Filed Pursuant to Rule 424(b)(5)
Registration No.: 333-294296

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

SUBJECT TO COMPLETION, DATED JUNE 1, 2026

Amtech Systems, Inc.

Shares of Common Stock

We are offering shares of our common stock, par value $0.01 per share (the "Common Stock"), pursuant to this prospectus supplement and the accompanying base prospectus. The public offering price for each share of our Common Stock is $ per share.

Our Common Stock is listed on The Nasdaq Global Select Market ("Nasdaq") under the symbol "ASYS." On May 29, 2026, the last reported sale price of our Common Stock on Nasdaq was $21.27 per share.

Investing in our securities involves significant risk. Please read carefully the section titled "Risk Factors" beginning on page S-5 of this prospectus supplement.

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

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

(1) See "Underwriting" beginning on page S-9 of this prospectus supplement for additional information with respect to the compensation payable to Titan Partners Group LLC, a division of American Capital Partners, LLC (the "Underwriter").

This offering is being underwritten on a firm commitment basis.

Delivery of the shares offered hereby is expected to be made on or about , 2026, subject to the satisfaction of certain customary closing conditions.

Titan Partners
a division of American Capital Partners

The date of this prospectus supplement is , 2026

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the "SEC") utilizing a "shelf" registration process. Under this shelf registration statement process, we may from time to time offer to sell up to $50,000,000 of our Common Stock, preferred stock, debt securities, warrants, units or any combination of these securities in one or more transactions.

We provide information to you about this offering in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying prospectus dated March 23, 2026, which is included in our registration statement on Form S-3 (File No. 333-294296) (the "registration statement"), which provides general information, some of which may not apply to this offering. Generally, when we refer to this "prospectus," we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. However, 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 this prospectus supplement, the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

We have not, and the Underwriter has not, authorized any other person to provide you with any information or to represent as to anything different from, or not contained in, or incorporated by reference into, this prospectus supplement, the accompanying prospectus or in any free writing prospectus that we may authorize for use in connection with this offering. Neither we nor the Underwriter take any responsibility and can make no assurance as to the reliability of, any other information that others may give you. We are not, and the Underwriter is not, making an offer to sell or soliciting an offer to buy our securities in any jurisdiction where an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference into this prospectus supplement, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement and the accompanying prospectus, and the documents incorporated by reference herein and therein, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement titled "Where You Can Find More Information" and "Information Incorporated by Reference."

We are offering to sell, and seeking offers to buy, securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement, the accompanying prospectus and the offering of the securities 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 must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. Neither this prospectus supplement nor the accompanying prospectus constitutes, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement or the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

References in this prospectus supplement and the accompanying prospectus to the terms "we," "us," "our," "Amtech" or "the Company" or other similar terms mean Amtech Systems, Inc. and its consolidated subsidiaries, unless we state otherwise or the context indicates otherwise. The term "you" refers to a prospective investor.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained in this prospectus supplement or the accompanying prospectus or incorporated by reference in this prospectus supplement are forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management. You can identify these statements by the fact that they do not relate strictly to historical or current events. You can also identify forward-looking statements by discussions of strategy, plans or intentions of management. We have tried, wherever possible, to identify such statements by using words such as "may," "plan," "anticipate," "seek," "will," "expect," "intend," "estimate," "believe," "continue," "predict," "potential," "project," "should," "would," "could," "likely," "future," "target," "forecast," "goal," "observe," and "strategy" or the negative thereof or variations thereon or similar terminology relating to the uncertainty of future events or outcomes. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors. Some factors that could cause actual results to differ materially from those anticipated include, among others, future economic conditions, including changes in the markets in which we operate; changes in demand for our services and products; our revenue and operating performance; difficulties in successfully executing our growth or restructuring initiatives; difficulties in executing on our strategic initiatives; the effects of competition in the markets in which we operate, including the adverse impact of competitive product announcements or new entrants into our markets and transfers of resources by competitors into our markets; the cyclical nature of the semiconductor industry; pricing and gross profit pressures; control of costs and expenses; risks associated with new technologies and the impact on our business; legislative, regulatory, and competitive developments in markets in which we operate; possible future claims, litigation or enforcement actions and the results of any such claim, litigation proceeding, or enforcement action; the impact of any future pandemic or other business interruptions on our business operations, financial results and financial position; risks of future cybersecurity incidents; adverse developments affecting financial institutions, including bank failures; and other circumstances and risks identified in this prospectus supplement or referenced from time to time in our filings with the SEC. The occurrence of the events described, and the achievement of expected results, depend on many events, some or all of which are not predictable or within our control. These and many other factors could affect Amtech's future operating results and financial condition and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our or our officers' current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to certain risks and uncertainties. In light of these risks and uncertainties, there can be no assurance that the forward-looking information contained in this prospectus supplement or the accompanying prospectus or incorporated by reference in this prospectus supplement will in fact transpire or prove to be accurate. You should not place undue reliance on these forward-looking statements, which speak only as of the date they were made.

In addition, you should refer to the "Risk Factors" section of this prospectus supplement and the accompanying prospectus for a discussion of other important factors that may cause actual results to differ materially from those expressed or implied by the forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus supplement or the accompanying prospectus or incorporated by reference in this prospectus supplement will prove to be accurate. Furthermore, if the forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. The forward-looking statements contained in this prospectus supplement and the accompanying prospectus and incorporated by reference in this prospectus supplement represent our views as of the respective dates of such documents. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so, and we disclaim any obligation to do so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the respective dates of such documents.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained elsewhere in this prospectus supplement and the accompanying prospectus and incorporated by reference in this prospectus supplement. Before making an investment decision, please carefully read this entire prospectus supplement, the accompanying prospectus and the documents incorporated by reference carefully, including the section titled "Risk Factors" and the financial statements and other information incorporated by reference into this prospectus supplement and the accompanying prospectus. Some of the statements in this prospectus supplement, the accompanying prospectus and in the documents incorporated by reference herein and therein, constitute forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements."

Overview

Amtech provides equipment, consumables and services for semiconductor device packaging, wafer production and device fabrication. Our products are used to fabricate and package semiconductor devices, such as graphic processing units (GPUs) used in AI applications, silicon carbide (SiC) and silicon (Si) power devices and other optical, analog and digital devices. We sell these products to semiconductor device packaging, electronic assembly and device fabrication companies worldwide.

Our Thermal Processing Solutions include conveyorized reflow equipment for advanced semiconductor packaging and electronic assembly, high temperature conveyorized furnaces for power semiconductor substrate and electronic components manufacturing, and diffusion furnaces for SiC and Si power device production.

Our Semiconductor Fabrication Solutions include consumables, equipment and services for wafer polishing, dicing and cleaning.

Our strategy is to focus our efforts on fully capitalizing on advanced packaging equipment opportunities driven by AI infrastructure investments and expand our consumables and service business for semiconductor fabrication by providing exceptional service and high-quality products to underserved segments of the market.

We categorize each of our subsidiaries into one of two reportable segments, based primarily on the industries they serve:

Reportable Segment	% of 2025 Consolidated Net Revenue
Thermal Processing Solutions	73%
Semiconductor Fabrication Solutions	27%

These reportable segments include the following wholly-owned subsidiaries:

Thermal Processing Solutions:

- BTU, a Delaware corporation based in Westford, Massachusetts, with operations in China, Malaysia and the UK, acquired in January 2015.

Semiconductor Fabrication Solutions:

- PR Hoffman, an Arizona corporation based in Carlisle, Pennsylvania, acquired in July 1997;
- Intersurface Dynamics, a Connecticut corporation based in Bethel, Connecticut, acquired in March 2021; and
- Entrepix, an Arizona corporation based in Phoenix, Arizona, acquired in January 2023.

In both of our divisions we are focused on semiconductor and related processes and markets. We believe we are well positioned in that our products are employed throughout the early and late stages of semiconductor and electronics manufacturing. Our products are key to the earliest stages of silicon or silicon carbide wafer manufacturing, then in semiconductor device manufacturing, then advanced semiconductor packaging and then finally in electronics assembly.

Our Thermal Processing Solutions business provides high performance equipment used in solder reflow operations for advanced semiconductor packaging and electronic assembly, furnaces used for producing power semiconductor packaging substrates and electronic components, and diffusion furnaces used in wafer processing. Reflow operations provide a cost effective, high throughput process for electronic packaging and assembly. Our equipment provides the precise temperature, atmospheric control and uniformity required to achieve high yields in mass production reflow operations. Our flux management system scrubs oven gases to minimize downtime, reduce defects from flux contamination and reduce environmental emissions.

Our Semiconductor Fabrication Solutions business provides processing consumables, equipment and services for wafer production. Our PR Hoffman consumables are used for lapping and Chemical Mechanical Planarization (CMP) processes in the manufacturing of SiC and Si power devices, analog devices, optics, ceramics and photonics. Our Entrepix products and services include equipment for SiC and Si wafer cleaning, testing equipment used for optimizing CMP processes, CMP equipment parts and services, and CMP foundry services. Our Intersurface Dynamics products include CMP slurries and dispersants, cleaning chemicals, lubricants and cooling fluids used for semiconductor wafer and optics processing. CMP processes are used to provide a high degree of flatness, parallelism, and surface finish. Common applications for this technology are silicon wafers used for semiconductor digital and analog devices, SiC wafers for power devices, optics and ceramics. These devices are used in a variety of applications including computers and servers, automotive electronics, industrial electronics, mobile phones, telecommunications equipment and medical devices.

We believe our product portfolio, developed through a track record of technological innovation as well as the integration of key acquisitions, provides exceptional value to semiconductor manufacturing by increasing yields, efficiency and throughput. We have been providing manufacturing solutions to the semiconductor industry for over 30 years and have leveraged our semiconductor technology and industry presence to capitalize on growth opportunities.

The semiconductor industry is historically cyclical with constantly evolving technical requirements and advancements and can be subject to tariffs and sourcing restrictions driven by geopolitical tensions. Therefore, future growth and profitability will depend on cyclical trends, our ability to produce equipment regionally and meeting performance requirements as technical requirements evolve. The current contraction cycle for mature node semiconductors is longer than the historical average, mainly attributed to a sustained decrease in demand for industrial equipment, computers, and smartphones after a period of heightened demand during the COVID pandemic, as well as reduced growth expectations for electric vehicles.

