

AEHR TEST SYSTEMS

Form 424B5

April 10, 2017

Filed Pursuant to Rule 424(b)(5)

Registration No. 333-216792

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission under the Securities Act of 1933, as amended. This preliminary prospectus supplement, together with the accompanying prospectus, is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 10, 2017

PRELIMINARY PROSPECTUS SUPPLEMENT

(To Prospectus dated March 24, 2017)

Shares

We are selling _____ shares of our common stock pursuant to this preliminary prospectus supplement and the accompanying prospectus.

Our common stock trades on The NASDAQ Capital Market under the symbol “AEHR.” On April 6, 2017, the last reported sale price of our common stock on The NASDAQ Capital Market was \$4.11 per share.

Investing in our common stock involves risks that are described in the “Risk Factors” beginning on page S-3 of this prospectus supplement, page 4 of the accompanying prospectus and the risk factors described in the documents incorporated by reference into this prospectus supplement.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$
Proceeds, before expenses, to us	\$	\$

⁽¹⁾ We refer you to the section entitled “Underwriting” of this prospectus supplement for additional information regarding total underwriting compensation.

The underwriter may also exercise its option to purchase up to an additional _____ shares of common stock from us, at the public offering price, less the underwriting discounts and commissions, for 30 days after the date of this prospectus supplement to cover over-allotments, if any.

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 supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

Delivery of the shares of common stock is expected to be made on or about _____, 2017, subject to customary closing conditions.

Craig-Hallum Capital Group

The date of this prospectus supplement is _____, 2017.

TABLE OF CONTENTS

Prospectus Supplement

	Page
<u>About This Prospectus Supplement</u>	S-i
<u>Prospectus Supplement Summary</u>	S-1
<u>The Offering</u>	S-2
<u>Risk Factors</u>	S-3
<u>Forward-Looking Statements</u>	S-10
<u>Use of Proceeds</u>	S-11
<u>Price Range of Our Common Stock</u>	S-12
<u>Dividend Policy</u>	S-13
<u>Dilution</u>	S-14
<u>Underwriting</u>	S-15
<u>Where You Can Find More Information</u>	S-19
<u>Information Incorporated by Reference</u>	S-19
<u>Legal Matters</u>	S-20
<u>Experts</u>	S-20

Prospectus

	Page
<u>About This Prospectus</u>	1
<u>Prospectus Summary</u>	2
<u>Risk Factors</u>	4
<u>Forward-Looking Statements</u>	4
<u>Use of Proceeds</u>	5
<u>Description of Capital Stock</u>	6
<u>Description of the Depositary Shares</u>	8
<u>Description of the Warrants</u>	11
<u>Description of the Debt Securities</u>	14
<u>Description of Subscription Rights</u>	26
<u>Description of Units</u>	27
<u>Plan of Distribution</u>	28
<u>Legal Matters</u>	31
<u>Experts</u>	31
<u>Where You Can Find More Information</u>	31
<u>Information Incorporated by Reference</u>	32

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus dated March 24, 2017 form part of a registration statement on Form S-3 (File No. 333-216792) that we filed with the Securities and Exchange Commission (SEC), utilizing a “shelf” registration process. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein and therein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference herein or therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

Neither us nor the underwriter have authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus or any free writing prospectus do not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus supplement and the accompanying prospectus or any free writing prospectus in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction. The information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein or therein or any free writing prospectus is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or any free writing prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein or any free writing prospectus, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Information Incorporated by Reference” in this prospectus supplement and in the accompanying prospectus.

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus or any free writing prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus or any free writing prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus or any free writing prospectus outside the United States.

Unless the context requires otherwise, references in this prospectus supplement to “Aehr Test,” “the Company,” “we,” “us” and “our” refer to Aehr Test Systems.

S-i

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary description about us and our business highlights selected information contained elsewhere in this prospectus supplement or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should carefully read this entire prospectus supplement, the accompanying prospectus and any related free writing prospectus, including each of the documents incorporated herein or therein by reference, before making an investment decision. Investors should carefully consider the information set forth under “Risk Factors” in this prospectus supplement, in the accompanying prospectus and in any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus supplement and the accompanying prospectus. You also should carefully read the information incorporated by reference into this prospectus supplement and the accompanying prospectus, including our financial statements, other information and the exhibits to the registration statement of which the accompanying prospectus is a part.

Overview

We develop, manufacture and sell systems which are designed to reduce the cost of testing and to perform reliability screening, or burn-in, of complex logic, memory devices, sensors and optical devices. These systems can be used to simultaneously perform parallel testing and burn-in of packaged integrated circuits, or ICs, singulated bare die or ICs still in wafer form. Increased quality and reliability needs of the mobility, automotive, photonics and flash memory integrated circuit markets are driving additional testing requirements, capacity needs and opportunities for our products in package and wafer level testing. Leveraging our expertise as a long-time leading provider of burn-in equipment, with over 2,500 systems shipped worldwide, we have developed and introduced several innovative product families, including the FOX system, the Advanced Burn-in and Test System (ABTS), the WaferPak cartridge and the DiePak carrier. The FOX systems are full wafer contact parallel test and burn-in systems designed to make contact with all pads of a wafer simultaneously, thus enabling full wafer parallel test and burn-in. The latest ABTS family of packaged part burn-in and test systems can perform tests during burn-in of complex devices, such as digital signal processors, microprocessors, microcontrollers and systems-on-a-chip, and offers individual temperature control for high-power advanced logic devices. The WaferPak cartridge includes innovative contact technology for use in testing wafers and chip-size packages in FOX systems. The DiePak carrier is a reusable, temporary package that enables IC manufacturers to perform cost-effective, final test and burn-in of singulated bare die.

Recent Developments

On April 4, 2017, we announced the receipt of a \$3.7 million follow-on order from a subcontractor to our lead customer for the FOX-XP Test and Burn-in System. This order is for a second production FOX-XP test and burn-in system configured with our new highly parallel singulated die /module test interface technology, and includes a

FOX-XP system and set of proprietary DiePak carriers.

On April 6, 2017, we announced the receipt of an initial production order of \$850,000 for multiple ABTS thermal chambers. This order is part of a partnership agreement with this customer in which we will deliver the critical thermal chamber subsystem for use with the customer's own electronics and software for a custom application.

Corporate Information

We were incorporated in the State of California on May 25, 1977. The mailing address and telephone number of our principal executive offices are 400 Kato Terrace, Fremont, CA 94539 and (510) 623-9400, respectively. Our website is www.aehr.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus.

Our logo and our other trade names, trademarks and service marks appearing in this prospectus are our property. Other trade names, trademarks and service marks appearing in this prospectus are the property of their respective owners. Solely for convenience, our trademarks and tradenames referred to in this prospectus appear without the TM symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the right of the applicable licensor to these trademarks and tradenames.

Table of Contents

The Offering

The following summary contains the principal terms of this offering. The summary is not intended to be complete. You should read the full text and more specific details contained elsewhere in this prospectus supplement and the accompanying prospectus.

Issuer	Aehr Test Systems.		
Common stock offered by us		shares.	
Option to purchase additional shares of common stock	We have granted the underwriter a 30-day option to purchase up to an additional _____ shares of common stock from us at the same price to the public, and with the same underwriting discount, to cover over-allotments, if any.		
Common stock outstanding immediately before this offering		shares.	
Common stock to be outstanding immediately after this offering	_____ shares (or _____ shares in full).		_____ shares if the underwriter exercises its option to purchase additional _____ shares.
Use of proceeds	We estimate that the net proceeds from this offering will be approximately \$ _____ million, or approximately \$ _____ million if the underwriter exercises its option to purchase additional shares of common stock in full, in each case, after deducting underwriting discounts and commissions and our estimated expenses related to the offering. We will use the net proceeds from this offering for general corporate purposes, which may include working capital, capital expenditures, other corporate expenses and acquisitions of complementary products, technologies or businesses. See “Use of Proceeds.”		
Risk Factors	Investing in our common stock involves a high degree of risk. See “Risk Factors” and the other information incorporated by reference into this prospectus supplement and the accompanying prospectus for a discussion of certain factors you should carefully consider before deciding to invest in our common stock.		
The NASDAQ Capital Market symbol	AEHR.		

Edgar Filing: AEHR TEST SYSTEMS - Form 424B5

The number of shares of our common stock to be outstanding before and after this offering is based on 16,753,892 shares of common stock outstanding as of February 28, 2017, and excludes, as of that date:

3,156,734 shares of common stock issuable upon the exercise of options outstanding, at a weighted-average exercise price of \$1.72 per share, and 34,125 shares of common stock issuable upon the vesting of outstanding restricted stock units;

2,169,259 shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan;

467,410 shares of common stock reserved for future issuance under our Amended and Restated 2006 Employee Stock Purchase Plan (ESPP); and

2,656,521 shares of common stock issuable upon conversion of outstanding convertible promissory notes issued to QVT Fund LP and Quintessence Fund L.P. pursuant to that certain Convertible Note Purchase and Credit Facility Agreement dated April 10, 2015, as amended August 22, 2016.

Unless otherwise noted, the information in this prospectus supplement reflects and assumes no exercise of outstanding options or warrants to purchase common stock after February 28, 2017, and no exercise by the underwriter of its option to purchase additional shares of our common stock in this offering.

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as all other information included or incorporated by reference in this prospectus supplement, the accompanying prospectus and in our other filings with the SEC before you decide to purchase shares of our common stock. If any of the following risks actually occurs, our business, financial condition, operating results, prospects and ability to accomplish our strategic objectives could be materially harmed. As a result, the trading price of our common stock could decline and you could lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations and the market price of our common stock.

We generate a large portion of our sales from a small number of customers. If we were to lose one or more of our large customers, operating results could suffer dramatically.

The semiconductor manufacturing industry is highly concentrated, with a relatively small number of large semiconductor manufacturers and contract assemblers accounting for a substantial portion of the purchases of semiconductor equipment. Sales to our five largest customers accounted for approximately 94%, 79%, and 90% of our net sales in fiscal 2016, 2015 and 2014, respectively. During fiscal 2016, Apple and Texas Instruments accounted for approximately 47% and 32%, respectively, of our net sales. During fiscal 2015, Texas Instruments and Micronas accounted for approximately 45% and 11%, respectively, of our net sales. During fiscal 2014, Texas Instruments, Spansion and Micronas accounted for approximately 40%, 30% and 12%, respectively, of our net sales. No other customers accounted for more than 10% of our net sales for any of these periods.

We expect that sales of our products to a limited number of customers will continue to account for a high percentage of net sales for the foreseeable future. In addition, sales to particular customers may fluctuate significantly from quarter to quarter. The loss of, reduction or delay in an order, or orders from a significant customer, or a delay in collecting or failure to collect accounts receivable from a significant customer could adversely affect our business, financial condition and operating results.

If we are not able to reduce our operating expenses sufficiently during periods of weak revenue, or if we utilize significant amounts of cash to support operating losses, we may erode our cash resources and may not have sufficient cash to operate our business.

In recent years, in the face of a downturn in our business and a decline in our net sales, we implemented a variety of cost controls and restructured our operations with the goal of reducing our operating costs to position ourselves to

more effectively meet the needs of the then weak market for test and burn-in equipment. While we took significant steps to minimize our expense levels and to increase the likelihood that we would have sufficient cash to support operations during the downturn, from fiscal 2009 through fiscal 2016, with the exception of fiscal 2014, we experienced operating losses. We anticipate that our existing cash balance together with the proceeds from this offering, income from operations, collections of existing accounts receivable, revenue from our existing backlog of products, the sale of inventory on hand, and deposits and down payments against significant orders will be adequate to meet our short-term working capital and capital equipment requirements. We extended the maturity date of our outstanding convertible promissory notes to April 10, 2019 which improves our ability to meet current liabilities for fiscal 2017. Depending on our rate of growth and profitability, and our ability to obtain significant orders with down payments, in addition to the proceeds from this offering, we may require additional equity or debt financing to meet our working capital requirements or capital equipment needs. There can be no assurance that additional financing will be available when required, or if available, that such financing can be obtained on terms satisfactory to us.

We rely on increasing market acceptance for our FOX system, and we may not be successful in attracting new customers or maintaining our existing customers.

A principal element of our business strategy is to increase our presence in the test equipment market through system sales in our FOX wafer-level test and burn-in product family. The market for the FOX systems is in the early

Table of Contents

stages of development. Market acceptance of the FOX system is subject to a number of risks. Before a customer will incorporate the FOX system into a production line, lengthy qualification and correlation tests must be performed. We anticipate that potential customers may be reluctant to change their procedures in order to transfer burn-in and test functions to the FOX system. Initial purchases are expected to be limited to systems used for these qualifications and for engineering studies. Market acceptance of the FOX system also may be affected by a reluctance of IC manufacturers to rely on relatively small suppliers such as us. As is common with new complex products incorporating leading-edge technologies, we may encounter reliability, design and manufacturing issues as we begin volume production and initial installations of FOX systems at customer sites. The failure of the FOX system to achieve increased market acceptance would have a material adverse effect on our future operating results, long-term prospects and our stock price.

