heading "Risk Factors" and elsewhere in this prospectus and in the documents incorporated by reference. In light of these risks, uncertainties and assumptions, the forward-looking events discussed in, implied by or incorporated by reference in this prospectus might not occur.

USE OF PROCEEDS

All of the shares of our common stock are being sold by the selling stockholders. We will not receive any proceeds from the sale of these shares.

SELLING STOCKHOLDERS

The following table sets forth the names of the selling stockholders and the number of shares being registered for sale as of the date of the prospectus and sets forth the number of shares of common stock known by us to be beneficially owned by each of the selling stockholders as of August 2, 2000. None of the selling stockholders has had a material relationship with the Company within the past three years other than as a result of the ownership of the shares or other securities of Advanced Energy. The shares offered by this prospectus may be offered from time to time by the selling stockholders.

Pursuant to an acquisition of Noah on April 5, 2000, we issued 686,503 shares of common stock to the selling stockholders. As part of the acquisition, we undertook a contractual obligation, by the terms of the Agreement and Plan of Reorganization, to file a registration statement covering the resale of the shares issued in such acquisition through the filing of this Form S-3.

The selling stockholders, with the exception of Hultquist Capital LLC, have entered into an Escrow and Indemnity Agreement with Advanced Energy, dated April 5, 2000, under which the shares being registered may only be offered, pledged, transferred, sold or otherwise disposed of according to the following schedule: 90% as of the date that financial results covering at least 30 days of combined operations of Noah and Advanced Energy have been publicly disclosed pursuant to a report filed by Advanced Energy with the SEC, and 10% as of April 5, 2001 reduced by the amount of any outstanding claims under the indemnity provisions of the Escrow and Indemnity Agreement.

All information contained in the table below is based upon information provided to us by the selling stockholders, and we have not independently verified this information. We are not able to estimate the amount of shares that will be held by the selling stockholders after the completion of this offering because the selling stockholders may offer all or some of their shares and because there currently are no agreements, arrangements or understandings with respect to the sale of any of their shares. The following table assumes that all of the shares being registered will be sold. The selling stockholders are not making any representation that any shares covered by the prospectus will be offered for sale. The selling stockholders reserve the right to accept or reject, in whole or in part, any proposed sale of shares.

Name	Number of Shares Beneficially Owned	Number of Shares Registered
Robert W. Higgins	334,969	334,969
Galex Research (1)	121,907	121,907
Valentin Balter	81,271	81,271
Duane Allan Kogler	10,983	10,983
PacTech/Noah		
Investments LLC	54,913	54,913
PacTech Partners LLC	28,902	28,902
Jerauld J. Cutini	8,237	8,237
Peter Adams	5,491	5,491
Oliver Janssen	18,108	18,108
Gary Hultquist	16,735	16,735
Hultquist Capital LLC(2)	4,947	4,947

- (1) Boris Atlas, who is an employee of a Noah, a subsidiary of Advanced Energy, is a partner in Galex Research, a California general partnership.
- (2) Both Oliver Janssen and Gary Hultquist are members of Hultquist Capital LLC.

Robert W. Higgins, Duane Allan Kogler, and Peter Adams are employed by Noah, a subsidiary of Advanced Energy.

This prospectus also covers any additional shares of common stock that become issuable in connection with the shares being registered by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of our outstanding shares of common stock.

PLAN OF DISTRIBUTION

We are registering all 686,503 shares on behalf of the selling stockholders named in the table above. All of the shares originally were issued by us in connection with our acquisition of Noah. We will not receive proceeds from this offering. The selling stockholders may sell the shares from time to time, subject to certain restrictions. The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale.

The sales may be made on the Nasdaq National Market or otherwise, at prices and at terms then prevailing or at prices related to the then current market price, or in negotiated transactions. The selling stockholders may effect such transactions by selling the shares to or through broker-dealers. The shares may be sold by one or more of, or a combination of, the following:

- * a block trade in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction,
- * purchases by a broker-dealer as principal and resale by such broker-dealer for its account pursuant to this prospectus,
- * an exchange distribution in accordance with the rules of such exchange,
- * ordinary brokerage transactions and transactions in which the broker solicits purchasers, and
- * in privately negotiated transactions.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in the resales.

The selling stockholders may enter into hedging transactions with broker-dealers in connection with distributions of the shares or otherwise. In such transactions, broker-dealers may

engage in short sales of the shares in the course of hedging the positions they assume with the selling stockholders.