Our fiscal year is from October 1 to September 30.

Company Strategy

Core Values: We believe Amtech's core values (Safety, Customer Focus and Continuous Improvement) are critical to the success of the Company. We continue to recognize and reward behaviors consistent with these values throughout Amtech.

Secular Growth Drivers: We believe there are three key secular trends that are important to our future growth:

- ***Artificial Intelligence*** - With Artificial Intelligence (AI), we believe our reflow oven systems have leading market share with Outsourced Semiconductor Assembly and Test Services (OSATS) providers who perform advanced packaging of the AI chips.
- ***Supply Chain Resiliency*** - There is a global trend of creating supply chain resiliency by expanding and/or relocating operations outside of mainland China. We believe these factories will create demand for new equipment and services in growing regions like Southeast Asia and Mexico.

- ***Advanced Mobility*** - Advanced Mobility encompasses both the development and adoption of electric vehicles and charging infrastructure, including both electric vehicle (EV) and hybrid electric vehicles (HEV), as well as advanced automotive electronics including Advanced Driver Assistance Systems (ADAS), infotainment and telematics. Our products intersect these markets in multiple ways: CMP consumables and wafer cleaning systems for the SiC substrates used in the EV power inverters; thermal processing systems for producing EV battery cooling systems and ceramic substrates for HEV power semiconductor packaging; and reflow ovens for ADAS, infotainment and telematics component assemblies.

Customer-centric product development in R&D: We continue to invest in research and development to expand our Thermal Processing Solutions reflow equipment product-line for AI applications. Our goal is to expand our addressable market by enabling mass production of higher density packages. We are also investing in application development and R&D resources to accelerate growth of our Semiconductor Fabrications Solutions business by expanding our consumables product portfolio and providing exceptional technical support and service to customers.

Semi-Fabless Manufacturing Model: We have migrated to a semi-fabless manufacturing model for the majority of our capital equipment business to improve our ability to scale production and reduce fixed costs. Our manufacturing partners provide a cost-effective alternative to in-house production and help mitigate the financial impact of variable demand that is inherent to the capital equipment business.

Corporate Information

We were incorporated in Arizona in 1981. Our principal executive offices are located at 58 South River Drive, Suite 370, Tempe, Arizona 85288, and our main telephone number is (480) 967-5146. Our website is www.amtechsystems.com. The information contained in, or that can be accessed through, our website is not, and shall not be deemed to be, part of this prospectus supplement, the accompanying prospectus or any free writing prospectus or incorporated into any other filing we submit to the SEC.

THE OFFERING

Common stock offered:	shares of our Common Stock.
Offering price per share of common stock:	$ per share.
Common stock to be outstanding after this offering:	shares.
Use of proceeds:	We estimate that our net proceeds from this offering will be approximately $ million, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds we receive from this offering to accelerate growth across our semiconductor packaging and advanced wafer substrate fabrication platforms, for accretive merger and acquisition opportunities, and for working capital and general corporate purposes. See "*Use of Proceeds*" for additional information.
Risk factors:	Investing in our Common Stock involves significant risk. You should read the "*Risk Factors*" section of this prospectus supplement, the accompanying base prospectus and documents incorporated by reference herein or therein for a discussion of factors that you should carefully consider before deciding to purchase our Common Stock.
Market for securities:	Our Common Stock is traded on Nasdaq under the symbol "ASYS."

The number of shares of our Common Stock that will be outstanding immediately after this offering set forth above is based on 14,557,272 shares of our Common Stock outstanding as of May 21, 2026. The number of shares outstanding as of May 21, 2026, unless otherwise indicated, excludes:

- 911,249 shares of Common Stock issuable upon the exercise of stock options outstanding as of May 21, 2026, at a weighted-average exercise price of $6.98 per share;
- 149,416 shares of Common Stock issuable upon the vesting and settlement of restricted stock unit awards ("RSUs"), outstanding as of May 21, 2026; and
- 606,692 shares of Common Stock reserved for future issuance under our 2022 Equity Incentive Plan, as amended, as of May 21, 2026.

RISK FACTORS

Investing in our securities involves a high degree of risk*. Before investing in our securities, you should carefully consider the risk factors described in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, including those described in Part I, Item 1A "Risk Factors" of our most recent Annual Report on Form 10-K, together with all other information contained in this prospectus supplement and in our other filings with the SEC that we have incorporated by reference in this prospectus supplement. If any of the risks described in this prospectus supplement, the accompanying prospectus, or the documents incorporated by reference herein and therein actually occur, our business, financial condition or results of operations could be* adversely *affected, which, in turn, could have a negative impact on the price of our Common Stock and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial may also impair our business operations and our financial condition.*

Risks Related to this Offering and the Common Stock Offered Hereby

Our management has broad discretion as to the use of the net proceeds from this offering.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering, and these uses may vary from our current plans. Our management will have broad discretion in the application of the net proceeds, including for any of the purposes described in "*Use of Proceeds*." Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds. Our management may spend a portion or all of the net proceeds from this offering in ways that holders of our Common Stock may not desire or that may not yield a significant return or any return at all. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may also invest the net proceeds from this offering in a manner that does not produce income or that loses value.

If you purchase the Common Stock being offered in this offering, you will experience immediate dilution as a result of this offering.

The offering price per share in this offering will exceed the net tangible book value per share of our Common Stock outstanding prior to this offering. Therefore, if you purchase Common Stock in this offering, you will pay an offering price per share that substantially exceeds our net tangible book value per share after this offering. To the extent shares are issued under outstanding options at exercise prices lower than the price of our Common Stock in this offering, you will incur further dilution. Our historical net tangible book value as of March 31, 2026 was $54.1 million, or $3.73 per share. After giving effect to this offering at the offering price of $ per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, you will experience immediate dilution of $ per share, representing the difference between the public offering price per share and our as adjusted net tangible book value per share as of March 31, 2026, after giving effect to this offering. See the section titled "*Dilution*" below for a more detailed illustration of the dilution you would incur if you participate in this offering.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our Common Stock or other securities convertible into or exercisable or exchangeable for our Common Stock at prices that may not be the same as the price per share paid by any investor in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by any investor in this offering, and investors purchasing shares or other securities in the future could have rights superior to you. The price per share at which we sell additional shares of our Common Stock, or securities convertible or exchangeable into shares of Common Stock, in future transactions may be higher or lower than the price per share paid by any investor in this offering.

Future sales, including short sales, or issuances of our Common Stock in the public markets, or the perception of such sales, could depress the trading price of our Common Stock.

The sale of a substantial number of shares of our Common Stock or other securities convertible into or exercisable or exchangeable for our Common Stock in the public markets, or the perception that such sales could occur, could depress the market price of our Common Stock and impair our ability to raise capital through the sale of additional

equity securities. We may sell large quantities of our Common Stock at any time pursuant to this prospectus supplement or in one or more separate offerings, any of which may contribute to a depressed market price of our Common Stock. In addition, if there are significant short sales of our Common Stock, the price decline that could result from this activity may cause the share price to decline more so, which, in turn, may cause long holders of the Common Stock to sell their shares, thereby contributing to sales of Common Stock in the market. Such sales also may impair our ability to raise capital through the sale of additional equity securities in the future at a time and price that our management deems acceptable, if at all. We cannot predict the effect that future sales of Common Stock or other equity-related securities would have on the market price of our Common Stock.

The trading price of the shares of our Common Stock has been and may continue to be highly volatile, and purchasers of our Common Stock could incur substantial losses.

The trading price of our Common Stock is highly volatile and subject to wide fluctuations in response to various factors, some of which we cannot control. The volatility of our Common Stock may affect the price at which you could sell the shares of our Common Stock, and the sale of substantial amounts of our Common Stock could adversely affect the price of our Common Stock. Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including those described in the sections captioned "*Risk Factors*" in this prospectus supplement, the accompanying prospectus, our Annual Report on Form 10-K for the year ended September 30, 2025, and the other documents incorporated by reference herein and therein.

As a result, you may not be able to sell your shares of Common Stock at or above the price at which you purchase them. In addition, the stock market in general, Nasdaq and the stock of companies engaged in the semiconductor market in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our Common Stock, regardless of our actual operating performance.

We do not intend to pay dividends on our Common Stock in the foreseeable future.

We have never paid cash dividends on our Common Stock. We currently intend to invest our future earnings, if any, to fund our growth and not to pay any cash dividends on our Common Stock. Because we do not intend to pay dividends, your ability to receive a return on your investment will depend on any future appreciation in the market price of our Common Stock. We cannot be certain that our Common Stock will appreciate in price.

USE OF PROCEEDS

We expect that the net proceeds from our issuance and sale of shares of our Common Stock will be approximately $ million, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds from this offering to accelerate growth across our semiconductor packaging and advanced wafer substrate fabrication platforms, for accretive merger and acquisition opportunities, and for working capital and general corporate purposes. As of the date of this prospectus supplement, we do not have any merger and acquisition opportunities currently under consideration.

The amounts and timing of our actual expenditures will depend on numerous factors, including the factors described under "*Risk Factors*" in this prospectus supplement, the accompanying prospectus, and in the documents incorporated by reference herein and therein, as well as the amount of cash used in our operations. We may find it necessary or advisable to use the net proceeds for other purposes, and we will have broad discretion in the application of the net proceeds. Pending use of net proceeds as described above, we may temporarily invest the net proceeds in a variety of capital preservation instruments, including high quality, investment grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government, or may hold such proceeds as cash, until they are used for their stated purpose.