The semiconductor equipment industry is intensely competitive. In each of the markets we serve, we face competition from established competitors and potential new entrants, many of which have greater financial, engineering, manufacturing and marketing resources than us.

Our FOX full wafer contact systems face competition from larger systems manufacturers that have significant technological know-how and manufacturing capability. Our ABTS Test During Burn-in (TDBI) systems have faced and are expected to continue to face increasingly severe competition, especially from several regional, low-cost manufacturers and from systems manufacturers. Some users of such systems, such as independent test labs, build their own burn-in systems, while others, particularly large IC manufacturers in Asia, acquire burn-in systems from captive or affiliated suppliers. Our WaferPak products are facing and are expected to face increasing competition. Several companies have developed or are developing full-wafer and single-touchdown probe cards.

We expect our competitors to continue to improve the performance of their current products and to introduce new products with improved price and performance characteristics. New product introductions by our competitors or by new market entrants could cause a decline in sales or loss of market acceptance of our products. We have observed price competition in the systems market, particularly with respect to our less advanced products. Increased competitive pressure could also lead to intensified price-based competition, resulting in lower prices which could adversely affect our operating margins and results. We believe that to remain competitive we must invest significant financial resources in new product development and expand our customer service and support worldwide. There can be no assurance that we will be able to compete successfully in the future.

We rely on continued market acceptance of our ABTS system and our ability to complete certain enhancements.

Continued market acceptance of the ABTS family, first introduced in fiscal 2008, is subject to a number of risks. It is important that we achieve customer acceptance, customer satisfaction and increased market acceptance as we add new features and enhancements to the ABTS product. To date, we have shipped ABTS systems to customers worldwide

for use in both reliability and production applications. We have recognized a weakening of ABTS product sales over the last fiscal year. The failure of the ABTS family to increase revenues above current levels would have a material adverse effect on our future operating results.

A substantial portion of our net sales is generated by relatively small volume, high value transactions.

We derive a substantial portion of our net sales from the sale of a relatively small number of systems which typically range in purchase price from approximately \$300,000 to well over \$1 million per system. As a result, the loss or deferral of a limited number of system sales could have a material adverse effect on our net sales and operating results in a particular period. Most customer purchase orders are subject to cancellation or rescheduling by the customer with limited penalties, and, therefore, backlog at any particular date is not necessarily indicative of actual sales for any succeeding period. From time to time, cancellations and rescheduling of customer orders have occurred, and delays by our suppliers in providing components or subassemblies to us have caused delays in our shipments of our own products. There can be no assurance that we will not be materially adversely affected by future cancellations or rescheduling. For non-standard products where we have not effectively demonstrated the ability to meet specifications in the customer environment, we defer revenue until we have met such customer specifications. Any delay in meeting customer specifications could have a material adverse effect on our operating results. A substantial portion of our net sales is typically realized near the end of each quarter. A delay or reduction in shipments near the end of a particular quarter, due, for example, to unanticipated shipment rescheduling, cancellations or deferrals by customers, customer credit issues, unexpected manufacturing difficulties experienced by us or delays in deliveries by suppliers, could cause net sales in a particular quarter to fall significantly below our expectations.

Table of Contents

We may experience increased costs associated with new product introductions.

As is common with new complex products incorporating leading-edge technologies, we have encountered reliability, design and manufacturing issues as we began volume production and initial installations of certain products at customer sites. Some of these issues in the past have been related to components and subsystems supplied to us by third parties who have in some cases limited the ability of us to address such issues promptly. This process in the past required and in the future is likely to require us to incur un-reimbursed engineering expenses and to experience larger than anticipated warranty claims which could result in product returns. In the early stages of product development there can be no assurance that we will discover any reliability, design and manufacturing issues or, that if such issues arise, that they can be resolved to the customers' satisfaction or that the resolution of such problems will not cause us to incur significant development costs or warranty expenses or to lose significant sales opportunities.

Periodic economic and semiconductor industry downturns could negatively affect our business, results of operations and financial condition.

Periodic global economic and semiconductor industry downturns have negatively affected and could continue to negatively affect our business, results of operations, and financial condition. Financial turmoil in the banking system and financial markets has resulted, and may result in the future, in a tightening of the credit markets, disruption in the financial markets and global economy downturn. These events may contribute to significant slowdowns in the industry in which we operate. Difficulties in obtaining capital and deteriorating market conditions can pose the risk that some of our customers may not be able to obtain necessary financing on reasonable terms, which could result in lower sales. Customers with liquidity issues may lead to additional bad debt expense.

Turmoil in the international financial markets has resulted, and may result in the future, in dramatic currency devaluations, stock market declines, restriction of available credit and general financial weakness. In addition, flash, memory and other device prices have historically declined, and will likely do so again in the future. These developments may affect us in several ways. The market for semiconductors and semiconductor capital equipment has historically been cyclical, and we expect this to continue in the future. The uncertainty of the semiconductor market may cause some manufacturers in the future to further delay capital spending plans. Economic conditions may also affect the ability of our customers to meet their payment obligations, resulting in cancellations or deferrals of existing orders and limiting additional orders. In addition, some governments have subsidized portions of fabrication facility construction, and financial turmoil may reduce these governments' willingness to continue such subsidies. Such developments could have a material adverse effect on our business, financial condition and results of operations.

The recent economic conditions and uncertainty about future economic conditions make it challenging for us to forecast our operating results, make business decisions, and identify the risks that may affect our business, financial condition and results of operations. If such conditions recur, and we are not able to timely and appropriately adapt to

changes resulting from the difficult macroeconomic environment, our business, financial condition or results of operations may be materially and adversely affected.

We sell our products and services worldwide, and our business is subject to risks inherent in conducting business activities in geographic regions outside of the United States.

Approximately 80%, 64%, and 56% of our net sales for fiscal 2016, 2015 and 2014, respectively, were attributable to sales to customers for delivery outside of the United States. We operate a sales, service and limited manufacturing organization in Germany and sales and service organizations in Japan and Taiwan. We expect that sales of products for delivery outside of the United States will continue to represent a substantial portion of our future net sales. Our future performance will depend, in significant part, upon our ability to continue to compete in foreign markets which in turn will depend, in part, upon a continuation of current trade relations between the United States and foreign countries in which semiconductor manufacturers or assemblers have operations. A change toward more protectionist trade legislation in either the United States or such foreign countries, such as a change in the current tariff structures, export compliance or other trade policies, could adversely affect our ability to sell our products in foreign markets. In addition, we are subject to other risks associated with doing business internationally, including longer receivable collection periods and greater difficulty in accounts receivable collection, the burden of complying with a variety of foreign laws, difficulty in staffing and managing global operations, risks of civil disturbance or other events which may limit or disrupt markets, international exchange restrictions, changing political conditions and monetary policies of foreign governments.

Table of Contents

Approximately 97%, 2% and 1% of our net sales for fiscal 2016 were denominated in U.S. Dollars, Euros and Japanese Yen, respectively. Although the percentages of our net sales denominated in Euros and Japanese Yen were small in fiscal 2016, they have been larger in the past and could become significant again in the future. A large percentage of net sales to European customers are denominated in U.S. Dollars, but sales to many Japanese customers are denominated in Japanese Yen. Because a substantial portion of our net sales is from sales of products for delivery outside the United States, an increase in the value of the U.S. Dollar relative to foreign currencies would increase the cost of our products compared to products sold by local companies in such markets. In addition, since the price is determined at the time a purchase order is accepted, we are exposed to the risks of fluctuations in the U.S. Dollar exchange rate during the lengthy period from the date a purchase order is received until payment is made. This exchange rate risk is partially offset to the extent our foreign operations incur expenses in the local currency. To date, we have not invested in any instruments designed to hedge currency risks. Our operating results could be adversely affected by fluctuations in the value of the U.S. Dollar relative to other currencies.

Our industry is subject to rapid technological change and our ability to remain competitive depends on our ability to introduce new products in a timely manner.

The semiconductor equipment industry is subject to rapid technological change and new product introductions and enhancements. Our ability to remain competitive depends in part upon our ability to develop new products and to introduce them at competitive prices and on a timely and cost-effective basis. Our success in developing new and enhanced products depends upon a variety of factors, including product selection, timely and efficient completion of product design, timely and efficient implementation of manufacturing and assembly processes, product performance in the field and effective sales and marketing. Because new product development commitments must be made well in advance of sales, new product decisions must anticipate both future demand and the technology that will be available to supply that demand. Furthermore, introductions of new and complex products typically involve a period in which design, engineering and reliability issues are identified and addressed by our suppliers and by us. There can be no assurance that we will be successful in selecting, developing, manufacturing and marketing new products that satisfy market demand. Any such failure would materially and adversely affect our business, financial condition and results of operations.

Because of the complexity of our products, significant delays can occur between a product's introduction and the commencement of the volume production of such product. We have experienced, from time to time, significant delays in the introduction of, and technical and manufacturing difficulties with, certain of our products and may experience delays and technical and manufacturing difficulties in future introductions or volume production of our new products. Our inability to complete new product development, or to manufacture and ship products in time to meet customer requirements would materially adversely affect our business, financial condition and results of operations.

Our dependence on subcontractors and sole source suppliers may prevent us from delivering our products on a timely basis and expose us to intellectual property infringement.

We rely on subcontractors to manufacture many of the components or subassemblies used in our products. Our FOX and ABTS systems and WaferPak contactors contain several components, including environmental chambers, power supplies, high-density interconnects, wafer contactors, signal distribution substrates, WaferPak Aligners and certain ICs that are currently supplied by only one or a limited number of suppliers. Our reliance on subcontractors and single source suppliers involves a number of significant risks, including the loss of control over the manufacturing process, the potential absence of adequate capacity and reduced control over delivery schedules, manufacturing yields, quality and costs. In the event that any significant subcontractor or single source supplier is unable or unwilling to continue to manufacture subassemblies, components or parts in required volumes, we would have to identify and qualify acceptable replacements. The process of qualifying subcontractors and suppliers could be lengthy, and no assurance can be given that any additional sources would be available to us on a timely basis. Any delay, interruption or termination of a supplier relationship could adversely affect our ability to deliver products, which would harm our operating results.

Our suppliers manufacture components, tooling, and provide engineering services. During this process, our suppliers are allowed access to our intellectual property. While we maintain patents to protect from intellectual property infringement, there can be no assurance that technological information gained in the manufacture of our products will not be used to develop a new product, improve processes or techniques which compete against our products. Litigation may be necessary to enforce or determine the validity and scope of our proprietary rights, and there can be no assurance that our intellectual property rights, if challenged, will be upheld as valid.

Table of Contents

Future changes in semiconductor technologies may make our products obsolete.

Future improvements in semiconductor design and manufacturing technology may reduce or eliminate the need for our products. For example, improvements in semiconductor process technology and improvements in conventional test systems, such as reduced cost or increased throughput, may significantly reduce or eliminate the market for one or more of our products. If we are not able to improve our products or develop new products or technologies quickly enough to maintain a competitive position in our markets, our business may decline.

We depend on our key personnel and our success depends on our ability to attract and retain talented employees.

Our success depends to a significant extent upon the continued service of Gayn Erickson, our President and Chief Executive Officer, as well as other executive officers and key employees. We do not maintain key person life insurance for our benefit on any of our personnel, and none of our employees are subject to a non-competition agreement with us. The loss of the services of any of our executive officers or a group of key employees could have a material adverse effect on our business, financial condition and operating results. Our future success will depend in significant part upon our ability to attract and retain highly skilled technical, management, sales and marketing personnel. There is a limited number of personnel with the requisite skills to serve in these positions, and it has become increasingly difficult for us to hire such personnel. Competition for such personnel in the semiconductor equipment industry is intense, and there can be no assurance that we will be successful in attracting or retaining such personnel. Changes in management could disrupt our operations and adversely affect our operating results.

We may be subject to litigation relating to intellectual property infringement which would be time-consuming, expensive and a distraction from our business.

If we do not adequately protect our intellectual property, competitors may be able to use our proprietary information to erode our competitive advantage, which could harm our business and operating results. Litigation may be necessary to enforce or determine the validity and scope of our proprietary rights, and there can be no assurance that our intellectual property rights, if challenged, will be upheld as valid. Such litigation could result in substantial costs and diversion of resources and could have a material adverse effect on our operating results, regardless of the outcome of the litigation. In addition, there can be no assurance that any of the patents issued to us will not be challenged, invalidated or circumvented or that the rights granted thereunder will provide competitive advantages to us.

There are no pending claims against us regarding infringement of any patents or other intellectual property rights of others. However, in the future we may receive communications from third parties asserting intellectual property claims against us. Such claims could include assertions that our products infringe, or may infringe, the proprietary

rights of third parties, requests for indemnification against such infringement or suggestions that we may be interested in acquiring a license from such third parties. There can be no assurance that any such claim will not result in litigation, which could involve significant expense to us, and, if we are required or deem it appropriate to obtain a license relating to one or more products or technologies, there can be no assurance that we would be able to do so on commercially reasonable terms, or at all.