The selling stockholders also may sell shares short and redeliver the shares to close out such short positions. The selling stockholders may enter into option or other transactions with broker-dealers which require the delivery to the broker-dealer of the shares. The broker-dealer may then resell or otherwise transfer such shares pursuant to this prospectus. The selling stockholders also may loan or pledge the shares to a broker-dealer. The broker-dealer may sell the shares so loaned, or upon a default the broker-dealer may sell the pledged shares pursuant to this prospectus.

Broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from the selling stockholders. Broker-dealers or agents may also receive compensation from the purchasers of the shares for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular broker-dealer might be in excess of customary commissions and will be in amounts to be negotiated in connection with the sale. Broker-dealers or agents and any other participating broker-dealers or the selling stockholders may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act of 1933 in connection with sales of the shares. Accordingly, any such commission, discount or concession received by them and any profit on the resale of the shares purchased by them may be deemed to be underwriting discounts or commissions under the Securities Act. Because a selling stockholder may be deemed to be an "underwriter" within the meaning of Section 2(11) of the Securities Act, each selling stockholders will be subject to the prospectus delivery requirements of the Securities Act. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 promulgated under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus. The selling stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities. There is no underwriter or coordinating broker acting in connection with the proposed sale of shares by the selling stockholders.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

The selling stockholders will be subject to applicable provisions of the Securities Exchange Act of 1934 and the rules and regulations thereunder, which provisions may limit the timing of purchases and sales of any of the common stock by the selling stockholders. The foregoing may affect the marketability of such securities.

We will make copies of this prospectus available to the selling stockholders and have informed them of the need for delivery of copies of this prospectus to purchasers at or prior to the time of any sale of the shares.

We will file a supplement to this prospectus, if required, pursuant to Rule 424(b) under the Securities Act upon being notified by any selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer. Such supplement will disclose:

- * the name of the selling stockholders and of the participating broker-dealer(s),
- * the number of shares involved,
- * the price at which such shares were sold,
- * the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable,
- * that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and
- * other facts material to the transaction.

We will bear all costs, expenses and fees in connection with the registration of the shares. The selling stockholders will bear all commissions and discounts, if any, attributable to the sales of the shares.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission a Registration Statement on Form S-3 under the Securities Act, relating to the common stock being offered. This prospectus is filed as part of the registration statement. Other parts of the registration statement are omitted from this prospectus. Statements made in this prospectus concerning the contents of any contract or other document are not necessarily complete. For a more complete description of the matter involved, you should read the entire contract or other document, which has been filed as an exhibit to the registration statement.

We are required by the Exchange Act to file reports, proxy statements and other information with the SEC. You may read and copy such reports, proxy statements and other information at the SEC's public reference facilities:

Washington D.C.	New York	Chicago
Judiciary Plaza	Seven World Trade Center	Citicorp Center
450 Fifth Street, NW	Suite 1300	500 West Madison Street
Room 1024	New York, NY 10048	Suite 1400
Washington, D.C.		Chicago, IL 60661-2511
20549		

You may call 1-800-SEC-0330 for further information about the public reference facilities. For a fee, the SEC will send copies of any of our filings to you. In addition, our filed reports, proxy statements and other information are contained in the Internet web site maintained by the SEC. The address is <http://www.sec.gov>.

Our common stock is quoted on the Nasdaq National Market under the symbol "AEIS", and our SEC filings can also be read at the following Nasdaq address:

Nasdaq Operations 1735 K Street, N.W.

Washington, D.C. 20006

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14

or 15(d) of the Exchange Act until all of the securities registered in this offering are sold:

1. Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2000, filed April 18, 2000 (File #000-26966).
2. Our Annual Report on Form 10-K for the year ended December 31, 1999, filed March 20, 2000 (File #000-26966).
3. Our Definitive Proxy Statement filed March 21, 2000 (File #000-26966).
4. The description of our common stock contained in our Registration Statement on Form 8-A filed October 12, 1995, and any amendment or report filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by writing us at the following address:

Advanced Energy Industries, Inc. 1625 Sharp Point Drive Fort Collins, Colorado 80525 Attention: Richard P. Beck

or by calling Investor Relations at (970) 221-4670.

LEGAL MATTERS

The validity of the common stock has been passed upon for us by Thelen Reid & Priest LLP, San Francisco, California.

EXPERTS

The financial statements and schedules incorporated by reference in this prospectus have been audited by Arthur Andersen LLP, independent public accountants, as set forth in their reports as of and for the years ended December 31, 1999 and 1998. In the report for the year ended December 31, 1997, that firm states that with respect to certain subsidiaries its opinion is based on the reports of other independent public accountants. The financial statements and supporting schedules referred to above have been incorporated by reference herein in reliance upon the authority of those firms as experts in giving said reports.

End of Filing