DIVIDEND POLICY

The Company has not paid any cash dividends on our Common Stock to date. The Company may retain future earnings, if any, for future operations, expansion and debt repayment and has no current plans to pay cash dividends for the foreseeable future. Any decision to declare and pay dividends in the future will be made at the discretion of the Board and will depend on, among other things, the Company's results of operations, financial condition, cash requirements, contractual restrictions and other factors that the Board may deem relevant. In addition, the Company's ability to pay dividends may be limited by covenants of any future outstanding indebtedness the Company or its subsidiaries incur. The Company does not anticipate declaring any cash dividends to holders of our Common Stock in the foreseeable future.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of March 31, 2026:

- on an actual basis; and
- on an as adjusted basis to reflect the issuance and sale of shares of Common Stock in this offering at the public offering price of $ per share, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table along with our unaudited consolidated financial statements and related notes as of and for the six months ended March 31, 2026, as well as the other financial information incorporated by reference in this prospectus supplement and the accompanying prospectus (dollars in thousands, except for par value amounts).

	Actual	As Adjusted
Cash and cash equivalents	$ 24,417	
Total debt [1]	273	
Preferred stock: 100,000,000 shares authorized; no shares issued and outstanding at March 31, 2026		
Common stock: $0.01 par value; 100,000,000 shares authorized, 14,497,089 shares issued and outstanding at March 31, 2026	145	
Additional paid-in-capital	130,856	
Accumulated other comprehensive income	(419)	
Accumulated deficit	(74,583)	
Total stockholders' equity	55,999	
Total capitalization [2]	$ 56,272	

(1) Total debt consists of our finance lease liabilities and long-term debt (including current maturities). Total debt does not include operating lease liabilities, income taxes payable or other long-term liabilities.

(2) Total capitalization consists of total debt plus total stockholders' equity.

At March 31, 2026, the number of shares of Common Stock outstanding in the table above excludes:

- 876,432 shares of Common Stock issuable upon the exercise of stock options outstanding as of March 31, 2026, at a weighted-average exercise price of $7.04 per share;
- 152,749 shares of Common Stock issuable upon the vesting and settlement of RSUs outstanding as of March 31, 2026; and
- 701,692 shares of Common Stock reserved for future issuance under our 2022 Equity Incentive Plan, as amended, as of March 31, 2026.

The table above also assumes no exercise of outstanding options or vesting and settlement of RSUs described above.

DILUTION

If you invest in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share of Common Stock and the as adjusted net tangible book value per share of our Common Stock after giving effect to this offering.

As of March 31, 2026, we had a historical net tangible book value of $54.1 million, or $3.73 per share of Common Stock, based on 14,497,089 shares of Common Stock outstanding as of such date. Our historical net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of Common Stock outstanding.

After giving effect to the sale of shares of our Common Stock in this offering at the 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 as of March 31, 2026 would have been approximately $ million, or $ per share of our Common Stock. This represents an immediate increase in as adjusted net tangible book value of $ per share to our existing shareholders and an immediate dilution of $ per share to investors purchasing our Common Stock in this offering. The following table illustrates this dilution on a per share basis:

Public offering price per share	$	
Historical net tangible book value per share as of March 31, 2026	$	3.73
Increase in net tangible book value per share attributable to investors purchasing shares in this offering	$	
As adjusted net tangible book value per share after this offering	$	
Dilution per share to investors purchasing shares in this offering	$	

The number of shares of our Common Stock to be outstanding after this offering set forth above is based on 14,497,089 shares of our Common Stock outstanding as of March 31, 2026. The number of shares outstanding as of March 31, 2026, unless otherwise indicated, excludes:

- 876,432 shares of Common Stock issuable upon the exercise of stock options outstanding as of March 31, 2026, at a weighted-average exercise price of $6.89 per share;
- 152,749 shares of Common Stock issuable upon the vesting and settlement of RSUs outstanding as of March 31, 2026; and
- 701,692 shares of Common Stock reserved for future issuance under our 2022 Equity Incentive Plan, as amended, as of March 31, 2026.

The table and calculations above assume no exercise of outstanding options or vesting and settlement of RSUs described above.

To the extent that options outstanding as of March 31, 2026 have been or may be exercised or other shares issued, investors purchasing our Common Stock in this offering may experience further dilution. In addition, we may choose to raise additional capital 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 that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

DESCRIPTION OF SECURITIES WE ARE OFFERING

Common Stock

We are offering shares of our Common Stock in this offering. See "*Description of Common Stock and Preferred Stock*" in the accompanying prospectus and "*Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934*" filed as Exhibit 4.1 to our most recent Annual Report on Form 10-K for more information regarding our shares of Common Stock.

UNDERWRITING

We intend to enter into an underwriting agreement (the "Underwriting Agreement") with Titan Partners Group LLC, a division of American Capital Partners, LLC (the "Underwriter"), with respect to the Common Stock subject to this offering.

Subject to the terms and conditions contained in the Underwriting Agreement, we have agreed to sell to the Underwriter such shares of Common Stock listed next to its name in the below table at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement.

Underwriter	Number of Shares
Titan Partners Group LLC, a division of American Capital Partners, LLC	
Total	

The Underwriter is obligated to purchase all of the shares of Common Stock offered hereby. The Underwriter is offering the securities, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, and other conditions contained in the Underwriting Agreement. The Underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Discounts, Commissions and Expenses

The Underwriter proposes to offer the shares of Common Stock purchased pursuant to the Underwriting Agreement to the public at the public offering price set forth on the cover page of this prospectus supplement. After the initial offering of the shares of Common Stock pursuant to this prospectus supplement, the offering price and other selling terms may be changed by the Underwriter. No such change shall change the amount of proceeds to be received by us as set forth on the cover page of this prospectus supplement.

In connection with the sale of the Common Stock to be purchased by the Underwriter, the Underwriter will be deemed to have received compensation in the form of underwriting discounts and commissions. The underwriting discounts and commissions will be % of the gross proceeds of this offering, or $ per share of Common Stock based on the public offering price per share set forth on the cover page of this prospectus supplement.

We have also agreed to reimburse the Underwriter at closing for certain reasonable, documented out-of-pocket expenses actually incurred by the Underwriter in connection with the offering, up to $75,000. We estimate that our total offering expenses for this offering, net of the underwriting discounts and commissions, will be approximately $.

The following table summarizes the underwriting discounts and commissions and proceeds, before expenses, to us:

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

1) The underwriting discount is % of the gross proceeds received from the sale of the Common Stock in this offering.

Discretionary Accounts

The Underwriter does not intend to confirm sales of the shares of Common Stock offered hereby to any accounts over which they have discretionary authority.

Indemnification

Pursuant to the Underwriting Agreement, we have agreed to indemnify the Underwriter against certain liabilities, including liabilities under the Securities Act of 1933, as amended (the "Securities Act"), and to contribute to payments that the Underwriter or such other indemnified parties may be required to make in respect of those liabilities.

Lock-Up Restrictions

Without the prior written consent of the Underwriter, for a period until 60 days after the date of the closing of this offering (the "Lock-Up Period"), the Company has agreed not to, subject to certain exceptions, (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, or file or confidentially submit any registration statement under the Securities Act with respect to any of the foregoing, (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, or (iii) publicly announce an intention to effect any transaction described in clauses (i) or (ii).

In addition, each of our directors and officers (each, a "Lock-Up Party") has entered into a lock-up agreement with the Underwriter. Under the lock-up agreements, without the prior written consent of the Underwriter, during the Lock-Up Period, each Lock-Up Party may not, subject to certain exceptions, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by such Lock-Up Party or any affiliate of such Lock-Up Party or any person in privity with such Lock-Up Party or any affiliate of such Lock-Up Party), directly or indirectly, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") with respect to, any shares of Common Stock of the Company or securities convertible, exchangeable or exercisable into, shares of Common Stock of the Company beneficially owned, held or hereafter acquired by the undersigned ("Restricted Securities") or make any demand for or exercise any right or cause to be filed a registration statement, including any amendments thereto, with respect to the registration of any Restricted Securities or publicly disclose the intention to do any of the foregoing.

Electronic Distribution

This prospectus supplement and the accompanying prospectus may be made available in electronic format on websites or through other online services maintained by the Underwriter or by its affiliates. In those cases, prospective investors may view offering terms online and prospective investors may be allowed to place orders online. Other than this prospectus supplement and the accompanying prospectus in electronic format, the information on the Underwriter's websites or our website and any information contained in any other websites maintained by the Underwriter or by us is not part of this prospectus supplement, the accompanying prospectus or the registration statement of which this prospectus supplement and the accompanying prospectus form a part, has not been approved and/or endorsed by us or the Underwriter in its capacity as Underwriter, and should not be relied upon by investors.

Passive Market Making

In connection with this offering, the Underwriter and selling group members may also engage in passive market making transactions in our Common Stock. Passive market making consists of displaying bids 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 SEC 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 the shares of Common

Stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Nasdaq Listing

Our Common Stock is listed on Nasdaq under the symbol "ASYS." The last reported sale price of our Common Stock on May 29, 2026 was $21.27 per share.

Price Stabilization, Short Positions and Penalty Bids

In connection with the offering, the Underwriter may engage in stabilizing transactions, over-allotment transactions, syndicate covering transactions and penalty bids in accordance with Regulation M under the Exchange Act:

- *Stabilizing transactions* permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- *Over-allotment* involves sales by the Underwriter of shares in excess of the number of shares the Underwriter is obligated to purchase, which creates a syndicate short position. The Underwriter may close out any short position by purchasing shares in the open market.
- *Syndicate covering transactions* involve purchases of the Common Stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the Underwriter will consider, among other things, the price of shares available for purchase in the open market. A short position can only be closed out by buying shares in the open market.
- *Penalty bids* permit the Underwriter to reclaim a selling concession from a syndicate member when the Common Stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our Common Stock or preventing or retarding a decline in the market price of the Common Stock. As a result, the price of our Common Stock may be higher than the price that might otherwise exist in the open market. These transactions 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 shares of 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.

Other Relationships

The Underwriter is a full-service financial institution engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The Underwriter and its affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of its business for which it may receive customary fees and reimbursement of expenses. 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 (which may include bank loans and/or credit default swaps) for its own account and for the accounts of its customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The Underwriter and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Offer Restrictions Outside the United States

Other than in the United States, no action has been taken by us or the Underwriter that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The securities offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus supplement does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission, in relation to the offering. This prospectus supplement 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 securities 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 securities without disclosure to investors under Chapter 6D of the Corporations Act.