While we believe we have complied with all applicable environmental laws, our failure to do so could adversely affect our business as a result of having to pay substantial amounts in damages or fees.

Federal, state and local regulations impose various controls on the use, storage, discharge, handling, emission, generation, manufacture and disposal of toxic and other hazardous substances used in our operations. We believe that our activities conform in all material respects to current environmental and land use regulations applicable to our operations and our current facilities, and that we have obtained environmental permits necessary to conduct our business. Nevertheless, failure to comply with current or future regulations could result in substantial fines, suspension of production, alteration of our manufacturing processes or cessation of operations. Such regulations could require us to acquire expensive remediation equipment or to incur substantial expenses to comply with environmental regulations. Any failure to control the use, disposal or storage of or adequately restrict the discharge of, hazardous or toxic substances could subject us to significant liabilities.

Table of Contents

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.

We are required to comply with Section 404 of the Sarbanes-Oxley Act of 2002. The provisions of the act require, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. Preparing our financial statements involves a number of complex processes, many of which are done manually and are dependent upon individual data input or review. These processes include, but are not limited to, calculating revenue, deferred revenue and inventory costs. While we continue to automate our processes and enhance our review and put in place controls to reduce the likelihood for errors, we expect that for the foreseeable future, many of our processes will remain manually intensive and thus subject to human error.

Risks Related to This Offering and Our Common Stock

New investors in our common stock will experience immediate and substantial dilution after this offering.

If you purchase shares of our common stock in this offering, you will experience substantial and immediate dilution of \$ per share, or \$ per share if the underwriter exercises its over-allotment option in full, in the as adjusted net tangible book value per share of our common stock as of February 28, 2017, based on the difference between the public offering price of \$ per share and the as adjusted net tangible book value per share of our common stock as of February 28, 2017, because the price that you pay will be substantially greater than our net tangible book value per share of the common stock that you acquire. This dilution is due in large part to the fact that our earlier investors paid substantially less than the public offering price when they purchased their shares of our capital stock. You will experience additional dilution upon exercise of options to purchase common stock under our equity incentive plans, upon conversion of outstanding convertible promissory notes, or if we otherwise issue additional shares of our common stock. For a further description of the dilution that you will experience immediately after this offering, see “Dilution.”

Our stockholders may experience further dilution if we issue additional shares of common stock in the future.

Any additional future issuances of common stock by us will reduce the percentage of our common stock owned by investors purchasing shares in this offering who do not participate in such future issuances. In most circumstances stockholders will not be entitled to vote on whether or not we issue additional common stock. In addition, depending on the terms and pricing of an additional offering of our common stock and the value of our assets, our stockholders may experience dilution in both the book value and fair value of their shares.

We will have broad discretion in the use of proceeds from this offering and our existing cash, cash equivalents and short-term investments, and may invest or spend the proceeds in ways with which you do not agree and in ways that may not yield a return.

We will have broad discretion in the application of the net proceeds from this offering and our existing cash, cash equivalents and short-term investments. You may not agree with our decisions, and our use of the proceeds and our existing cash, cash equivalents and short-term investments may not improve our results of operation or enhance the value of our common stock. In addition, we may also use a portion of our net proceeds to acquire and invest in complementary products or businesses; however, we currently have no agreements or commitments to complete any such transaction. Investors will be relying on our judgment regarding the use of the net proceeds from this offering. You will not have the opportunity to influence our management's decisions on how to use the net proceeds from this offering. Our failure to apply the net proceeds of this offering effectively could result in financial losses that could materially impair our ability to pursue our strategy, cause the market price of our common stock to decline, or require us to raise additional capital.

Our common stock may be delisted from The NASDAQ Capital Market if we cannot maintain compliance with NASDAQ's continued listing requirements.

In order to maintain our listing on The NASDAQ Capital Market, we are required to maintain compliance with NASDAQ's continued listing requirements. The continued listing requirements include, among others, a minimum bid price of \$1.00 per share and any of: (i) a minimum stockholders' equity of \$2.5 million; (ii) a market value of listed securities of at least \$35 million; or (iii) net income from continuing operations of \$500,000 in the most recently completed fiscal year or in two of the last three fiscal years. There are no assurances that we will be able to sustain long-term compliance with NASDAQ's continued listing requirements. On April 19, 2016, we were notified by NASDAQ

Table of Contents

that we were no longer in compliance with NASDAQ's continued listing requirements as we did not have a minimum stockholders' equity of \$2.5 million. On October 3, 2016, we were notified by NASDAQ that we had regained compliance with NASDAQ's continued listing requirements. If we fail to maintain compliance with the applicable NASDAQ continued listing requirements, our stock may be delisted.

If we are delisted, we would expect our common stock to be traded in the over-the-counter market, which could make trading our common stock more difficult for investors, potentially leading to declines in our share price and liquidity. Delisting from The NASDAQ Capital Market would also constitute an event of default under our Convertible Notes. In addition, delisting could result in negative publicity and make it more difficult for us to raise additional capital.

Our stock price may fluctuate.

The price of our common stock has fluctuated in the past and may fluctuate significantly in the future. We believe that factors such as announcements of developments related to our business, fluctuations in our operating results, general conditions in the semiconductor and semiconductor equipment industries as well as the worldwide economy, announcement of technological innovations, new systems or product enhancements by us or our competitors, fluctuations in the level of cooperative development funding, acquisitions, changes in governmental regulations, developments in patents or other intellectual property rights and changes in our relationships with customers and suppliers could cause the price of our common stock to fluctuate substantially. In addition, in recent years the stock market in general, and the market for small capitalization and high technology stocks in particular, have experienced extreme price fluctuations which have often been unrelated to the operating performance of the affected companies. Such fluctuations could adversely affect the market price of our common stock.

We are not currently paying dividends and will likely not pay dividends for the foreseeable future.

We have never paid or declared any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. In addition, our outstanding convertible notes restrict us from paying any dividends or making any other distribution or payment on account of our common stock. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, contractual restrictions and other factors that our board of directors deems relevant.

If securities or industry analysts issue an adverse opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that securities or industry analysts may publish about us, our business, our market or our competitors. We currently have limited research coverage by securities and industry analysts. If any of the analysts who may cover us change their recommendation regarding our common stock adversely, or provide more favorable relative recommendations about our competitors, the trading price of our common stock would likely decline. If any analyst who may cover us were to cease coverage of our company or fail or to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the trading price of our common stock or trading volume to decline.

S-9

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the information incorporated by reference in this prospectus supplement and the accompanying prospectus contain certain statements that constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act). The words “believe,” “may,” “will,” “potentially,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “plan,” “expect” and the negative and plural forms words and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. Those statements appear in this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein by reference, particularly in the sections titled “Prospectus Supplement Summary,” “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” and include statements regarding the intent, belief or current expectations of the Company and management that are subject to known and unknown risks, uncertainties and assumptions.

This prospectus supplement and the accompanying prospectus and the information incorporated by reference in this prospectus supplement and the accompanying prospectus also contain statements that are based on the current expectations of our Company and management. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties, and that actual results may differ materially from those projected in the forward-looking statements as a result of various factors.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, including the securities laws of the United States and the rules and regulations of the SEC, we do not plan to publicly update or revise any forward-looking statements contained herein after we distribute this prospectus supplement, whether as a result of any new information, future events or otherwise.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of our common stock in this offering will be approximately \$ million after deducting underwriting discounts and commissions and estimated offering expenses payable by us, or approximately \$ million if the underwriter exercises its option to purchase additional shares in full.

We expect to use the net proceeds from the sale of our common stock in this offering for general corporate purposes, which may include working capital, capital expenditures, other corporate expenses and acquisitions of complementary products, technologies or businesses. However, we do not have any current plans, agreements or commitments for any specific acquisitions at this time. The timing and amount of our actual expenditures will be based on many factors, including, among others, cash flows from operations and the anticipated growth of our business. As a result, our management will have broad discretion to allocate the net proceeds of the offerings. Pending their ultimate use, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing instruments.

S-11

Table of Contents**PRICE RANGE OF OUR COMMON STOCK**

Our common stock is listed on The NASDAQ Capital Market under the symbol “AEHR.” The following table sets forth, for the periods indicated, the high and low sales prices of our common stock as reported on The NASDAQ Capital Market:

	High	Low
Fiscal Year ended May 31, 2015		
First Quarter ended August 31, 2014	\$3.24	\$1.92
Second Quarter ended November 30, 2014	\$2.80	\$1.80
Third Quarter ended February 28, 2015	\$2.80	\$2.18
Fourth Quarter ended May 31, 2015	\$2.86	\$1.87
Fiscal Year ended May 31, 2016		
First Quarter ended August 31, 2015	\$2.49	\$1.95
Second Quarter ended November 30, 2015	\$2.59	\$1.72
Third Quarter ended February 29, 2016	\$2.02	\$1.01
Fourth Quarter ended May 31, 2016	\$1.76	\$0.95
Fiscal Year ended May 31, 2017		
First Quarter ended August 31, 2016	\$3.42	\$0.96
Second Quarter ended November 30, 2016	\$3.58	\$2.05
Third Quarter ended February 28, 2017	\$5.28	\$2.15
Fourth Quarter (through April 6, 2017)	\$6.10	\$3.55

As of February 28, 2017, there were 153 holders of record of our common stock. On April 6, 2017, the last sale price reported on The NASDAQ Capital Market for our common stock was \$4.11 per share.

The comparisons contained herein may not provide meaningful information to you in determining whether to purchase our common stock. You are urged to obtain current sale prices of our common stock and to carefully review the other information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein or therein. See “Where You Can Find More Information” and “Information Incorporated by Reference” in this prospectus supplement.

Table of Contents

DIVIDEND POLICY

We have never declared or paid any dividends on our capital stock. We currently expect to retain future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. In addition, our outstanding convertible notes restrict us from paying any dividends or making any other distribution or payment on account of our common stock. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, contractual restrictions and other factors that our board of directors deems relevant.

S-13

Table of Contents

DILUTION

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the amount per share paid by purchasers of shares of our common stock in this public offering and the as adjusted net tangible book value per share of our common stock immediately after completion of this offering.

Our net tangible book value is the amount of our total tangible assets less our total liabilities. Net tangible book value per share is our net tangible book value divided by the number of shares of common stock outstanding as of February 28, 2017. Our net tangible book value as of February 28, 2017 was \$1.3 million, or \$0.08 per share, based on 16,753,892 shares of our common stock outstanding as of February 28, 2017.

After giving effect to the sale of _____ shares of common stock by us in this offering at the public offering price of \$ _____ per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value at February 28, 2017 would have been approximately \$ _____ million, or \$ _____ per share of common stock. This represents an immediate increase in as adjusted net tangible book value of \$ _____ per share to existing stockholders and an immediate dilution of \$ _____ per share to investors purchasing shares of common stock in this offering.

The following table illustrates this dilution on a per share basis:

Public offering price per share	\$
Net tangible book value per share as of February 28, 2017	\$0.08
Increase in net tangible book value per share attributable to investors participating in this offering	
As adjusted net tangible book value per share immediately after this offering	\$
As adjusted dilution per share to investors participating in this offering	\$

If the underwriter exercises in full its option to purchase an additional _____ shares of common stock at the public offering price of \$ _____ per share, the as adjusted net tangible book value after this offering would be \$ _____ per share, representing an increase in net tangible book value of \$ _____ per share to existing stockholders and immediate dilution of \$ _____ per share to investors purchasing our common stock in this offering.

The number of shares of our common stock set forth in the table above excludes the following as of February 28, 2017:

3,156,734 shares of common stock issuable upon the exercise of options outstanding, at a weighted-average exercise price of \$1.72 per share, and 34,125 shares of common stock issuable upon the vesting of outstanding restricted stock units;

2,169,259 shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan;

467,410 shares of common stock reserved for future issuance under our Amended and Restated 2006 Employee Stock Purchase Plan (ESPP); and

2,656,521 shares of common stock issuable upon conversion of outstanding convertible promissory notes issued to QVT Fund LP and Quintessence Fund L.P. pursuant to that certain Convertible Note Purchase and Credit Facility Agreement dated April 10, 2015, as amended August 22, 2016.

Because there is no minimum offering amount required as a condition to the closing of this offering, the dilution per share to new investors may be more than that indicated above in the event that the actual number of shares sold, if any, is less than the maximum number of shares of our common stock we are offering.

Furthermore, we may choose to raise additional capital through the sale of equity or convertible debt securities due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent we issue additional shares of common stock or other equity or convertible debt securities in the future, there will be further dilution to investors participating in this offering.

Table of Contents

UNDERWRITING

We are offering the shares of common stock described in this prospectus supplement and the accompanying prospectus through the underwriter listed below. Craig-Hallum Capital Group LLC is acting as the sole book-running manager of this offering. The underwriter named below has agreed to buy, subject to the terms of the underwriting agreement, the number of shares of common stock listed opposite its name below. The underwriter is committed to purchase and pay for all of the shares if any are purchased, other than those shares covered by the over-allotment option described below.

Underwriter	Number of Shares
Craig-Hallum Capital Group LLC	
Total	

The underwriter has advised us that it proposes to offer the shares of common stock to the public at a price of \$ per share. The underwriter proposes to offer the shares of common stock to certain dealers at the same price less a concession of not more than \$ per share. After the offering, these figures may be changed by the underwriter.

The shares sold in this offering are expected to be ready for delivery on or about , 2017, against payment in immediately available funds. The underwriter may reject all or part of any order.

We have granted to the underwriter an option to purchase up to an additional shares of common stock from us at the same price to the public, and with the same underwriting discount, as set forth in the table below. The underwriter may exercise this option any time during the 30-day period after the date of this prospectus supplement, but only to cover over-allotments, if any. To the extent the underwriter exercises the option, the underwriter will become obligated, subject to certain conditions, to purchase the shares for which it exercises the option.

The table below summarizes the underwriting discounts that we will pay to the underwriter. These amounts are shown assuming both no exercise and full exercise of the over-allotment option. In addition to the underwriting discount, we have agreed to pay up to \$90,000 of the fees and expenses of the underwriter, which may include the fees and expenses of counsel to the underwriter. The fees and expenses of the underwriter that we have agreed to reimburse are not included in the underwriting discounts set forth in the table below. The underwriting discount and reimbursable expenses the underwriter will receive were determined through arms' length negotiations between us and the underwriter.

Edgar Filing: AEHR TEST SYSTEMS - Form 424B5

	Per Share	Total with no Over-Allotment	Total with Over-Allotment
Underwriting discount to be paid by us	\$	\$	\$

We estimate that the total expenses of this offering, excluding underwriting discounts, will be \$. This includes \$90,000 of the fees and expenses of the underwriter. These expenses are payable by us.

We also have agreed to indemnify the underwriter against certain liabilities, including civil liabilities under the Securities Act of 1933, as amended, or to contribute to payments that the underwriter may be required to make in respect of those liabilities.

No Sales of Similar Securities

We and each of our directors and officers have agreed not to offer, sell, agree to sell, directly or indirectly, or otherwise dispose of any shares of common stock or any securities convertible into or exchangeable for shares of common stock without the prior written consent of the underwriter for a period of 90 days after the date of this prospectus supplement. These lock-up agreements provide limited exceptions and their restrictions may be waived at any time by the underwriter.

S-15

Table of Contents

Price Stabilization, Short Positions and Penalty Bids

To facilitate this offering, the underwriter may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock during and after the offering. Specifically, the underwriter may over-allot or otherwise create a short position in our common stock for its own account by selling more shares of common stock than we have sold to the underwriter. The underwriter may close out any short position by either exercising its option to purchase additional shares or purchasing shares in the open market.

In addition, the underwriter may stabilize or maintain the price of our common stock by bidding for or purchasing shares in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to broker-dealers participating in this offering are reclaimed if shares previously distributed in this offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of our common stock at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of our common stock to the extent that it discourages resales of our common stock. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on The NASDAQ Capital Market or otherwise and, if commenced, may be discontinued at any time.

In connection with this offering, the underwriter and selling group members may also engage in passive market making transactions in our common stock on The NASDAQ Capital Market. Passive market making consists of displaying bids on The NASDAQ Capital Market limited by the prices of independent market makers and effecting purchases limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the Securities and Exchange Commission limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of our common stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriter make any representation that the underwriter will engage in these transactions or that any transaction, if commenced, will not be discontinued without notice.

Affiliations

The underwriter, together with its affiliates, is a full service financial institution engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management,

investment research, principal investment, hedging, financing and brokerage activities. The underwriter may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. The underwriter may in the future receive customary fees and commissions for these transactions.

In the ordinary course of its various business activities, the underwriter and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for its own account and for the accounts of its customers, and such investment and securities activities may involve securities and/or instruments of the issuer. The underwriter and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Electronic Offer, Sale and Distribution

In connection with this offering, the underwriter or certain of the securities dealers may distribute prospectuses by electronic means, such as e-mail. In addition, the underwriter may facilitate Internet distribution for this offering to certain of its Internet subscription customers. The underwriter may allocate a limited number of shares for sale to its online brokerage customers. An electronic prospectus is available on the Internet websites maintained by any such underwriter. Other than the prospectus in electronic format, the information on the websites of the underwriter is not part of this prospectus supplement or the accompanying prospectus.

Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol "AEHR."

Table of Contents

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is Computershare Trust Company, N.A., P.O. Box 43070, Providence, RI 02940-3070. Our shares of common stock are issued in uncertificated form only, subject to limited circumstances.

Selling Restrictions

Canada. The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45 106 *Prospectus Exemptions* or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31 103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33 105 *Underwriting Conflicts* (NI 33 105), the underwriter is not required to comply with the disclosure requirements of NI 33 105 regarding underwriter conflicts of interest in connection with this offering.

European Economic Area. In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State") an offer to the public of any shares of our common stock may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

to any legal entity which is a qualified investor as defined in the Prospectus Directive;

to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or

in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

United Kingdom. The underwriter has represented and agreed that:

it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the “FSMA”)) received by it in connection with the

Table of Contents

issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and

it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

Switzerland. The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the “SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (“CISA”). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of shares.

Australia. No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (“ASIC”), in relation to the offering.

This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the “Corporations Act”), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (the “Exempt Investors”) who are “sophisticated investors” (within the meaning of section 708(8) of the Corporations Act), “professional investors” (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

S-18

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge through the Internet. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

We have filed with the SEC a registration statement under the Securities Act relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement, at prescribed rates, from the SEC at the address listed above. The registration statement and the documents referred to below under "Information Incorporated by Reference" are also available on our Internet website, www.aehr.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus supplement and the accompanying prospectus certain information we file with it, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement and the accompanying prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus supplement and the accompanying prospectus. We incorporate by reference the documents listed below that we have previously filed with the SEC (excluding any portions of any Form 8-K that are not deemed "filed" pursuant to the General Instructions of Form 8-K):

our Annual Report on Form 10-K for the fiscal year ended May 31, 2016, filed with the SEC on August 29, 2016, including the information specifically incorporated by reference into the Annual Report from our definitive proxy statement on Schedule 14A, filed with the SEC on September 26, 2016;

our Quarterly Reports on Form 10-Q for the fiscal quarters ended August 31, 2016 (filed with the SEC on October 14, 2016), November 30, 2016 (filed with the SEC on January 13, 2017) and February 28, 2017 (filed with the SEC on April 6, 2017);

our Current Reports on Form 8-K filed with the SEC on August 24, 2016, September 28, 2016, September 30, 2016, October 4, 2016 and October 20, 2016, respectively; and

the description of our common stock contained in our Registration Statement on Form 8-A as filed with the SEC on July 29, 1997 pursuant to Section 12(b) of the Exchange Act.

We also incorporate by reference into this prospectus supplement and the accompanying prospectus additional documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits on such form that are related to such items) that we may file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the completion or termination of the offering, but excluding any information deemed furnished and not filed with the SEC. Any statements contained in a previously filed document incorporated by reference into this prospectus supplement and the accompanying prospectus is deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement or the accompanying prospectus, or in a subsequently filed document also incorporated by reference herein, modifies or supersedes that statement.

This prospectus supplement and the accompanying prospectus may contain information that updates, modifies or is contrary to information in one or more of the documents incorporated by reference in this prospectus supplement or

Table of Contents

accompanying prospectus. You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date of this prospectus supplement or the accompanying prospectus or the date of the documents incorporated by reference in this prospectus supplement or the accompanying prospectus.

We will provide to each person, including any beneficial owner, to whom this prospectus supplement and the accompanying prospectus is delivered, upon written or oral request, at no cost to the requester, a copy of any and all of the information that is incorporated by reference in this prospectus supplement and the accompanying prospectus.

Requests for such documents should be directed to:

Aehr Test Systems
400 Kato Terrace
Fremont, California 94539
Attention: Chief Financial Officer

You may also access the documents incorporated by reference in this prospectus supplement and the accompanying prospectus through our website at www.aehr.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus supplement and the accompanying prospectus or the registration statement of which they form a part.

LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon by Wilson Sonsini Goodrich & Rosati, P.C., Palo Alto, California. Mario M. Rosati is a member of Wilson Sonsini Goodrich & Rosati, P.C. and a director of Aehr Test Systems. Certain members of, and investment partnerships comprised of members of, and persons associated with, Wilson Sonsini Goodrich & Rosati, P.C., own an aggregate of 227,685 shares of our common stock and options to purchase an additional 178,254 shares of our common stock. Certain legal matters in connection with the offering will be passed upon for the underwriter by Faegre Baker Daniels LLP, Minneapolis, Minnesota.

EXPERTS

The consolidated financial statements of Aehr Test Systems as of May 31, 2016 and 2015 and for each of the three years in the period ended May 31, 2016, incorporated herein by reference to the Annual Report on Form 10-K for the year ended May 31, 2016, have been so incorporated in reliance on the report of BPM LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

S-20

Table of Contents

PROSPECTUS

\$30,000,000

Aehr Test Systems

By this prospectus, Aehr Test Systems may offer, from time to time:

Common stock

Preferred stock

Depository shares

Warrants

Debt securities

Subscription Rights

Units

We may offer and sell from time to time, in one or more series or issuances and on terms that we will determine at the time of the offering, any combination of the securities described in this prospectus, up to an aggregate amount of \$30,000,000.

We will provide specific terms of any offering in a supplement to this prospectus. Any prospectus supplement may also add, update or change information contained in this prospectus. You should carefully read this prospectus and the applicable prospectus supplement as well as the documents incorporated or deemed to be incorporated by reference in this prospectus before you purchase any of the securities offered hereby.

These securities may be offered and sold in the same offering or in separate offerings; to or through underwriters, dealers and agents; or directly to purchasers. The names of any underwriters, dealers or agents involved in the sale of our securities, their compensation and any over-allotment options held by them will be described in the applicable prospectus supplement. See the section titled "Plan of Distribution."

Our common stock is listed on The NASDAQ Capital Market under the symbol "AEHR." We will provide information in any applicable prospectus supplement regarding any listing of securities other than shares of our common stock on any securities exchange.

As of February 28, 2017, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$70,312,652, which was calculated based on 13,418,445 shares of outstanding common stock held by non-affiliates and on a price per share of \$5.24. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell the securities in a public primary offering pursuant to this registration statement with a value exceeding more than one-third of the aggregate market value of our voting and non-voting common equity held by non-affiliates in any 12-month period as long as the aggregate market value of our outstanding voting and non-voting common equity held by non-affiliates is less than \$75 million. During the 12 calendar months prior to and including the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3.

INVESTING IN OUR SECURITIES INVOLVES SIGNIFICANT RISKS. YOU SHOULD REVIEW CAREFULLY THE "RISK FACTORS" ON PAGE 4 OF THIS PROSPECTUS, AS WELL AS IN THE APPLICABLE PROSPECTUS SUPPLEMENT, ANY RELATED FREE WRITING PROSPECTUS AND OTHER INFORMATION CONTAINED OR INCORPORATED BY REFERENCE IN THIS PROSPECTUS AND THE APPLICABLE PROSPECTUS SUPPLEMENT BEFORE INVESTING IN OUR SECURITIES.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is March 24, 2017

Table of Contents

	Page
About This Prospectus	1
Prospectus Summary	2
Risk Factors	4
Forward-Looking Statements	4
Use of Proceeds	5
Description of Capital Stock	6
Description of the Depositary Shares	8
Description of the Warrants	11
Description of the Debt Securities	14
Description of Subscription Rights	26
Description of Units	27
Plan of Distribution	28
Legal Matters	31
Experts	31
Where You Can Find More Information	31
Information Incorporated by Reference	32

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the United States Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings up to a total amount of \$30,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add to, update or change information contained in the prospectus and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement.

The prospectus supplement to be attached to the front of this prospectus may describe, as applicable: the terms of the securities offered; the initial public offering price; the price paid for the securities; net proceeds; and the other specific terms related to the offering of the securities.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or free writing prospectus relating to a particular offering. No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this prospectus, any accompanying prospectus supplement and any related free writing prospectus in connection with the offering described herein and therein, and, if given or made, such information or representations must not be relied upon as having been authorized by us. Neither this prospectus nor any prospectus supplement nor any related free writing prospectus shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits.

You should read the entire prospectus and any prospectus supplement and any related free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement or any related free writing prospectus, before making an investment decision. Neither the delivery of this prospectus or any prospectus supplement or any free writing prospectus nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference herein or in any prospectus supplement or free writing prospectus is correct as of any date subsequent to the date hereof or of such prospectus supplement or free writing prospectus, as applicable. You should assume that the information appearing in this prospectus, any prospectus supplement, any related free writing prospectus or any document incorporated by reference is accurate only as of the date of the applicable documents, regardless of the time of delivery of this prospectus or any sale of securities. Our business, financial condition, results of operations and prospects may have changed since that date.