The securities 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 securities must observe such Australian on-sale restrictions.

This prospectus supplement 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 supplement is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

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 NI33-105 regarding underwriter conflicts of interest in connection with this offering.

European Economic Area

In relation to each Member State of the European Economic Area (each, a "Member State"), no securities have been offered or will be offered pursuant to the offering to the public in that Member State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Member State, all in accordance with the Prospectus Regulation, except that offers of securities may be made to the public in that Member State at any time under the following exemptions under the Prospectus Regulation:

- to any legal entity which is a qualified investor as defined in the Prospectus Regulation;
- to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the Underwriter for any such offer; or
- in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of securities shall require the Company or the Underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to any securities in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase or subscribe for any securities, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Hong Kong

The securities have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (1) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance or (2) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the securities offered hereby has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Israel

The securities offered hereunder may not be offered or sold to the public in Israel absent the publication of a prospectus that has been approved by the Israel Securities Authority (the "ISA"). This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Israeli Securities Law, and has not been filed with or approved by the ISA and the securities offered hereunder have not been registered for sale in Israel. In Israel, this document is being distributed only to, and is directed only at, and any offer of the securities hereunder is directed only at investors listed in the first addendum to the Israeli Securities Law (the "Addendum"), consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case, purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors are required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

Japan

The securities have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Act. Accordingly, none of the securities nor any interest therein may be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

Singapore

This prospectus supplement has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of securities may not be circulated or distributed, nor may the securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (1) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA, (2) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or (3) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. Where the securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the securities pursuant to an offer made under Section 275 of the SFA except:

(i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Singapore SFA Product Classification—In connection with Section 309B of the SFA and the CMP Regulations 2018, unless otherwise specified before an offer of securities, we have determined, and hereby notify all relevant persons (as defined in Section 309A(1) of the SFA), that the securities are "prescribed capital markets products" (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("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 securities 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, the Company, the securities 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 securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

United Arab Emirates

The securities have not been, and are not being, publicly offered, sold, promoted or advertised in the United Arab Emirates (including the Abu Dhabi Global Market and the Dubai International Financial Centre) other than in compliance with the laws, regulations and rules of the United Arab Emirates, the Abu Dhabi Global Market and the Dubai International Financial Centre governing the issue, offering and sale of securities. Further, this prospectus supplement, the accompanying prospectus and any other offering or marketing material relating to the securities or the offering do not constitute a public offer of securities in the United Arab Emirates (including the Abu Dhabi Global Market and the Dubai International Financial Centre) and are not intended to be a public offer. This prospectus supplement, the accompanying prospectus and any other offering or marketing material relating to the securities or the offering have not been approved by or filed with the Central Bank of the United Arab Emirates, the Securities and Commodities Authority, the Financial Services Regulatory Authority, the Dubai Financial Services Authority or any other relevant licensing authorities in the United Arab Emirates.

United Kingdom

In relation to the United Kingdom, no securities have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the securities which has been approved by the Financial Conduct Authority, except that it may make an offer to the public in the United Kingdom of any securities at any time under the following exemptions under the UK Prospectus Regulation:

- to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;
- to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the Underwriter for any such offer; or
- in any other circumstances falling within Section 86 of the FSMA,

provided that no such offer of the securities shall require the Company or the Underwriter to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to the securities in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase or subscribe for any securities and the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in Article 2 of the UK Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, (the "Order"), and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the securities in the United Kingdom within the meaning of the FSMA.

LEGAL MATTERS

The validity of the issuance of the Common Stock offered hereby and certain other legal matters will be passed upon for us by DLA Piper LLP (US), Phoenix, Arizona. The Underwriter is being represented in connection with this offering by McGuireWoods LLP, New York, New York.

EXPERTS

The consolidated financial statements of Amtech Systems, Inc. and subsidiaries as of September 30, 2025 and 2024, and for each of the two years in the period ended September 30, 2025, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, the Company's independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 (File No. 333-294296), of which this prospectus supplement and the accompanying prospectus are a part, under the Securities Act, to register the shares of Common Stock offered by this prospectus supplement. In addition, we file annual, quarterly and current 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. We also maintain a website at www.amtechsystems.com where these materials are available. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus supplement and is not incorporated by reference herein, and the inclusion of our website address in this prospectus supplement is an inactive textual reference only. This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Statements in this prospectus supplement and the accompanying prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

INFORMATION INCORPORATED BY REFERENCE

SEC rules permit us to incorporate information by reference into this prospectus supplement. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus supplement, except for information superseded by information contained in this prospectus supplement or in any subsequently filed incorporated document. This prospectus supplement incorporates by reference the documents set forth below that we have previously filed with the SEC, other than information in such documents that is deemed to be furnished and not filed. These documents contain important information about us and our business and financial condition. Any report or information within any of the documents referenced below that is furnished, but not filed, shall not be incorporated by reference into this prospectus supplement.

- Our Annual Report on Form 10-K for the fiscal year ended September 30, 2025, filed with the SEC on December 10, 2025;
- Our Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2025, filed with the SEC on February 5, 2026;
- Our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2026, filed with the SEC on May 7, 2026;
- Our Current Reports on Form 8-K filed with the SEC on December 10, 2025, December 15, 2025, February 5, 2026, March 6, 2026, April 30, 2026, and May 7, 2026;
- Those portions of our Definitive Proxy Statement on Schedule 14A dated January 23, 2026, incorporated by reference in our Annual Report on Form 10-K for the year ended September 30, 2025; and
- The description of our Common Stock contained in our Registration Statement on Form 8-A, filed with the SEC on December 15, 1994, and any amendments or reports for the purpose of updating such description.

Any documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement and prior to the termination of this offering will automatically be deemed to be incorporated by reference into this prospectus supplement and to be part hereof from the date of filing those documents. We are not, however, incorporating by reference any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus supplement.

We will provide to each person, including any beneficial owner, to whom a prospectus supplement is delivered, a copy of any or all of the reports or documents that have been incorporated by reference into this prospectus supplement but not delivered with this prospectus supplement. We will provide these reports upon written or oral request at no cost to the requester. Please direct your request, either in writing or by telephone, to the Secretary at Amtech Systems, Inc., 58 South River Drive, Suite 370, Tempe, Arizona 85288, telephone number (480) 967-5146.

PROSPECTUS

$50,000,000

Common Stock
Preferred Stock
Debt Securities
Warrants
Units

We may, from time to time in one or more offerings, offer and sell up to $50.0 million in the aggregate of common stock, preferred stock, debt securities, warrants to purchase shares of common stock or preferred stock or debt securities, or any combination of the foregoing, either individually or as units comprised of one or more of the other securities.

This prospectus provides a general description of the securities we may offer. We will provide the specific terms of the securities offered in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may add, update or change information contained in this prospectus. Please read carefully this prospectus, the applicable prospectus supplement, any related free writing prospectus, and the documents incorporated by reference before you invest in any of our securities. **This prospectus may not be used to offer or sell any securities unless accompanied by the applicable prospectus supplement.**

Our common stock is listed on the Nasdaq Global Select Market under the symbol "ASYS." On March 23, 2026, the last reported sale price of our common stock was $11.30 per share.

Investing in our securities involves a high degree of risk. See "*Risk Factors*" on page 5 of this prospectus and in the documents incorporated by reference **into this prospectus, as updated by the applicable prospectus supplement, any related free writing prospectus and other future filings we make with the Securities and Exchange Commission that are incorporated by reference into this prospectus, for a discussion of the factors we urge you to consider carefully before deciding to purchase our securities.**

We may sell these securities directly to investors, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, please see the section titled "*Plan of Distribution*" in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable commissions or discounts will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

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

The date of this prospectus is March 23, 2026

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, under the Securities Act of 1933, as amended, or the Securities Act, using the "shelf" registration process for the offering and sale of securities pursuant to Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"). Under this shelf registration process, we may, from time to time, offer and sell any combination of the securities described in this prospectus in one or more offerings, up to a total dollar amount of $50.0 million.

This prospectus provides a general description of the securities we may offer. Each time we sell securities under this prospectus, we will, to the extent required by law, provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to a particular offering. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus. To the extent there is a conflict between any statement contained in this prospectus, any applicable prospectus supplement, any related free writing prospectus or any document incorporated by reference into this prospectus, the statement in the document having the later date modifies or supersedes the earlier statement.

The information appearing in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document, and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or the time of any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

You may rely only on the information contained in, or incorporated by reference into, this prospectus and any applicable prospectus supplement, or the information contained in any free writing prospectus we have authorized for use in connection with a specific offering. We have not authorized anyone to provide you with different or additional information. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so.

As permitted by SEC rules and regulations, the registration statement of which this prospectus forms a part includes additional information not contained in this prospectus. This prospectus also contains summaries of certain provisions of the documents described herein, but all summaries are qualified in their entirety by reference to the actual documents. You may read the registration statement and the other reports we file with the SEC, and you may obtain copies of the actual documents summarized herein (if and when filed with the SEC), at the SEC's website or at its offices described in the section of this prospectus titled "*Where You Can Find More Information*."

The representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference into this prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

SUMMARY

This summary highlights information contained elsewhere in this prospectus. Before making an investment decision, please carefully read this entire prospectus and the documents incorporated by reference into this prospectus, especially the "Risk Factors" section of this prospectus and our financial statements and the related notes incorporated by reference into this prospectus. In this prospectus, unless the context otherwise requires, the terms "Amtech," "we," "us" or "our" refer to Amtech Systems, Inc. and its consolidated subsidiaries.

Overview

We provide equipment, consumables and services for semiconductor device packaging, wafer production and device fabrication. Our products are used to fabricate and package semiconductor devices, such as graphic processing units (GPU's) used in AI applications, silicon carbide (SiC) and silicon (Si) power devices and other optical, analog and digital devices. We sell these products to semiconductor device packaging, electronic assembly and device fabrication companies worldwide

Our Thermal Processing Solutions include conveyorized reflow equipment for advanced semiconductor packaging and electronic assembly, high temperature conveyorized furnaces for power semiconductor substrate and electronic components manufacturing, and diffusion furnaces for (SIC) and (Si) power device production.