Table of Contents

Prospectus Summary

This summary description about us and our business highlights selected information contained elsewhere in this prospectus or incorporated in this prospectus by reference. This summary does not contain all of the information you should consider before buying securities in this offering. You should carefully read this entire prospectus and any applicable prospectus supplement, including each of the documents incorporated herein or therein by reference, before making an investment decision. Unless the context otherwise requires, the terms “Aehr Test,” “the Company,” “we,” “us” and “our” in this prospectus refer to Aehr Test Systems, and its subsidiaries.

Aehr Test Systems

Overview

We develop, manufacture and sell systems which are designed to reduce the cost of testing and to perform reliability screening, or burn-in, of complex logic, memory devices, sensors and optical devices. These systems can be used to simultaneously perform parallel testing and burn-in of packaged integrated circuits, or ICs, singulated bare die or ICs still in wafer form. Increased quality and reliability needs of the mobility, automotive, photonics and flash memory integrated circuit markets are driving additional testing requirements, capacity needs and opportunities for our products in package and wafer level testing. Leveraging our expertise as a long-time leading provider of burn-in equipment, with over 2,500 systems shipped worldwide, we have developed and introduced several innovative product families, including the FOX and ABTS systems, the WaferPak cartridge and the DiePak carrier. The FOX systems are full wafer contact parallel test and burn-in systems designed to make contact with all pads of a wafer simultaneously, thus enabling full wafer parallel test and burn-in. The latest ABTS family of packaged part burn-in and test systems can perform test during burn-in of complex devices, such as digital signal processors, microprocessors, microcontrollers and systems-on-a-chip, and offers individual temperature control for high-power advanced logic devices. The WaferPak cartridge includes innovative contact technology for use in testing wafers and chip size packages in FOX systems. The DiePak carrier is a reusable, temporary package that enables IC manufacturers to perform cost-effective final test and burn-in of singulated bare die.

Corporate Information

We were incorporated in the state of California on May 25, 1977. The mailing address and telephone number of our principal executive offices are 400 Kato Terrace, Fremont, CA 94539 and (510) 623-9400, respectively. Our website is www.aehr.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus.

Our logo and our other trade names, trademarks and service marks appearing in this prospectus are our property. Other trade names, trademarks and service marks appearing in this prospectus are the property of their respective owners. Solely for convenience, our trademarks and tradenames referred to in this prospectus appear without the TM symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the right of the applicable licensor to these trademarks and tradenames.

The Securities We May Offer

We may offer up to \$30,000,000 of common stock, preferred stock, depositary shares, warrants, debt securities, subscription rights and units in one or more offerings and in any combination.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders. Our restated articles of incorporation do not provide for cumulative voting rights. Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of our common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that our board of directors may determine. If we become subject to a

Table of Contents

liquidation, dissolution or winding-up, the assets legally available for distribution to our stockholders would be distributable ratably among the holders of our common stock and any participating preferred stock outstanding at that time, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights of and the payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Preferred Stock and Depositary Shares

Our board of directors has the authority, subject to limitations prescribed by California law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, powers, preferences and rights of the shares of each series and any of its qualifications, limitations or restrictions, in each case without further vote or action by our stockholders.

We may also issue fractional shares of preferred stock that will be represented by depositary shares and depositary receipts.

Each series of preferred stock, depositary shares or depositary receipts, if issued, will be more fully described in the particular prospectus supplement that will accompany this prospectus, including redemption provisions, rights in the event of our liquidation, dissolution or winding-up, voting rights and rights to convert into common stock. We have no present plans to issue any shares of preferred stock, depositary shares or depositary receipts nor are any shares of our preferred stock, depositary shares or depositary receipts presently outstanding.

Warrants

We may issue warrants for the purchase of common stock, preferred stock or debt securities. We may issue warrants independently or together with other securities.

Debt Securities

We may offer secured or unsecured obligations in the form of one or more series of senior or subordinated debt. The senior debt securities and the subordinated debt securities are together referred to in this prospectus as the “debt securities.” The subordinated debt securities generally will be entitled to payment only after payment of our senior

debt. Senior debt generally includes all debt for money borrowed by us, except debt that is stated in the instrument governing the terms of that debt to be not senior to, or to have the same rank in right of payment as, or to be expressly junior to, the subordinated debt securities. We may issue debt securities that are convertible into shares of our common stock.

The senior and subordinated debt securities will be issued under separate indentures between us and a trustee. We have summarized the general features of the debt securities to be governed by the indentures. These indentures have been filed as exhibits to the registration statement of which this prospectus forms a part. We encourage you to read these indentures. Instructions on how you can get copies of these documents are provided in the section titled “Where You Can Find More Information.”

Subscription Rights

We may issue subscription rights to purchase our common stock, preferred stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering.

Units

We may issue units comprised of one or more of the other classes of securities issued by us as described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit.

Table of Contents

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed in the section titled “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under “Part I—Item 1A—Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended May 31, 2016, and “Part II—Item 1A—Risk Factors” in our Quarterly Reports on Form 10-Q, all of which are incorporated herein by reference, and as may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future and any prospectus supplement related to a particular offering. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. The occurrence of any of these known or unknown risks might cause you to lose all or part of your investment in the offered securities.

FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain certain statements that constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. The words “believe,” “may,” “will,” “potentially,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “plan,” “expect” and the negative and plural forms of these words and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. Those statements appear in this prospectus, any accompanying prospectus supplement and the documents incorporated herein and therein by reference, particularly in the sections titled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” and include statements regarding the intent, belief or current expectations of the Company and management that are subject to known and unknown risks, uncertainties and assumptions.

This prospectus, any prospectus supplement and the information incorporated by reference in this prospectus and any prospectus supplement also contain statements that are based on the current expectations of our Company and management. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties, and that actual results may differ materially from those projected in the forward-looking statements as a result of various factors.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, including the securities laws of the United States and the rules and regulations of the SEC, we do not plan to publicly update or revise any forward-looking statements contained herein after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

Table of Contents

USE OF PROCEEDS

Unless otherwise indicated in the prospectus supplement, we will use the net proceeds from the sale of securities offered by this prospectus for general corporate purposes, which may include working capital, capital expenditures, other corporate expenses and acquisitions of complementary products, technologies or businesses. However, we do not have any current plans, agreements or commitments for any specific acquisitions at this time. The timing and amount of our actual expenditures will be based on many factors, including, among others, cash flows from operations and the anticipated growth of our business. As a result, unless otherwise indicated in the prospectus supplement, our management will have broad discretion to allocate the net proceeds of the offerings. Pending their ultimate use, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing instruments.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

General

The following description summarizes the most important terms of our capital stock as set forth in our restated articles of incorporation and amended and restated bylaws. This summary does not purport to be complete and is qualified in its entirety by the provisions of our restated articles of incorporation and amended and restated bylaws, copies of which have been filed with the SEC. For a complete description of our capital stock, you should refer to our restated articles of incorporation and amended and restated bylaws that have been filed with the SEC, and to the applicable provisions of California law. Our authorized capital stock consists of 75,000,000 shares of common stock, \$0.01 par value per share, and 10,000,000 shares of preferred stock, \$0.01 par value per share.

Common Stock

Outstanding Shares

As of February 28, 2017, there were 16,753,892 shares of common stock outstanding, held of record by 153 stockholders. Our board of directors is authorized, without stockholder approval, to issue additional shares of our capital stock.

Dividend Rights

Subject to preferences that may be applicable to any then outstanding convertible preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. We have never declared or paid cash dividends on any of our capital stock and currently do not anticipate paying any cash dividends after this offering or in the foreseeable future.

Voting Rights

There are 75,000,000 shares of common stock authorized for issuance. Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of stockholders. Pursuant to our restated articles of incorporation and amended and restated bylaws, corporate actions can generally be taken by a majority of our board and/or stockholders holding a majority of our outstanding shares. Additionally, our stockholders have cumulative voting rights in the election of directors.

Right to Receive Liquidation Distributions

In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued pursuant to this offering, when paid for, will be fully paid and nonassessable.

Table of Contents

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock by us could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control of our company or other corporate action. No shares of preferred stock are outstanding, and we have no present plan to issue any shares of preferred stock.

Stock Options

As of February 28, 2017, there were 3,156,734 shares of our common stock issuable upon exercise of outstanding stock options, at a weighted-average exercise price of \$1.6022 per share.

Restricted Stock Units

As of February 28, 2017, there were 34,125 shares of our common stock issuable upon vesting of outstanding restricted stock units.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is Computershare Trust Company, N.A., P.O. Box 43070, Providence, RI 02940-3070. Our shares of common stock are issued in uncertificated form only, subject to limited circumstances.

Market Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol “AEHR.”

-7-

Table of Contents

DESCRIPTION OF THE DEPOSITARY SHARES

General

At our option, we may elect to offer fractional shares of preferred stock, rather than full shares of preferred stock. If we do elect to offer fractional shares of preferred stock, we will issue receipts for depositary shares and each of these depositary shares will represent a fraction of a share of a particular series of preferred stock, as specified in the applicable prospectus supplement. Each owner of a depositary share will be entitled, in proportion to the applicable fractional interest in shares of preferred stock underlying that depositary share, to all rights and preferences of the preferred stock underlying that depositary share. These rights may include dividend, voting, redemption and liquidation rights.

The shares of preferred stock underlying the depositary shares will be deposited with a bank or trust company selected by us to act as depositary, under a deposit agreement by and among us, the depositary and the holders of the depositary receipts. The depositary will be the transfer agent, registrar and dividend disbursing agent for the depositary shares.

The depositary shares will be evidenced by depositary receipts issued pursuant to the depositary agreement. Holders of depositary receipts agree to be bound by the deposit agreement, which requires holders to take certain actions such as filing proof of residence and paying certain charges.

The summary of terms of the depositary shares contained in this prospectus is not complete, and is subject to modification in any prospectus supplement for any issuance of depositary shares. You should refer to the forms of the deposit agreement, our restated articles of incorporation and the certificate of designation that are, or will be, filed with the SEC for the applicable series of preferred stock.

Dividends

The depositary will distribute cash dividends or other cash distributions, if any, received in respect of the series of preferred stock underlying the depositary shares to the record holders of depositary receipts in proportion to the number of depositary shares owned by those holders on the relevant record date. The relevant record date for depositary shares will be the same date as the record date for the preferred stock.

In the event of a distribution other than in cash, the depositary will distribute property received by it to the record holders of depositary receipts that are entitled to receive the distribution, unless the depositary determines that it is not feasible to make the distribution. If this occurs, the depositary, with our approval, may adopt another method for the distribution, including selling the property and distributing the net proceeds to the holders.

Liquidation Preference

If a series of preferred stock underlying the depositary shares has a liquidation preference, in the event of our voluntary or involuntary liquidation, dissolution or winding up, holders of depositary shares will be entitled to receive the fraction of the liquidation preference accorded each share of the applicable series of preferred stock, as set forth in the applicable prospectus supplement.

Redemption

If a series of preferred stock underlying the depositary shares is subject to redemption, the depositary shares will be redeemed from the proceeds received by the depositary resulting from the redemption, in whole or in part, of the preferred stock held by the depositary. Whenever we redeem any preferred stock held by the depositary, the depositary will redeem, as of the same redemption date, the number of depositary shares representing the preferred stock so redeemed. The depositary will mail the notice of redemption to the record holders of the depositary receipts promptly upon receiving the notice from us and not fewer than 20 or more than 60 days, unless otherwise provided in the applicable prospectus supplement, prior to the date fixed for redemption of the preferred stock.

Table of Contents

Voting

Upon receipt of notice of any meeting at which the holders of preferred stock are entitled to vote, the depositary will mail the information contained in the notice of meeting to the record holders of the depositary receipts underlying the preferred stock. Each record holder of those depositary receipts on the record date will be entitled to instruct the depositary as to the exercise of the voting rights pertaining to the amount of preferred stock underlying that holder's depositary shares. The record date for the depositary will be the same date as the record date for the preferred stock. The depositary will, to the extent practicable, vote the preferred stock underlying the depositary shares in accordance with these instructions. We will agree to take all action that may be deemed necessary by the depositary in order to enable the depositary to vote the preferred stock in accordance with these instructions. The depositary will not vote the preferred stock to the extent that it does not receive specific instructions from the holders of depositary receipts.

Withdrawal of Preferred Stock

Owners of depositary shares will be entitled to receive upon surrender of depositary receipts at the principal office of the depositary and payment of any unpaid amount due to the depositary, the number of whole shares of preferred stock underlying their depositary shares.

Partial shares of preferred stock will not be issued. Holders of preferred stock will not be entitled to deposit the shares under the deposit agreement or to receive depositary receipts evidencing depositary shares for the preferred stock.

Amendment and Termination of the Deposit Agreement

The form of depositary receipt evidencing the depositary shares and any provision of the deposit agreement may be amended by agreement between the depositary and us. However, any amendment which materially and adversely alters the rights of the holders of depositary shares, other than fee changes, will not be effective unless the amendment has been approved by at least a majority of the outstanding depositary shares. The deposit agreement may be terminated by the depositary or us only if:

all outstanding depositary shares have been redeemed; or

there has been a final distribution of the preferred stock in connection with our dissolution and such distribution has been made to all the holders of depositary shares.

Charges of Depositary

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangement. We will also pay charges of the depositary in connection with:

the initial deposit of the preferred stock;

the initial issuance of the depositary shares;

any redemption of the preferred stock; and
all withdrawals of preferred stock by owners of depositary shares.

Holders of depositary receipts will pay transfer, income and other taxes and governmental charges and other specified charges as provided in the deposit agreement for their accounts. If these charges have not been paid, the depositary may:

refuse to transfer depositary shares;

withhold dividends and distributions; and

Table of Contents

sell the depositary shares evidenced by the depositary receipt.

Miscellaneous

The depositary will forward to the holders of depositary receipts all reports and communications we deliver to the depositary that we are required to furnish to the holders of the preferred stock. In addition, the depositary will make available for inspection by holders of depositary receipts at the principal office of the depositary, and at such other places as it may from time to time deem advisable, any reports and communications we deliver to the depositary as the holder of preferred stock.

Neither the depositary nor we will be liable if either the depositary or we are prevented or delayed by law or any circumstance beyond the control of either the depositary or us in performing our respective obligations under the deposit agreement. Our obligations and the depositary's obligations will be limited to the performance in good faith of our or the depositary's respective duties under the deposit agreement. Neither the depositary nor we will be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or preferred stock unless satisfactory indemnity is furnished. The depositary and we may rely on:

written advice of counsel or accountants;

information provided by holders of depositary receipts or other persons believed in good faith to be competent to give such information; and

documents believed to be genuine and to have been signed or presented by the proper party or parties.

Resignation and Removal of Depositary

The depositary may resign at any time by delivering a notice to us. We may remove the depositary at any time. Any such resignation or removal will take effect upon the appointment of a successor depositary and its acceptance of such appointment. The successor depositary must be appointed within 60 days after delivery of the notice for resignation or removal. The successor depositary must be a bank and trust company having its principal office in the United States of America and having a combined capital and surplus of at least \$50,000,000.

Federal Income Tax Consequences

Owners of the depositary shares will be treated for U.S. federal income tax purposes as if they were owners of the preferred stock underlying the depositary shares. As a result, owners will be entitled to take into account for U.S. federal income tax purposes any deductions to which they would be entitled if they were holders of such preferred stock. No gain or loss will be recognized for U.S. federal income tax purposes upon the withdrawal of preferred stock in exchange for depositary shares. The tax basis of each share of preferred stock to an exchanging owner of depositary shares will, upon such exchange, be the same as the aggregate tax basis of the depositary shares exchanged. The holding period for preferred stock in the hands of an exchanging owner of depositary shares will include the period during which such person owned such depositary shares.

Table of Contents

DESCRIPTION OF THE WARRANTS

General

We may issue warrants for the purchase of our debt securities, preferred stock or common stock, or any combination thereof. Warrants may be issued independently or together with our debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants. The warrant agent will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement for that particular series.

Debt Warrants

The prospectus supplement relating to a particular issue of warrants to purchase debt securities will describe the terms of the debt warrants, including the following:

the title of the debt warrants;

the offering price for the debt warrants, if any;

the aggregate number of the debt warrants;

the designation and terms of the debt securities, including any conversion rights, purchasable upon exercise of the debt warrants;

if applicable, the date from and after which the debt warrants and any debt securities issued with them will be separately transferable;

the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;

the dates on which the right to exercise the debt warrants will commence and expire;

if applicable, the minimum or maximum amount of the debt warrants that may be exercised at any one time;

whether the debt warrants represented by the debt warrant certificates or debt securities that may be issued upon exercise of the debt warrants will be issued in registered or bearer form;

information with respect to book-entry procedures, if any; the currency or currency units in which the offering price, if any, and the exercise price are payable;

if applicable, a discussion of material U.S. federal income tax considerations;

the anti-dilution provisions of the debt warrants, if any;

the redemption or call provisions, if any, applicable to the debt warrants;

any provisions with respect to the holder's right to require us to repurchase the warrants upon a change in control or similar event; and

any additional terms of the debt warrants, including procedures, and limitations relating to the exchange, exercise and settlement of the debt warrants.

Table of Contents

Debt warrant certificates will be exchangeable for new debt warrant certificates of different denominations. Debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the prospectus supplement. Prior to the exercise of their debt warrants, holders of debt warrants will not have any of the rights of holders of the debt securities purchasable upon exercise and will not be entitled to payment of principal or any premium, if any, or interest on the debt securities purchasable upon exercise.

Equity Warrants

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

the title of the warrants;

the offering price for the warrants, if any;

the aggregate number of warrants;

the designation and terms of the common stock or preferred stock that may be purchased upon exercise of the warrants;

if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;

if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;

the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;

the dates on which the right to exercise the warrants shall commence and expire;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

the currency or currency units in which the offering price, if any, and the exercise price are payable;

if applicable, a discussion of material U.S. federal income tax considerations;

the anti-dilution provisions of the warrants, if any;

the redemption or call provisions, if any, applicable to the warrants;

any provisions with respect to the holder's right to require us to repurchase the warrants upon a change in control or similar event; and

any additional terms of the warrants, including procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

to vote, consent or receive dividends;

receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or

exercise any rights as stockholders of us.

-12-

Table of Contents

This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement for that particular series.

Table of Contents

DESCRIPTION OF THE DEBT SECURITIES

The debt securities may be either secured or unsecured and will either be our senior debt securities or our subordinated debt securities. The debt securities will be issued under one or more separate indentures between us and a trustee to be specified in an accompanying prospectus supplement. Senior debt securities will be issued under a senior indenture and subordinated debt securities will be issued under a subordinated indenture. Together, the senior indenture and the subordinated indenture are called indentures in this description. This prospectus, together with the applicable prospectus supplement, will describe the terms of a particular series of debt securities.

The following is a summary of selected provisions and definitions of the indentures and debt securities to which any prospectus supplement may relate. The summary of selected provisions of the indentures and the debt securities appearing below is not complete and is subject to, and qualified entirely by reference to, all of the provisions of the applicable indenture and certificates evidencing the applicable debt securities. For additional information, you should look at the applicable indenture and the certificate evidencing the applicable debt security that is filed as an exhibit to the registration statement that includes the prospectus. In this description of the debt securities, the words “we,” “us,” or “our” refer only to Aehr Test Systems and not to any of our subsidiaries, unless we expressly state or the context otherwise requires.

The following description sets forth selected general terms and provisions of the applicable indenture and debt securities to which any prospectus supplement may relate. Other specific terms of the applicable indenture and debt securities will be described in the applicable prospectus supplement. If any particular terms of the indenture or debt securities described in a prospectus supplement differ from any of the terms described below, then the terms described below will be deemed to have been superseded by that prospectus supplement.

General

Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series.

We are not limited as to the amount of debt securities we may issue under the indentures. Unless otherwise provided in a prospectus supplement, a series of debt securities may be reopened to issue additional debt securities of such series.

The prospectus supplement relating to a particular series of debt securities will set forth:

whether the debt securities are senior or subordinated;

the offering price;

the title;

any limit on the aggregate principal amount;

the person who shall be entitled to receive interest, if other than the record holder on the record date;

the date or dates the principal will be payable;

the interest rate or rates, which may be fixed or variable, if any, the date from which interest will accrue, the interest payment dates and the regular record dates, or the method for calculating the dates and rates;

the place where payments may be made;

any mandatory or optional redemption provisions or sinking fund provisions and any applicable redemption or purchase prices associated with these provisions;

Table of Contents

if issued other than in denominations of U.S. \$1,000 or any multiple of U.S. \$1,000, the denominations in which the debt securities shall be issuable;

if applicable, the method for determining how the principal, premium, if any, or interest will be calculated by reference to an index or formula;

if other than U.S. currency, the currency or currency units in which principal, premium, if any, or interest will be payable and whether we or a holder may elect payment to be made in a different currency;

the portion of the principal amount that will be payable upon acceleration of maturity, if other than the entire principal amount;

if the principal amount payable at stated maturity will not be determinable as of any date prior to stated maturity, the amount or method for determining the amount which will be deemed to be the principal amount;

if applicable, whether the debt securities shall be subject to the defeasance provisions described below under "Satisfaction and discharge; defeasance" or such other defeasance provisions specified in the applicable prospectus supplement for the debt securities;

any conversion or exchange provisions;

whether the debt securities will be issuable in the form of a global security;

the deletion, addition or change in any event of default;

any change or modification to the subordination provisions applicable to the subordinated debt securities if different from those described below under "Subordinated debt securities;"

any deletion, addition or change in the covenants set forth in Article 10 of the indenture;

any paying agents, authenticating agents, security registrars or other agents for the debt securities, if other than the trustee;

any provisions relating to any security provided for the debt securities, including any provisions regarding the circumstances under which collateral may be released or substituted;

any provisions relating to guaranties for the securities and any circumstances under which there may be additional obligors;

any provisions granting special rights to holders when a specified event occurs;

any special tax provisions that apply to the debt securities;

with respect to the debt securities that do not bear interest, the dates for certain required reports to the applicable trustee;

any and all additional, eliminated or changed terms that will apply to the debt securities; and

any other terms of such debt securities.

Unless otherwise specified in the prospectus supplement, the debt securities will be registered debt securities. Debt securities may be sold at a substantial discount below their stated principal amount, bearing no interest or interest at

-15-

Table of Contents

a rate which at time of issuance is below market rates. The U.S. federal income tax considerations applicable to debt securities sold at a discount will be described in the applicable prospectus supplement.

Exchange and Transfer

Debt securities may be transferred or exchanged at the office of the security registrar or at the office of any transfer agent designated by us.

We will not impose a service charge for any transfer or exchange, but we may require holders to pay any tax or other governmental charges associated with any transfer or exchange.

In the event of any partial redemption of debt securities of any series, we will not be required to:

issue, register the transfer of, or exchange, any debt security of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption and ending at the close of business on the day of the mailing; or

register the transfer of or exchange any debt security of that series selected for redemption, in whole or in part, except the unredeemed portion being redeemed in part.

We will appoint the trustee as the initial security registrar. Any transfer agent, in addition to the security registrar initially designated by us, will be named in the prospectus supplement. We may designate additional transfer agents or change transfer agents or change the office of the transfer agent. However, we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

Global Securities

The debt securities of any series may be represented, in whole or in part, by one or more global securities. Each global security will:

be registered in the name of a depository, or its nominee, that we will identify in a prospectus supplement;

be deposited with the depository or nominee or custodian; and

bear any required legends.

No global security may be exchanged in whole or in part for debt securities registered in the name of any person other than the depositary or any nominee unless:

the depositary has notified us that it is unwilling or unable to continue as depositary or has ceased to be qualified to act as depositary;

an event of default is continuing with respect to the debt securities of the applicable series; or

any other circumstance described in a prospectus supplement has occurred permitting or requiring the issuance of any such security.

As long as the depositary, or its nominee, is the registered owner of a global security, the depositary or nominee will be considered the sole owner and holder of the debt securities represented by the global security for all purposes under the indentures. Except in the above limited circumstances, owners of beneficial interests in a global security will not be:

entitled to have the debt securities registered in their names;

entitled to physical delivery of certificated debt securities; or

Table of Contents

considered to be holders of those debt securities under the indenture.

Payments on a global security will be made to the depositary or its nominee as the holder of the global security. Some jurisdictions have laws that require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Institutions that have accounts with the depositary or its nominee are referred to as “participants.” Ownership of beneficial interests in a global security will be limited to participants and to persons that may hold beneficial interests through participants. The depositary will credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants.

Ownership of beneficial interests in a global security will be shown on and effected through records maintained by the depositary, with respect to participants’ interests, or any participant, with respect to interests of persons held by participants on their behalf.

Payments, transfers and exchanges relating to beneficial interests in a global security will be subject to policies and procedures of the depositary. The depositary policies and procedures may change from time to time. Neither any trustee nor we will have any responsibility or liability for the depositary’s or any participant’s records with respect to beneficial interests in a global security.

Payment and Paying Agents

Unless otherwise indicated in a prospectus supplement, the provisions described in this paragraph will apply to the debt securities. Payment of interest on a debt security on any interest payment date will be made to the person in whose name the debt security is registered at the close of business on the regular record date. Payment on debt securities of a particular series will be payable at the office of a paying agent or paying agents designated by us. However, at our option, we may pay interest by mailing a check to the record holder. The trustee will be designated as our initial paying agent.