Our Semiconductor Fabrication Solutions include consumables, equipment and services for wafer polishing, dicing and cleaning.

Our strategy is to focus our efforts on fully capitalizing on advanced packaging equipment opportunities driven by AI infrastructure investments and expand our consumables and service business for semiconductor fabrication by providing exceptional service and high-quality products to underserved segments of the market.

We categorize each of our subsidiaries into one of two reportable segments, based primarily on the industries they serve:

Reportable Segment	% of 2025 Consolidated Net Revenue
Thermal Processing Solutions	73%
Semiconductor Fabrication Solutions	27%

These reportable segments are comprised of the following four wholly-owned subsidiaries:

Thermal Processing Solutions:

- BTU, a Delaware corporation based in Westford, Massachusetts, with operations in China, Malaysia and the UK, acquired in January 2015.

Semiconductor Fabrication Solutions:

- PR Hoffman, an Arizona corporation based in Carlisle, Pennsylvania, acquired in July 1997.
- Advanced Compound Materials, Inc., a Delaware corporation based in Spartanburg, South Carolina, founded in 2023;
- Intersurface Dynamics, a Connecticut corporation based in Bethel, Connecticut, acquired in March 2021; and
- Entrepix, an Arizona corporation based in Phoenix, Arizona, acquired in January 2023.

In both of our divisions we are focused on semiconductor and related processes and markets. We believe we are uniquely positioned in that our products are employed throughout the early and late stages of semiconductor and electronics manufacturing. Our products are key to the earliest stages of silicon or silicon carbide wafer manufacturing, then in semiconductor device manufacturing, then advanced semiconductor packaging and then finally in electronics assembly.

Our Thermal Processing Solutions business provides high performance equipment used in solder reflow operations for advanced semiconductor packaging and electronic assembly, furnaces used for producing power semiconductor packaging substrates and electronic components, and diffusion furnaces used in wafer processing. Reflow operations provide a cost effective, high throughput process for electronic packaging and assembly. Our equipment provides the precise temperature, atmospheric control and uniformity required to achieve high yields in mass production reflow operations. Our flux management system scrubs oven gases to minimize downtime, reduce defects from flux contamination and reduce environmental emissions.

Our Semiconductor Fabrication Solutions business provides processing consumables, equipment and services for wafer production. Our PR Hoffman consumables are used for lapping and Chemical Mechanical Planarization (CMP) processes in the manufacturing of SiC and Si power devices, analog devices, optics, ceramics and photonics. Our Entrepix products and services include equipment for SiC and Si wafer cleaning, testing equipment used for optimizing CMP processes, CMP equipment parts and services, and CMP foundry services. Our Intersurface Dynamics products include CMP slurries and dispersants, cleaning chemicals, lubricants and cooling fluids used for semiconductor wafer and optics processing. CMP processes are used to provide a high degree of flatness, parallelism, and surface finish. Common applications for this technology are silicon wafers used for semiconductor digital and analog devices, SiC wafers for power devices, optics and ceramics. These devices are used in a variety of applications including computers and servers, automotive electronics, industrial electronics, mobile phones, telecommunications equipment and medical devices.

We believe our product portfolio, developed through a track record of technological innovation as well as the integration of key acquisitions, provides exceptional value to semiconductor manufacturing by increasing yields, efficiency and throughput. We have been providing manufacturing solutions to the semiconductor industry for over 30 years and have leveraged our semiconductor technology and industry presence to capitalize on growth opportunities.

The semiconductor industry is historically cyclical with constantly evolving technical requirements and advancements and can be subject to tariffs and sourcing restrictions driven by geopolitical tensions. Therefore, future growth and profitability will depend on cyclical trends, our ability to produce equipment regionally and meeting performance requirements as technical requirements evolve. The current contraction cycle for mature node semiconductors is longer than the historical average, mainly attributed to a sustained decrease in demand for industrial equipment, computers, and smartphones after a period of heightened demand during the COVID pandemic, as well as reduced growth expectations for electric vehicles.

Our fiscal year is from October 1 to September 30.

Corporate Information

We were incorporated in Arizona in 1981. Our principal executive offices are located at 58 South River Drive, Suite 370, Tempe, Arizona 85288, and our main telephone number is (480) 967-5146. Our website is www.amtechsystems.com. The information contained in, or that can be accessed through, our website is not, and shall not be deemed to be, part of this prospectus, any accompanying prospectus supplement or any free writing prospectus or incorporated into any other filing we submit to the SEC.

The Securities We May Offer

Under this prospectus, we may, from time to time in one or more offerings, offer and sell up to $50.0 million in the aggregate of common stock, preferred stock, warrants to purchase common stock or debt securities, or any combination of the foregoing, either individually or as units comprised of one or more of the other securities. The prices and terms of our offer and sale of such securities will be determined by market conditions at the time of offering. Each time we offer securities under this prospectus, we will provide offerees with a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities being offered, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;

- maturity, if applicable;
- original issue discount, if any;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion, exchange or sinking fund terms, if any;
- conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- important U.S. federal income tax considerations.

The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus forms a part.

The following is a general summary of the securities we may offer with this prospectus. For more specific information regarding any offering of securities, please read the prospectus supplement and any free writing prospectus that we may authorize to be provided to you in connection with a particular offering, together with any exhibits that may be filed setting forth the terms of the securities.

Common Stock

Our amended and restated articles of incorporation ("articles of incorporation") currently authorizes the issuance of up to 100,000,000 shares of common stock, par value $0.01 per share. Each outstanding share of our common stock is entitled to one vote per share of record on all matters submitted to a vote of shareholders and to vote together as a single class for the election of directors and in respect of other corporate matters. At a meeting of shareholders at which a quorum is present, all questions other than the contested election of directors shall be decided by determining if the votes cast by shareholders favoring the action exceed the votes cast by shareholders opposing the action, without regard to abstentions, unless the matter is one upon which a different vote is required by express provision of Arizona law, Nasdaq rules or our articles of incorporation or our amended and restated bylaws ("bylaws"). Directors, in a contested election, will be elected by a plurality of the votes of the shares present at a meeting. Holders of shares of common stock have cumulative voting rights with respect to the election of directors.

Subject to preferences applicable to any outstanding preferred stock, holders of common stock are entitled to receive ratably any dividends declared by our Board of Directors. In the event of a liquidation, dissolution or winding-up of the Company, holders of common stock are entitled to share ratably with the holders of any outstanding preferred stock in the assets remaining after payment of liabilities and the liquidation preferences of any outstanding preferred stock. Holders of common stock have no preemptive, conversion or redemption rights. Certain provisions of Arizona law and our articles of incorporation and bylaws are described under the heading "Certain Provisions of Arizona Law and the Company's Articles of Incorporation and Bylaws" below.

Preferred Stock

Our Board of Directors has the authority, without further action by our shareholders, to designate and issue up to 100,000,000 shares of preferred stock in one or more series. In addition, the Board may fix the rights, preferences and privileges of any preferred stock it determines to issue. Any or all of these rights may be superior to the rights of the common stock. Preferred stock could thus be issued quickly with terms calculated to delay or prevent a change in control of the Company or to make removal of management more difficult. Additionally, the issuance of preferred stock may dilute the voting power and decrease the market price of the common stock, and reduce the likelihood that the holders of common stock will receive payments in the event of a liquidation, dissolution or winding-up of the Company.

Debt Securities

We may offer general debt obligations, which may be secured or unsecured, senior or subordinated and convertible into common stock. In this prospectus, we refer to debt securities having any or all of these features as "debt securities." We may issue debt securities under a note purchase agreement or under an indenture to be entered between us and a trustee. We will issue any senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture that we will enter into with the trustee named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement, of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC. Our board of directors will determine the terms of each series of debt securities we may offer.

Warrants

We may offer warrants for the purchase of common stock, preferred stock or debt securities. We may issue the warrants by themselves or together with shares of common stock or preferred stock or with debt securities, and the warrants may be attached to or separate from any offered securities. Our board of directors will determine the terms of the warrants, including the class and number of underlying shares, the purchase price and any other rights and privileges, which will be set forth in the form of warrant or the warrant agreement and warrant certificate.

Units

We may offer units comprised of any combination of our common stock, preferred stock, debt securities or warrants to purchase any of these securities, in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent, which will be a bank or trust company that we select. We will indicate the name and address of any unit agent in the applicable prospectus supplement relating to a particular series of units.

RISK FACTORS

Investing in our securities involves significant risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in Amtech. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "*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 the heading "*Risk Factors*" included in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our current reports on Form 8-K that we have filed with the SEC, all of which are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. 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 risks might cause you to lose all or part of your investment in the offered securities.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management. You can identify these statements by the fact that they do not relate strictly to historical or current events. You can also identify forward-looking statements by discussions of strategy, plans or intentions of management. We have tried, wherever possible, to identify such statements by using words such as "may," "plan," "anticipate," "seek," "will," "expect," "intend," "estimate," "believe," "continue," "predict," "potential," "project," "should," "would," "could," "likely," "future," "target," "forecast," "goal," "observe," and "strategy" or the negative thereof or variations thereon or similar terminology relating to the uncertainty of future events or outcomes. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors. Some factors that could cause actual results to differ materially from those anticipated include, among others, future economic conditions, including changes in the markets in which we operate; changes in demand for our services and products; our revenue and operating performance; difficulties in successfully executing our growth or restructuring initiatives; difficulties in executing on our strategic initiatives; the effects of competition in the markets in which we operate, including the adverse impact of competitive product announcements or new entrants into our markets and transfers of resources by competitors into our markets; the cyclical nature of the semiconductor industry; pricing and gross profit pressures; control of costs and expenses; risks associated with new technologies and the impact on our business; legislative, regulatory, and competitive developments in markets in which we operate; possible future claims, litigation or enforcement actions and the results of any such claim, litigation proceeding, or enforcement action; the impact of any future pandemic or other business interruptions on our business operations, financial results and financial position; risks of future cybersecurity incidents; adverse developments affecting financial institutions, including bank failures; and other circumstances and risks identified in this prospectus or referenced from time to time in our filings with the SEC. The occurrence of the events described, and the achievement of expected results, depend on many events, some or all of which are not predictable or within our control. These and many other factors could affect Amtech's future operating results and financial condition and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our or our officers' current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to certain risks and uncertainties. In light of these risks and uncertainties, there can be no assurance that the forward-looking information contained in this prospectus will in fact transpire or prove to be accurate. You should not place undue reliance on these forward-looking statements, which speak only as of the date they were made.