We may also name any other paying agents in a prospectus supplement. We may designate additional paying agents, change paying agents or change the office of any paying agent. However, we will be required to maintain a paying agent in each place of payment for the debt securities of a particular series.

All moneys paid by us to a paying agent for payment on any debt security that remain unclaimed for a period ending the earlier of:

10 business days prior to the date the money would be turned over to the applicable state; or

at the end of two years after such payment was due, will be repaid to us thereafter. The holder may look only to us for such payment.

No Protection in the Event of a Change of Control

Unless otherwise indicated in a prospectus supplement with respect to a particular series of debt securities, the debt securities will not contain any provisions that may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction, whether or not such transaction results in a change in control.

Covenants

Unless otherwise indicated in a prospectus supplement with respect to a particular series of debt securities, the debt securities will not contain any financial or restrictive covenants.

Table of Contents

Consolidation, Merger and Sale of Assets

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of debt securities, we may not consolidate with or merge into any other person (other than one of our subsidiaries), in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to, any person (other than a subsidiary of Aehr Test Systems), unless:

the successor entity, if any, is a U.S. corporation, limited liability company, partnership, trust or other business entity;

the successor entity assumes our obligations on the debt securities and under the indentures;

immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and

certain other conditions specified in the indenture are met.

Events of Default

Unless we indicate otherwise in a prospectus supplement, the following will be events of default for any series of debt securities under the indentures:

- (1) we fail to pay principal of or any premium on any debt security of that series when due;
- (2) we fail to pay any interest on any debt security of that series for 30 days after it becomes due;
- (3) we fail to deposit any sinking fund payment when due;
- (4) we fail to perform any other covenant in the indenture and such failure continues for 90 days after we are given the notice required in the indentures; and
- (5) certain events involving our bankruptcy, insolvency or reorganization.

Additional or different events of default applicable to a series of debt securities may be described in a prospectus supplement. An event of default of one series of debt securities is not necessarily an event of default for any other series of debt securities.

The trustee may withhold notice to the holders of any default, except defaults in the payment of principal, premium, if any, interest, any sinking fund installment on, or with respect to any conversion right of, the debt securities of such

series. However, the trustee must consider it to be in the interest of the holders of the debt securities of such series to withhold this notice.

Unless we indicate otherwise in a prospectus supplement, if an event of default, other than an event of default described in clause (5) above, shall occur and be continuing with respect to any series of debt securities, either the trustee or the holders of at least 25% in aggregate principal amount of the outstanding securities of that series may declare the principal amount and premium, if any, of the debt securities of that series, or if any debt securities of that series are original issue discount securities, such other amount as may be specified in the applicable prospectus supplement, in each case together with accrued and unpaid interest, if any, thereon, to be due and payable immediately.

Unless we indicate otherwise in a prospectus supplement, if an event of default described in clause (5) above shall occur, the principal amount and premium, if any, of all the debt securities of that series, or if any debt securities of that series are original issue discount securities, such other amount as may be specified in the applicable prospectus supplement, in each case together with accrued and unpaid interest, if any, thereon, will automatically become

Table of Contents

immediately due and payable. Any payment by us on the subordinated debt securities following any such acceleration will be subject to the subordination provisions described below under “Subordinated debt securities.”

Notwithstanding the foregoing, each indenture will provide that we may, at our option, elect that the sole remedy for an event of default relating to our failure to comply with our obligations described under the section entitled “Reports” below or our failure to comply with the requirements of Section 314(a)(1) of the Trust Indenture Act will for the first 360 days after the occurrence of such an event of default consist exclusively of the right to receive additional interest on the relevant series of debt securities at an annual rate equal to (i) 0.25% of the principal amount of such series of debt securities for the first 180 days after the occurrence of such event of default and (ii) 0.50% of the principal amount of such series of debt securities from the 181st day to, and including, the 360th day after the occurrence of such event of default, which we call “additional interest.” If we so elect, the additional interest will accrue on all outstanding debt securities from and including the date on which such event of default first occurs until such violation is cured or waived and shall be payable on each relevant interest payment date to holders of record on the regular record date immediately preceding the interest payment date. On the 361st day after such event of default (if such violation is not cured or waived prior to such 361st day), the debt securities will be subject to acceleration as provided above. In the event we do not elect to pay additional interest upon any such event of default in accordance with this paragraph, the debt securities will be subject to acceleration as provided above.

In order to elect to pay the additional interest as the sole remedy during the first 360 days after the occurrence of any event of default relating to the failure to comply with the reporting obligations in accordance with the preceding paragraph, we must notify all holders of debt securities and the trustee and paying agent of such election prior to the close of business on the first business day following the date on which such event of default occurs. Upon our failure to timely give such notice or pay the additional interest, the debt securities will be immediately subject to acceleration as provided above.

After acceleration, the holders of a majority in aggregate principal amount of the outstanding securities of that series may, under certain circumstances, rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, or other specified amounts or interest, have been cured or waived.

Other than the duty to act with the required care during an event of default, the trustee will not be obligated to exercise any of its rights or powers at the request of the holders unless the holders shall have offered to the trustee reasonable indemnity. Generally, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee.

A holder of debt securities of any series will not have any right to institute any proceeding under the indentures, or for the appointment of a receiver or a trustee, or for any other remedy under the indentures, unless:

- (1) the holder has previously given to the trustee written notice of a continuing event of default with respect to the debt securities of that series;
- (2) the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made a written request and have offered reasonable indemnity to the trustee to institute the proceeding; and
the trustee has failed to institute the proceeding and has not received direction inconsistent with the original
- (3) request from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series within 60 days after the original request.

Holders may, however, sue to enforce the payment of principal, premium or interest on any debt security on or after the due date or to enforce the right, if any, to convert any debt security (if the debt security is convertible) without following the procedures listed in (1) through (3) above.

Table of Contents

We will furnish the trustee an annual statement from our officers as to whether or not we are in default in the performance of the conditions and covenants under the indenture and, if so, specifying all known defaults.

Modification and Waiver

Unless we indicate otherwise in a prospectus supplement, the applicable trustee and we may make modifications and amendments to an indenture with the consent of the holders of a majority in aggregate principal amount of the outstanding securities of each series affected by the modification or amendment.

We may also make modifications and amendments to the indentures for the benefit of holders without their consent, for certain purposes including, but not limited to:

evidencing the succession of another person to Aehr Test, or successive successions, and the assumption by any such successor of the covenants of Aehr Test in the indentures in compliance with Article 8 of the indentures;

adding covenants;

adding events of default;

making certain changes to facilitate the issuance of the debt securities;

adding to, changing or eliminating any of the provisions of the indentures or more series of securities, provided that any such addition, change or elimination (A) shall neither (i) apply to any security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (ii) modify the rights of the holder of any such security with respect to such provision or (B) shall become effective only when there is no such security outstanding;

securing the debt securities;

providing for guaranties of, or additional obligors on, the debt securities;

establishing the form or term of debt securities as permitted by Sections 2.1 and 3.1 of the indenture;

providing for a successor trustee or additional trustees;

conforming the indenture to the description of the securities set forth in this prospectus or the accompanying prospectus supplement;

curing any ambiguity, defect or inconsistency; provided that such action shall not adversely affect the interest of the holders in any material respect;

permitting or facilitating the defeasance and discharge of the debt securities;

making such other provisions in regard to matters or questions arising under the indentures or under any supplemental indentures as our board of directors may deem necessary or desirable, and which does not in each case adversely affect the interests of the holders of the debt securities of a series; and

complying with requirements of the SEC in order to effect or maintain the qualifications of the indentures under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act").

-20-

Table of Contents

However, neither the trustee nor we may make any modification or amendment without the consent of the holder of each outstanding security of that series affected by the modification or amendment if such modification or amendment would:

- change the stated maturity of the principal of, or any installment of principal or interest on, any debt security;
- reduce the principal, premium, if any, or interest on any debt security or any amount payable upon redemption or repurchase, whether at our option or the option of any holder, or reduce the amount of any sinking fund payments;
- reduce the principal of an original issue discount security or any other debt security payable on acceleration of maturity;
- change the place of payment or the currency in which any debt security is payable;
- impair the right to enforce any payment after the stated maturity or redemption date;
- if subordinated debt securities, modify the subordination provisions in a materially adverse manner to the holders;
- adversely affect the right to convert any debt security if the debt security is a convertible debt security; or
- change the provisions in the indenture that relate to modifying or amending the indenture.

Satisfaction and Discharge; Defeasance

We may be discharged from our obligations on the debt securities, subject to limited exceptions, of any series that have matured or will mature or be redeemed within one year if we deposit enough money with the trustee to pay all the principal, interest and any premium due to the stated maturity date or redemption date of the debt securities.

Each indenture contains a provision that permits us to elect either or both of the following:

we may elect to be discharged from all of our obligations, subject to limited exceptions, with respect to any series of debt securities then outstanding. If we make this election, the holders of the debt securities of the series will not be entitled to the benefits of the indenture, except for the rights of holders to receive payments on debt securities or the registration of transfer and exchange of debt securities and replacement of lost, stolen or mutilated debt securities.

we may elect to be released from our obligations under some or all of any financial or restrictive covenants applicable to the series of debt securities to which the election relates and from the consequences of an event of default resulting from a breach of those covenants.

To make either of the above elections, we must irrevocably deposit in trust with the trustee enough money to pay in full the principal, interest and premium on the debt securities. This amount may be made in cash and/or U.S.

government obligations or, in the case of debt securities denominated in a currency other than U.S. dollars, cash in the currency in which such series of securities is denominated and/or foreign government obligations. As a condition to either of the above elections, for debt securities denominated in U.S. dollars we must deliver to the trustee an opinion of counsel that the holders of the debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the action.

Table of Contents

With respect to debt securities of any series that are denominated in a currency other than U.S. dollars, “foreign government obligations” means:

direct obligations of the government that issued or caused to be issued the currency in which such securities are denominated and for the payment of which obligations its full faith and credit is pledged, or, with respect to debt securities of any series which are denominated in Euros, direct obligations of certain members of the European Union for the payment of which obligations the full faith and credit of such members is pledged, which in each case are not callable or redeemable at the option of the issuer thereof; or

obligations of a person controlled or supervised by or acting as an agency or instrumentality of a government described in the bullet above the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by such government, which are not callable or redeemable at the option of the issuer thereof.

Notices

Notices to holders will be given by mail to the addresses of the holders in the security register.

Governing Law

The indentures and the debt securities will be governed by, and construed under, the laws of the State of New York.

No Personal Liability of Directors, Officers, Employees and Stockholders

No incorporator, stockholder, employee, agent, officer, director or subsidiary of ours will have any liability for any obligations of ours, or because of the creation of any indebtedness under the debt securities, the indentures or supplemental indentures. The indentures provide that all such liability is expressly waived and released as a condition of, and as a consideration for, the execution of such indentures and the issuance of the debt securities.

Regarding the Trustee

The indentures limit the right of the trustee, should it become our creditor, to obtain payment of claims or secure its claims.

The trustee will be permitted to engage in certain other transactions with us. However, if the trustee acquires any conflicting interest, and there is a default under the debt securities of any series for which it is trustee, the trustee must eliminate the conflict or resign.

Subordinated Debt Securities

The following provisions will be applicable with respect to each series of subordinated debt securities, unless otherwise stated in the prospectus supplement relating to that series of subordinated debt securities.

The indebtedness evidenced by the subordinated debt securities of any series is subordinated, to the extent provided in the subordinated indenture and the applicable prospectus supplement, to the prior payment in full, in cash or other payment satisfactory to the holders of senior debt, of all senior debt, including any senior debt securities.

Upon any distribution of our assets upon any dissolution, winding up, liquidation or reorganization, whether voluntary or involuntary, marshalling of assets, assignment for the benefit of creditors, or in bankruptcy, insolvency, receivership or other similar proceedings, payments on the subordinated debt securities will be subordinated in right of payment to the prior payment in full in cash or other payment satisfactory to holders of senior debt of all senior debt.

In the event of any acceleration of the subordinated debt securities of any series because of an event of default with respect to the subordinated debt securities of that series, holders of any senior debt would be entitled to payment in

Table of Contents

full in cash or other payment satisfactory to holders of senior debt of all senior debt before the holders of subordinated debt securities are entitled to receive any payment or distribution.

In addition, the subordinated debt securities will be structurally subordinated to all indebtedness and other liabilities of our subsidiaries, including trade payables and lease obligations. This occurs because our right to receive any assets of our subsidiaries upon their liquidation or reorganization, and your right to participate in those assets, will be effectively subordinated to the claims of that subsidiary's creditors, including trade creditors, except to the extent that we are recognized as a creditor of such subsidiary. If we are recognized as a creditor of that subsidiary, our claims would still be subordinate to any security interest in the assets of the subsidiary and any indebtedness of the subsidiary senior to us.

We are required to promptly notify holders of senior debt or their representatives under the subordinated indenture if payment of the subordinated debt securities is accelerated because of an event of default.

Under the subordinated indenture, we may also not make payment on the subordinated debt securities if:

a default in our obligations to pay principal, premium, if any, interest or other amounts on our senior debt occurs and the default continues beyond any applicable grace period, which we refer to as a payment default; or

any other default occurs and is continuing with respect to designated senior debt that permits holders of designated senior debt to accelerate its maturity, which we refer to as a non-payment default, and the trustee receives a payment blockage notice from us or some other person permitted to give the notice under the subordinated indenture.

We will resume payments on the subordinated debt securities:

in case of a payment default, when the default is cured or waived or ceases to exist, and

in case of a nonpayment default, the earlier of when the default is cured or waived or ceases to exist or 179 days after the receipt of the payment blockage notice.

No new payment blockage period may commence on the basis of a nonpayment default unless 365 days have elapsed from the effectiveness of the immediately prior payment blockage notice. No nonpayment default that existed or was continuing on the date of delivery of any payment blockage notice to the trustee shall be the basis for a subsequent payment blockage notice.

As a result of these subordination provisions, in the event of our bankruptcy, dissolution or reorganization, holders of senior debt may receive more, ratably, and holders of the subordinated debt securities may receive less, ratably, than

our other creditors. The subordination provisions will not prevent the occurrence of any event of default under the subordinated indenture.

The subordination provisions will not apply to payments from money or government obligations held in trust by the trustee for the payment of principal, interest and premium, if any, on subordinated debt securities pursuant to the provisions described under the section entitled "Satisfaction and discharge; defeasance," if the subordination provisions were not violated at the time the money or government obligations were deposited into trust.

If the trustee or any holder receives any payment that should not have been made to them in contravention of subordination provisions before all senior debt is paid in full in cash or other payment satisfactory to holders of senior debt, then such payment will be held in trust for the holders of senior debt.

Senior debt securities will constitute senior debt under the subordinated indenture.

Additional or different subordination provisions may be described in a prospectus supplement relating to a particular series of debt securities.

Table of Contents

Definitions

“Designated senior debt” means our obligations under any particular senior debt in which the instrument creating or evidencing the same or the assumption or guarantee thereof, or related agreements or documents to which we are a party, expressly provides that such indebtedness shall be designated senior debt for purposes of the subordinated indenture. The instrument, agreement or other document evidencing any designated senior debt may place limitations and conditions on the right of such senior debt to exercise the rights of designated senior debt.

“Indebtedness” means the following, whether absolute or contingent, secured or unsecured, due or to become due, outstanding on the date of the indenture for such series of securities or thereafter created, incurred or assumed:

our indebtedness evidenced by a credit or loan agreement, note, bond, debenture or other written obligation;

all of our obligations for money borrowed;

all of our obligations evidenced by a note or similar instrument given in connection with the acquisition of any businesses, properties or assets of any kind,

our obligations:

as lessee under leases required to be capitalized on the balance sheet of the lessee under generally accepted accounting principles, or

as lessee under leases for facilities, capital equipment or related assets, whether or not capitalized, entered into or leased for financing purposes;

all of our obligations under interest rate and currency swaps, caps, floors, collars, hedge agreements, forward contracts or similar agreements or arrangements;

all of our obligations with respect to letters of credit, bankers’ acceptances and similar facilities, including reimbursement obligations with respect to the foregoing;

all of our obligations issued or assumed as the deferred purchase price of property or services, but excluding trade accounts payable and accrued liabilities arising in the ordinary course of business;

all obligations of the type referred to in the above clauses of another person, the payment of which, in either case, we have assumed or guaranteed, for which we are responsible or liable, directly or indirectly, jointly or severally, as obligor, guarantor or otherwise, or which are secured by a lien on our property; and

renewals, extensions, modifications, replacements, restatements and refundings of, or any indebtedness or obligation issued in exchange for, any such indebtedness or obligation described in the above clauses of this definition.

“Senior debt” means the principal of, premium, if any, and interest, including all interest accruing subsequent to the commencement of any bankruptcy or similar proceeding, whether or not a claim for post-petition interest is allowable as a claim in any such proceeding, and rent payable on or in connection with, and all fees and other amounts payable in connection with, our indebtedness. However, senior debt shall not include:

any debt or obligation if its terms or the terms of the instrument under which or pursuant to which it is issued expressly provide that it shall not be senior in right of payment to the subordinated debt securities or expressly provide that such indebtedness is on the same basis or “junior” to the subordinated debt securities; or

Table of Contents

debt to any of our subsidiaries, a majority of the voting stock of which is owned, directly or indirectly, by us.

“Subsidiary” means a corporation more than 50% of the outstanding voting stock of which is owned, directly or indirectly, by us or by one or more of our other subsidiaries or by a combination of us and our other subsidiaries. For purposes of this definition, “voting stock” means stock or other similar interests which ordinarily has or have voting power for the election of directors, or persons performing similar functions, whether at all times or only so long as no senior class of stock or other interests has or have such voting power by reason of any contingency.

Table of Contents

DESCRIPTION OF SUBSCRIPTION RIGHTS

We may issue subscription rights to purchase our common stock, preferred stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

the price, if any, for the subscription rights;

the exercise price payable for our common stock, preferred stock or debt securities upon the exercise of the subscription rights;

the number of subscription rights to be issued to each stockholder;

the number and terms of our common stock, preferred stock or debt securities which may be purchased per each subscription right;

the extent to which the subscription rights are transferable;

any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;

the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;

the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and

if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by Aehr Test in connection with the offering of subscription rights.

The description in the applicable prospectus supplement of any subscription rights we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable subscription rights certificate, which will be filed with the SEC if we offer subscription rights. We urge you to read the applicable subscription rights certificate and any applicable prospectus supplement in their entirety.

Table of Contents

DESCRIPTION OF UNITS

We may issue units comprised of one or more of the other classes of securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The units may be issued under unit agreements to be entered into between us and a unit agent, as detailed in the prospectus supplement relating to the units being offered. The prospectus supplement relating to any units we offer, if any, will, to the extent applicable, describe:

the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances the securities comprising the units may be held or transferred separately;

a description of the terms of any unit agreement governing the units;

a description of the provisions for the payment, settlement, transfer or exchange of the units;

a discussion of material federal income tax considerations, if applicable; and

whether the units if issued as a separate security will be issued in fully registered or global form.

The descriptions of the units in this prospectus and in any prospectus supplement are summaries of the material provisions of the applicable agreements. These descriptions do not restate those agreements in their entirety and may not contain all the information that you may find useful. We urge you to read the applicable agreements because they, and not the summaries, define your rights as holders of the units. For more information, please review the forms of the relevant agreements, which will be filed with the SEC promptly after the offering of units and will be available as described in the section titled "Where You Can Find More Information."

Table of Contents

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus from time to time in one or more transactions (1) to or through underwriters or dealers, (2) directly to purchasers, including our affiliates, (3) through agents or (4) through a combination of any these methods. The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices. The prospectus supplement will include the following information:

the terms of the offering;

the names of any underwriters or agents;

the name or names of any managing underwriter or underwriters;

the purchase price of the securities;

the net proceeds from the sale of the securities;

any delayed delivery arrangements;

any underwriting discounts, commissions and other items constituting underwriters' compensation;

any initial public offering price;

any discounts or concessions allowed or reallocated or paid to dealers; and

any commissions paid to agents.

We may engage in at-the-market offerings into an existing trading market in accordance with Rule 415(a)(4). Any at-the-market offering will be through an underwriter or underwriters acting as principal or agent for us.

We may issue to the holders of our common stock, on a pro rata basis for no consideration, subscription rights to purchase shares of our common stock or preferred stock. These subscription rights may or may not be transferable by stockholders. The applicable prospectus supplement will describe the specific terms of any offering of our common or preferred stock through the issuance of subscription rights, including the terms of the subscription rights offering, the terms, procedures and limitations relating to the exchange and exercise of the subscription rights and, if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of common or preferred stock through the issuance of subscription rights.

Sale through Underwriters or Dealers

If underwriters are used in the sale, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers. The prospectus supplement will include the names of the principal underwriters the respective amount of securities underwritten, the nature of the obligation of the underwriters to take the securities and the nature of any material relationship between an underwriter and us.

Table of Contents

Some or all of the securities that we offer through this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities offered pursuant to this prospectus.

If dealers are used in the sale of securities offered through this prospectus, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The prospectus supplement will include the names of the dealers and the terms of the transaction.

Direct Sales and Sales through Agents

We may sell the securities offered through this prospectus directly. In this case, no underwriters or agents would be involved. Such securities may also be sold through agents designated from time to time. The prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent by us. Unless otherwise indicated in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The terms of any such sales will be described in the prospectus supplement.

Delayed Delivery Contracts

If the prospectus supplement indicates, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The applicable prospectus supplement will describe the commission payable for solicitation of those contracts.

Market Making, Stabilization and Other Transactions

Unless the applicable prospectus supplement states otherwise, each series of offered securities will be a new issue and will have no established trading market. We may elect to list any series of offered securities on an exchange. Any underwriters that we use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Accordingly, we cannot assure you that the securities will have a liquid trading market.

Any underwriter may also engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Rule 104 under the Exchange Act. Stabilizing transactions involve bids to purchase the underlying security in the open market for the purpose of pegging, fixing or maintaining the price of the securities. Syndicate covering transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions.

Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of the transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

Derivative Transactions and Hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities

Table of Contents

and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Electronic Auctions

We may also make sales through the Internet or through other electronic means. Since we may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you should pay particular attention to the description of that system we will provide in a prospectus supplement.

Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, and which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called “real-time” basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder’s individual bids would be accepted, prorated or rejected. For example, in the case of a debt security, the clearing spread could be indicated as a number of “basis points” above an index treasury note. Of course, many pricing methods can and may also be used.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction.

General Information

Agents, underwriters and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act. Agents, underwriters and dealers may engage in transactions with or perform services for us in the ordinary course of their businesses.

Table of Contents

LEGAL MATTERS

The validity of the common stock offered by this prospectus will be passed upon by Wilson Sonsini Goodrich & Rosati, P.C., Palo Alto, California. Mario M. Rosati is a member of Wilson Sonsini Goodrich & Rosati, P.C. and a director of the Registrant. Certain members of, and investment partnerships comprised of members of, and persons associated with, Wilson Sonsini Goodrich & Rosati, P.C., own an aggregate of 227,685 shares of our common stock and options to purchase an additional 178,254 shares of our common stock.

EXPERTS

The consolidated financial statements of Aehr Test Systems as of May 31, 2016 and 2015 and for each of the three years in the period ended May 31, 2016, incorporated in this Registration Statement on Form S-3 by reference to the Annual Report on Form 10-K for the year ended May 31, 2016, have been so incorporated in reliance on the report of BPM LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge through the Internet. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

We have filed with the SEC a registration statement under the Securities Act relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement, at prescribed rates, from the SEC at the address listed above. The registration statement and the documents referred to below under "Information Incorporated by Reference" are also available on our Internet website, www.aehr.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

Table of Contents

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus certain information we file with it, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement. We incorporate by reference the documents listed below that we have previously filed with the SEC (excluding any portions of any Form 8-K that are not deemed “filed” pursuant to the General Instructions of Form 8-K):

our Annual Report on Form 10-K for the fiscal year ended May 31, 2016, filed with the SEC on August 29, 2016, including the information specifically incorporated by reference into the Annual Report from our definitive proxy statement on Schedule 14A, filed with the SEC on September 26, 2016;

our Quarterly Reports on Form 10-Q for the fiscal quarters ended August 31, 2016 (filed with the SEC on October 14, 2016) and November 30, 2016 (filed with the SEC on January 13, 2017);

our Current Reports on Form 8-K filed with the SEC on August 24, 2016, September 28, 2016, September 30, 2016, October 4, 2016 and October 20, 2016, respectively; and

the description of our common stock contained in our Registration Statement on Form 8-A as filed with the SEC on July 29, 1997 pursuant to Section 12(b) of the Exchange Act.

We also incorporate by reference into this prospectus additional documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits on such form that are related to such items) that we may file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the completion or termination of the offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information deemed furnished and not filed with the SEC. Any statements contained in a previously filed document incorporated by reference into this prospectus is deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, or in a subsequently filed document also incorporated by reference herein, modifies or supersedes that statement.

This prospectus may contain information that updates, modifies or is contrary to information in one or more of the documents incorporated by reference in this prospectus. You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus is accurate as of any date other than the date of this prospectus or the date of the documents incorporated by reference in this prospectus.

We will provide to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, at no cost to the requester, a copy of any and all of the information that is incorporated by reference in

this prospectus.

Requests for such documents should be directed to:

Aehr Test Systems
400 Kato Terrace
Fremont, California 94539
Attention: Chief Financial Officer

You may also access the documents incorporated by reference in this prospectus through our website at www.aehr.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.

Table of Contents

Shares

PROSPECTUS SUPPLEMENT

Craig-Hallum Capital Group

The date of this prospectus supplement is , 2017