In addition, you should refer to the "*Risk Factors"* section of this prospectus for a discussion of other important factors that may cause actual results to differ materially from those expressed or implied by the forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if the forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so, and we disclaim any obligation to do so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of our securities offered hereby. Except as described in any prospectus supplement or any related free writing prospectus that we may authorize to be provided to you, we currently intend to use the net proceeds from the sale of our securities offered hereby for working capital and general corporate purposes, which may include capital expenditures, debt repayment, research and development, sales and marketing and general and administrative expenses. We may also use a portion of the net proceeds to acquire or invest in businesses, products and technologies that are complementary to our own, although we have no current plans, commitments or agreements with respect to any such acquisitions or investments as of the date of this prospectus. We will set forth in the applicable prospectus supplement or free writing prospectus our intended use for the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement or free writing prospectus.

Pending the application of the net proceeds, we may invest the net proceeds in short-term, investment grade, interest-bearing securities, certificates of deposit or direct or guaranteed obligations of the U.S. government.

SECURITIES WE MAY OFFER

We may offer and sell, from time to time in one or more offerings, shares of common stock and preferred stock, various series of debt securities and warrants to purchase any of such securities, or any combination of the foregoing, either individually or in units. We may offer up to $50.0 million of securities under this prospectus. The prices and terms of any offering will be determined by market conditions at the time of the offering. This prospectus provides a general description of the securities we may offer. Each time we offer securities under this prospectus, we will, to the extent required by law, provide offerees with a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities being offered. The prospectus supplement may also add, update or change information in this prospectus. For more information, see "*About this Prospectus*."

DESCRIPTION OF COMMON STOCK AND PREFERRED STOCK

The following description of Amtech's capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. This description is summarized from, and qualified in its entirety by reference to, our articles of incorporation and bylaws, which have been publicly filed with the SEC. See "Where You Can Find More Information – Incorporation of Certain Documents by Reference." We encourage you to read our articles of incorporation, our bylaws and the applicable provisions of the Arizona General Corporation Law, for additional information. A prospectus supplement may provide information that is different from this prospectus. If the information in a prospectus supplement with respect to our capital stock being offered differs from this prospectus, you should rely on the information in the prospectus supplement.

General

Amtech has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), our common stock, $0.01 par value per share ("common stock").

Our authorized capital stock consists of 100,000,000 shares of common stock, par value $0.01 per share, and 100,000,000 shares of preferred stock, par value $0.01 per share. The outstanding shares of common stock are fully paid and nonassessable.

Common Stock

Our common stock and the rights of the holders of our common stock are subject to the applicable provisions of Arizona law, our articles of incorporation, our bylaws, and the rights of the holders of our preferred stock, if any. Certain provisions of Arizona law and our articles of incorporation and bylaws are described under the heading "Certain Provisions of Arizona Law and the Company's Articles of Incorporation and Bylaws" below.

Voting Rights

Each outstanding share of our common stock is entitled to one vote per share of record on all matters submitted to a vote of shareholders and to vote together as a single class for the election of directors and in respect of other corporate matters. At a meeting of shareholders at which a quorum is present, all questions other than the contested election of directors shall be decided by determining if the votes cast by shareholders favoring the action exceed the votes cast by shareholders opposing the action, without regard to abstentions, unless the matter is one upon which a different vote is required by express provision of Arizona law, Nasdaq rules or our articles of incorporation or bylaws. Directors, in a contested election, will be elected by a plurality of the votes of the shares present at a meeting. Holders of shares of common stock have cumulative voting rights with respect to the election of directors.

Dividends

Holders of our common stock are entitled to receive dividends or other distributions when, as and if declared by our board of directors. The right of our board of directors to declare dividends, however, is subject to any rights of the holders of other classes of our capital stock and the availability of sufficient funds under Arizona law to pay dividends.

Preemptive Rights

The holders of our common stock do not have preemptive rights to purchase or subscribe for any of our capital stock or other securities.

Redemption

The shares of our common stock are not subject to redemption by operation of a sinking fund or otherwise.

Liquidation Rights.

In the event of any liquidation, dissolution or winding up of the Company, subject to the rights, if any, of the holders of other classes of our capital stock, the holders of shares of our common stock are entitled to receive any of our assets available for distribution to our shareholders ratably in proportion to the number of shares held by them.

Listing

Our common stock is listed on the Nasdaq Global Select Market under the symbol “ASYS.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Investor Services, P.O. Box 43006, Providence, RI 02940-3006.

Preferred Stock

A certificate of designation or amendment to our articles of incorporation will specify the terms of the preferred stock being offered, and will be filed or incorporated by reference as an exhibit to the registration statement before the preferred stock is issued. The following description of our preferred stock, and any description of the preferred stock in a prospectus supplement, may not be complete and is subject to, and qualified in its entirety by reference to, Arizona law and the actual terms and provisions contained in our articles of incorporation and bylaws, each as amended from time to time.

As noted above, we have the authority to issue up to 100,000,000 shares of preferred stock, which are issuable in series on terms to be determined by our board of directors. Accordingly, our board of directors is authorized, without action by the shareholders, to issue preferred stock from time to time with such dividend, liquidation, conversion, voting and other rights and restrictions as it may determine.

The terms of any particular series of preferred stock will be described in the prospectus supplement relating to that particular series of preferred stock, including, where applicable:

- the number of shares of preferred stock to be issued and the offering price of the preferred stock;
- any dividend rights;
- any dividend rates, periods, or payment dates, or methods of calculation of dividends applicable to the preferred stock;
- the date from which distributions on the preferred stock shall accumulate, if applicable;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into our common stock, including the conversion price (or manner of calculation thereof);
- any right to convert the preferred stock into a different type of security;
- any rights and preferences upon our liquidation or winding up of our affairs;
- any terms of redemption;
- the procedures for any auction and remarketing, if any, for the preferred stock;
- the provisions for a sinking fund, if any, for the preferred stock;
- any listing of the preferred stock on any securities exchange;
- a discussion of federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to distribution rights (including whether any liquidation preference as to the preferred stock will be treated as a liability for purposes of determining the availability of assets for distributions to holders of stock ranking junior to the shares of preferred stock as to distribution rights);
- any limitations on issuance of any series of preferred stock ranking senior to or on a parity with the series of preferred stock being offered as to distribution rights and rights upon the liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations, or restrictions of the preferred stock.

Registrar and Transfer Agent.

The registrar and transfer agent for our preferred stock will be set forth in the applicable prospectus supplement.

Certain Provisions of Arizona Law and The Company's Articles of Incorporation and Bylaws

Certain provisions of our articles of incorporation and bylaws and Arizona law could make our acquisition by a third party, a change in our incumbent management or a similar change in control more difficult, including:

- an acquisition of us by means of a tender or exchange offer;
- an acquisition of us by means of a proxy contest or otherwise; or
- the removal of a majority or all of our incumbent officers and directors.

These provisions, which are summarized below, are likely to discourage certain types of coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that these provisions help to protect our potential

ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us, and that this benefit outweighs the potential disadvantages of discouraging such a proposal because our ability to negotiate with the proponent could result in an improvement of the terms of the proposal. The existence of these provisions which are described below could limit the price that investors might otherwise pay in the future for our securities. This description is intended as a summary only and is qualified in its entirety by reference to our articles of incorporation and bylaws, as well as Arizona law.

Articles of Incorporation, Bylaws and Arizona Law

Authorized But Unissued Capital Stock

We have shares of common stock and preferred stock available for future issuance without shareholder approval, subject to any limitations imposed by the listing standards of Nasdaq. We may utilize these additional shares for a variety of corporate purposes, including for future public offerings to raise additional capital or facilitate corporate acquisitions or for payment as a dividend on our capital stock. The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a controlling interest in the Company by means of a merger, tender offer, proxy contest or otherwise. In addition, if we issue preferred stock, the issuance could adversely affect the likelihood that such holders will receive dividend payments and payments upon liquidation.

Blank Check Preferred Stock

Our board of directors, without shareholder approval, has the authority under our articles of incorporation to issue preferred stock with rights superior to the rights of the holders of common stock. As a result, preferred stock could be issued quickly and easily, could impair the rights of holders of common stock and could be issued with terms calculated to delay or prevent a change in control or make removal of management more difficult.

Number of Directors; Removal; Filling Vacancies

Our articles of incorporation provide that the number of directors shall be fixed by the bylaws which our board of directors can amend without shareholder approval. Our bylaws default to Arizona law with respect to the removal of directors. Arizona law provides that directors may be removed with or without cause where the votes cast by shareholders opposing the action would not be sufficient to elect the director under cumulative voting. A vote to remove one or more directors must be taken at a shareholder's meeting at which a quorum is present where one of the purposes of the meeting is to remove one or more directors. A director cannot be removed by written consent of shareholders unless written consents are obtained from the holders of all the outstanding shares entitled to vote on the removal of the director. Our bylaws provide that vacancies on our board of directors may be filled by a majority vote of the remaining directors, though not less than a quorum. Arizona law also provides that shareholders may fill any vacancy on our board of directors.

Shareholder Meetings and Action

Our bylaws provide that shareholders may not call a special meeting. Our bylaws also provide that the business of special meetings of shareholders shall be confined to the purposes stated in the notice of the meeting. These provisions may discourage another person or entity from making a tender offer, unless it acquired a majority of our outstanding voting stock, because the person or entity could only take action at a duly called shareholders' meeting relating to the business specified in the notice of meeting and not by written consent. Arizona law provides that shareholders may act outside of a meeting if one or more written consents describing the action taken are signed by the holders of outstanding shares having one hundred percent (100%) of the votes entitled to be cast at a meeting at which all shares entitled to vote on the action were present and voted.

Anti-Takeover Effects of Various Provisions of Arizona Law

Arizona Revised Statutes ("ARS") Sections 10-2701 et seq. were adopted by the Arizona legislature in an attempt to prevent corporate "greenmail" and restrict the ability of a potential suitor to acquire domestic corporations. These statutes generally apply to business combinations or control share acquisitions of "issuing public corporations," which defined term includes Amtech. The provisions summarized below could discourage, deter, delay or impede a tender offer or other attempt to acquire control of Amtech.

Arizona Business Combination Statute

The Arizona business combination statute would limit our ability to engage in Business Combinations with Interested Shareholders (each as defined below).

"Business Combination" means any (A) merger or consolidation of Amtech or any subsidiary of Amtech with an Interested Shareholder, (B) exchange of shares of Amtech's common stock or any subsidiary for shares of an Interested Shareholder, or (C) sale, lease, transfer or other disposition to or with an Interested Shareholder of 10% or more of the consolidated assets of Amtech.

"Interested Shareholder" means any person other than Amtech or a subsidiary of Amtech that is either (A) a direct or indirect beneficial owner of 10% or more of the voting power of the outstanding common stock of Amtech or (B) an affiliate of Amtech who at any time during the three years immediately before the date in question was the beneficial owner of 10% or more of the voting power of the then outstanding common stock of Amtech.

"Share Acquisition Date" means the date that a person first becomes an Interested Shareholder of Amtech.

"Business Combinations within Three Years After Share Acquisition Date. For three years after an Interested Shareholder's Share Acquisition Date, Amtech may not directly or indirectly engage in any Business Combination with an Interested Shareholder or any affiliate of an Interested Shareholder unless, before the Interested Shareholder's Share Acquisition Date, a committee of disinterested directors approved either:

- the Business Combination; or
- the acquisition of common stock made by the Interested Shareholder on the Interested Shareholder's Share Acquisition Date.

Business Combinations More Than Three Years After Share Acquisition Date. If a committee of disinterested directors has not approved the Business Combination or the acquisition of common stock as provided above, Amtech may not directly or indirectly engage in any Business Combination with an Interested Shareholder or any affiliate of an Interested Shareholder unless:

- the Business Combination is consummated no earlier than three years after the Interested Shareholder's Share Acquisition Date, and before the Share Acquisition Date, Amtech's Board of Directors approved either
    - the Business Combination; or
    - the acquisition of common stock made by the Interested Shareholder on the Share Acquisition Date;
- the Business Combination is approved no earlier than three years after the Interested Shareholder's Share Acquisition Date by the affirmative vote of a majority of the outstanding voting shares of the common stock of Amtech (excluding shares of common stock beneficially owned by the Interested Shareholder or any affiliate thereof); or
- the Business Combination is consummated no earlier than three years after the Interested Shareholder's Share Acquisition Date and meets certain specified conditions designed to ensure against discriminatory pricing.

Arizona Control Share Acquisition Statute

The Arizona control share acquisition statute would limit the voting rights of a person who acquires shares of Amtech under certain circumstances in a control share acquisition (as defined below).

"Control Share Acquisition" means an acquisition, directly or indirectly (in one or more transactions within 120 days or pursuant to a plan), by a person of beneficial ownership of shares of common stock of Amtech that would, but for the limitations in the control share acquisition statute, entitle the acquiring person to exercise a new range of voting power within the following specified ranges: (A) at least 20% but less than 33-1/3%, (B) at least 33-1/3% but less than or equal to 50% and (C) over 50%.

Within ten days after a Control Share Acquisition, the acquiring person must deliver to the corporation an information statement specifying, among other things, the range of voting power in the election of directors that, but for the limitations in the statute, the acquiring person believes would result from the Control Share Acquisition. At the time of delivery of the information statement, the acquiring person may request that a special meeting of shareholders be called to consider the voting rights of "excess" shares (referred to below).

To the extent that shares of common stock of Amtech acquired in a Control Share Acquisition exceed the threshold of voting power of any of the next specified range of voting power, such "excess" shares will have the same voting rights as other shares of common stock for election of directors but will not have the right to vote on other matters unless approved by a shareholder resolution at an annual or special meeting. Such resolution must be approved by the affirmative vote of a majority of the outstanding voting shares of common stock (excluding shares owned by the acquiring person, its affiliates or any officer or director of Amtech).

The status of voting rights of "excess" shares is not required to be presented for consideration at any meeting of shareholders unless, at the time of delivery of the information statement referred to above, the acquiring person has entered into a definitive financing agreement for any financing of the acquisition not to be provided by monies of the acquiring person.

If an acquiring person fails to deliver the required information statement within ten days after a Control Share Acquisition or if Amtech's shareholders have voted not to accord voting rights to an acquiring person's "excess" shares referred to above, then Amtech may call for the redemption of such "excess" shares at the fair market value of those shares at the time the call for redemption is given.

Limitation of Liability and Indemnification

Pursuant to Amtech's articles of incorporation, Amtech shall indemnify any and all of its existing and former directors, officers, employees and agents against all expenses incurred by them and each of them, including, but not limited to legal fees, judgments, penalties and amounts paid in settlement or compromise, which may arise or be incurred, rendered, or levied in any legal action brought or threatened against any of them for or on account of any action or omission alleged to have been committed while acting within the scope of employment as director, officer, employee or agent of the Company, whether or not any action is or has been filed against them and whether or not any settlement or compromise is approved by a court, indemnification shall be made by the Company whether the legal action brought or threatened is by or in the right of the Company or by any other person. Whenever any existing or former director, officer, employee, or agent shall report to the President of the Company or the chairman of the board of directors that he or she has incurred or may incur expenses, including, but not limited to, legal fees, judgments, penalties and amounts paid in settlement or compromise in a legal action brought or threatened against him or her for or on account of any action or omission alleged to have been committed by him or her while acting within the scope of his or her employment as a director, officer, employee or agent of the Company, the board of directors shall, at its next regular or at a special meeting held within a reasonable time thereafter, determine in good faith, whether in regard to the matter involved in the action or contemplated action, such person acted, failed to act, or refused to act willfully or with gross negligence or with fraudulent or criminal intent. If the board of directors determines, in good faith, that such person did not act, fail to act, or refuse to act willfully or with gross negligence or with fraudulent or criminal intent, in regard to the matter involved in the action or contemplated action, such person acted, failed to act, or refused to act willfully or with gross negligence or with fraudulent criminal intent, indemnification shall be mandatory and shall be automatically extended as specified herein; provided, that the Company shall have the right to refuse indemnification in any instance in which the person to whom indemnification would otherwise have been applicable shall have unreasonably refused to permit the Company, at its own expense and through counsel of its own choosing, to defend him or her in the action.

Section 10-851 of Arizona's Revised Statutes enables a corporation to eliminate or limit personal liability of members of its board of directors for violations of their fiduciary duty of care. However, Arizona law does not permit the elimination of a director's or officer's liability: (i) in connection with a proceeding by or in the right of the corporation in which the director was adjudged liable to the corporation; and (ii) in connection with any other proceeding charging improper financial benefit to the director, whether or not involving action in the director's official capacity, in which the director was adjudged liable on the basis that financial benefit was improperly received by the director.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling Amtech pursuant to the foregoing provision, Amtech has been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

DESCRIPTION OF DEBT SECURITIES

This section describes the general terms and provisions of our debt securities that we may issue from time to time. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any future debt securities we may offer under this prospectus, the applicable prospectus supplement or free writing prospectus will describe the specific terms of any debt securities offered through that prospectus supplement or free writing prospectus. The terms of any debt securities we offer under a prospectus supplement or free writing prospectus may differ from the terms we describe below. Unless the context requires otherwise, whenever we refer to the "indentures," we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue any senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture that we will enter into with the trustee named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement, of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The indentures will be qualified under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"). We use the term "trustee" to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplement or free writing prospectus and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete applicable indenture that contains the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

General

We will describe in the applicable prospectus supplement or free writing prospectus the terms of the series of debt securities being offered, including as applicable:

- the title;
- the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;

- whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depository will be;
- the maturity date;
- whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- the terms of the subordination of any series of subordinated debt;
- the place where payments will be payable;
- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, the conditions upon which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- whether the indenture will restrict our ability or the ability of our subsidiaries to:
    - incur additional indebtedness;
    - issue additional securities;
    - create liens;
    - pay dividends or make distributions in respect of our capital stock or the capital stock of our subsidiaries;
    - redeem capital stock;
    - place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;
    - make investments or other restricted payments;
    - sell or otherwise dispose of assets;
    - enter into sale-leaseback transactions;
    - engage in transactions with shareholders or affiliates;
    - issue or sell stock of our subsidiaries;
    - effect a consolidation or merger;

- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;
- a discussion of certain material or special United States ("U.S.") federal income tax considerations applicable to the debt securities;
- information describing any book-entry features;
- provisions for a sinking fund purchase or other analogous fund, if any;
- the applicability of the provisions in the indenture on discharge;
- whether the debt securities are to be offered at a price such that they will be deemed to be offered at an "original issue discount" as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;
- the denominations in which we will issue the series of debt securities, if other than denominations of $1,000 and any integral multiple thereof;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement or free writing prospectus the terms on which a series of debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third-party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third-party) that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for other securities of ours or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended;
- if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise, and the time for payment has not been extended;

- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and

- if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement or free writing prospectus any additional events of default relating to the relevant series of debt securities.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the unpaid principal, premium, if any, and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity or security satisfactory to it against any loss, liability or expense. Subject to the terms of the indentures, the holders of a majority in 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, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and

- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

Subject to the terms of the indentures, a holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;

- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the trustee or security satisfactory to it against any loss, liability or expense or to be incurred in compliance with instituting the proceeding as trustee; and

- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities, or other defaults that may be specified in the applicable prospectus supplement or free writing prospectus.

We expect to periodically file statements with the trustee regarding our compliance with specified covenants in the indentures.

Modification of Indenture; Waiver

Subject to the terms of the indenture for any series of debt securities that we may issue, we and the trustee may change an indenture without the consent of any holders with respect to the following specific matters:

- to fix any ambiguity, defect or inconsistency in the indenture;
- to comply with the provisions described above under "Description of Debt Securities-Consolidation, Merger or Sale";
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under "Description of Debt Securities —General," to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment hereunder by a successor trustee;
- to provide for uncertificated debt securities and to make all appropriate changes for such purpose;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in the indenture; or
- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, subject to the terms of the indenture for any series of debt securities that we may issue or as otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the stated maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that, subject to the terms of the indenture and any limitation otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;

- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We plan to issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement or free writing prospectus, in denominations of $1,000 and any integral multiple thereof. We may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement or free writing prospectus with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement or free writing prospectus, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement or free writing prospectus, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement or free writing prospectus the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series. If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs.

Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement or free writing prospectus any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

We expect the indentures and the debt securities to be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Ranking of Debt Securities

The subordinated debt securities will be subordinate and junior in priority of payment to any of our other indebtedness to the extent described in a prospectus supplement or free writing prospectus. The subordinated indenture does not limit the amount of subordinated debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

The senior debt securities will rank equally in light of payment to any of our other senior unsecured debt. The senior indenture does not limit the amount of senior debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements or related free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement or related free writing prospectus. If we indicate in the prospectus supplement or related free writing prospectus, the terms of any warrants offered under that prospectus supplement or related free writing prospectus may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

General

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities. We plan to evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement or related free writing prospectus relating to a particular series of warrants.

We will describe in the applicable prospectus supplement or related free writing prospectus the terms of the series of warrants, including as applicable:

- the offering price, currency, and aggregate number of warrants offered;
- the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants; any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants; the periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

DESCRIPTION OF UNITS

We may issue units comprised of shares of common stock, shares of preferred stock, debt securities and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement and any related free writing prospectus. If so described in a particular supplement or related free writing prospectus, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement and any related free writing prospectus related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue 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 unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

The applicable prospectus supplement and any related free writing prospectus may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under "*Description of Capital Stock*," "*Description of Debt Securities*" and "*Description of Warrants*" will apply to the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements and any related free writing prospectuses. We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will be described in the applicable prospectus supplement and any related free writing prospectus.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement and any related free writing prospectus.

The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement and any related free writing prospectus:

Modification Without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder: (1) to cure any ambiguity in any provisions of the governing unit agreement that differ from those described below; (2) to correct or supplement any defective or inconsistent provision; or (3) to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect. We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

Modification With Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would: (1) impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or (2) reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval: (1) if the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or (2) if the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

Unit Agreements Will Not be Qualified Under Trust Indenture Act

No unit agreement will be qualified as an indenture, and no unit agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of units issued under unit agreements will not have the protections of the Trust Indenture Act with respect to their units.

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Form, Exchange and Transfer

We will issue each unit in global-i.e., book-entry-form only. Units in book-entry form will be represented by a global security registered in the name of a depositary, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depositary's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depositary and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement and any related free writing prospectus.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them:

- The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.
- Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.
- Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.
- If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement. Only the depositary will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement and any related free writing prospectus.

PLAN OF DISTRIBUTION

We may sell these securities directly to one or more investors. We may also sell these securities through agents designated from time to time or to or through underwriters or dealers. We may sell these securities through "at the market" offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise. The applicable prospectus supplement and any related free writing prospectus will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of any agents, underwriters or dealers;
- the purchase price of the securities being offered and the net proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- any discounts or concessions allowed or reallowed or paid to dealers; and
- any securities exchanges or markets on which such securities may be listed.

We may distribute the securities from time to time in one or more transactions at:

- a fixed price or prices, which may be changed from time to time;
- market prices prevailing at the time of sale;
- prices related to such prevailing market prices; or
- negotiated prices.

Agents

We may designate agents who agree to use their reasonable efforts to solicit purchases of our securities for the period of their appointment or to sell our securities on a continuing basis. We will name any agent involved in the offering and sale of securities and we will describe any fees or commissions we will pay the agent in the applicable prospectus supplement.

Underwriters

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. Subject to certain conditions, the underwriters will be obligated to purchase all the securities of the series offered if they purchase any of the securities of that series. We may change from time to time any public offering price and any discounts or concessions the underwriters allow or reallow or pay to dealers. We may use underwriters with whom we have a material relationship. We will name any underwriter involved in the offering and sale of securities, describe any discount or other compensation and describe the nature of any material relationship in any applicable prospectus supplement. Only underwriters we name in the prospectus supplement will be underwriters of the securities offered by that prospectus supplement.

We may have agreements with the agents and underwriters to indemnify them against specified civil liabilities related to offerings under this prospectus, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities.

Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act, and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation. We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities related to offerings under this prospectus, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Underwriters, dealers and agents may engage in transactions with or perform services for us in the ordinary course of their businesses.

Trading Markets and Listing of Securities

Unless otherwise specified in the applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is currently listed on the Nasdaq Global Select Market. We may elect to list or qualify for trading any other class or series of securities on any securities exchange or other market, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

At-the-Market Offerings

To the extent that we make sales through one or more underwriters or agents in at-the-market offerings, we will do so pursuant to the terms of a sales agency financing agreement or other at-the-market offering arrangement between us and the underwriters or agents. If we engage in at-the-market sales pursuant to any such agreement, we will issue and sell our securities through one or more underwriters or agents, which may act on an agency basis or a principal basis. During the term of any such agreement, we may sell securities on a daily basis in exchange transactions or otherwise as we agree with the underwriters or agents. Any such agreement will provide that any securities sold will be sold at prices related to the then prevailing market prices for our securities. Therefore, exact figures regarding proceeds that will be raised or commissions to be paid cannot be determined at this time. Pursuant to the terms of the agreement, we may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase blocks of our common stock or other securities. The terms of any such agreement will be set forth in more detail in the applicable prospectus supplement.

Stabilization Activities

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of these activities at any time.

Passive Market Making

Any underwriter who is a qualified market maker on the Nasdaq Stock Market may engage in passive market making transactions in securities listed on the Nasdaq Stock Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. A passive market maker must comply with applicable volume and price limitations and must be identified as a passive market maker. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security. If all independent bids are lowered below the passive market maker’s bid, however, the passive market maker’s bid must then be lowered when certain purchase limits are exceeded.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of any common stock, preferred stock, debt securities, warrants or units offered under this prospectus and any supplement hereto will be passed upon for us by DLA Piper LLP (US), Phoenix, Arizona.

EXPERTS

The consolidated financial statements of Amtech Systems, Inc. and subsidiaries as of September 30, 2025 and 2024, and for each of the two years in the period ended September 30, 2025, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

INFORMATION INCORPORATED BY REFERENCE

SEC rules permit us to incorporate information by reference into this prospectus and any applicable prospectus supplement. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus and any applicable prospectus supplement, except for information superseded by information contained in this prospectus or the applicable prospectus supplement itself or in any subsequently filed incorporated document. This prospectus and any applicable prospectus supplement incorporate by reference the documents set forth below that we have previously filed with the SEC, other than information in such documents that is deemed to be furnished and not filed. These documents contain important information about us and our business and financial condition. Any report or information within any of the documents referenced below that is furnished, but not filed, shall not be incorporated by reference into this prospectus.

- Our Annual Report on Form 10-K for the fiscal year ended September 30, 2025, filed with the SEC on December 10, 2025;
- Our Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2025, filed with the SEC on February 5, 2026;
- Our Current Reports on Form 8-K filed with the SEC on December 10, 2025, December 15, 2025, February 5, 2026, and March 6, 2026;
- Those portions of our Definitive Proxy Statement on Schedule 14A dated January 23, 2026, incorporated by reference in our Annual Report on Form 10-K for the year ended September 30, 2025; and
- The description of our common stock contained in our registration statement on Form 8-A, as filed with the SEC, including any amendments or reports for the purpose of updating such description.

All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, and any previously filed documents. All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering of any of the securities covered under this prospectus shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, the applicable prospectus supplement and any previously filed documents.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this prospectus or the applicable prospectus supplement shall be deemed to be modified or superseded for purposes of this prospectus and such applicable prospectus supplement to the extent that a statement contained in this prospectus or such applicable prospectus supplement, or in any other subsequently filed document which also is or is deemed to be incorporated by reference into this prospectus and such applicable prospectus supplement, modifies or supersedes

such earlier statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or such applicable prospectus supplement.

Documents incorporated by reference are available from us without charge, excluding all exhibits unless specifically incorporated by reference as an exhibit to this prospectus and the applicable prospectus supplement. Prospective investors may obtain documents incorporated by reference into this prospectus and the applicable prospectus supplement at no cost by requesting them in writing or by telephone from us at our executive offices at:

Amtech Systems, Inc.
58 South River Drive, Suite 370
Tempe, Arizona 85288
(480) 967-5146

WHERE YOU CAN FIND MORE INFORMATION

As permitted by SEC rules, this prospectus omits certain information that is included in the registration statement of which this prospectus forms a part and its exhibits. Since this prospectus may not contain all of the information that you may find important, we urge you to review the full text of these documents. If we have filed a contract, agreement or other document as an exhibit to the registration statement of which this prospectus forms a part, please read the exhibit for a more complete understanding of the document or matter involved. Each statement in this prospectus, including statements incorporated by reference as discussed above, regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

We are subject to the information reporting requirements of the Exchange Act and, in accordance with these requirements, we file annual, quarterly and current reports, proxy statements, information statements, and other information with the SEC. You may read and copy any materials we file with the SEC at the SEC's Public Reference Room located at 100 F Street, NE, Washington, D.C., 20549. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet site that contains these materials at www.sec.gov.

Amtech Systems, Inc.

Shares of Common Stock

PROSPECTUS SUPPLEMENT

Titan Partners

a division of American Capital Partners

, 2026