

UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended: September 30, 2023

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 0-11412



AMTECH SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Arizona  
(State or other jurisdiction of  
incorporation or organization)

131 South Clark Drive, Tempe, Arizona  
(Address of principal executive offices)

86-0411215  
(I.R.S. Employer  
Identification No.)

85288  
(Zip Code)

Registrant's telephone number, including area code: 480-967-5146

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	ASYS	NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, \$0.01 Par Value  
(Title of Class)

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes  No

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).  Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of March 31, 2023, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting and non-voting stock held by non-affiliates of the registrant was approximately \$108,523,062, based upon the closing sales price reported by the NASDAQ Global Market on that date.

As of December 1, 2023, the registrant had outstanding 14,190,977 shares of Common Stock, \$0.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Definitive Proxy Statement related to the registrant's 2024 Annual Meeting of Shareholders, which Proxy Statement will be filed under the Securities Exchange Act of 1934, as amended, within 120 days of the end of the registrant's fiscal year ended September 30, 2023, are incorporated by reference into Items 10-14 of Part III of this Form 10-K.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES

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## DEFINITIONS

Acronyms and defined terms used in the text include the following:

<b>Term</b>	<b>Meaning</b>
2007 Plan	The 2007 Employee Stock Incentive Plan
2022 Plan	Amtech Systems, Inc. 2022 Equity Incentive Plan
3D	Three dimensional
401(k) Plan	The Amtech Systems, Inc. 401(k) Plan
5G	Fifth generation of mobile communications
ACMI	Advanced Compound Materials, Inc.
ADAS	Advanced driver assistance systems
AI	Artificial intelligence
Amtech	Amtech Systems, Inc. and Subsidiaries
ASC	Accounting Standards Codification
Board	The Board of Directors of Amtech Systems, Inc.
Bruce Technologies	Bruce Technologies, Inc.
BTU	BTU International, Inc.
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CM	Contract manufacturer
CMP	Chemical Mechanical Polishing
Common Stock	Our common stock, par value \$0.01 per share
Company	Amtech Systems, Inc. and Subsidiaries
COSO	Committee of Sponsoring Organizations of the Treadway Commission
COVID-19	A novel coronavirus strain commonly referred to as “coronavirus”
DBC	Direct bond copper
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EMEA	Europe, Middle East and Asia
Entrepix	Entrepix, Inc.
EPS	Earnings (loss) per share
ERISA	Employee Retirement Income Security Act of 1974
EV	Electric vehicle
Exchange Act	Securities Exchange Act of 1934, as amended
FDIC	Federal Deposit Insurance Corporation
GAAP	Generally Accepted Accounting Principles in the United States
HEV	Hybrid electric vehicles
Intersurface Dynamics	Intersurface Dynamics, Inc.
ISO 9001:2015	International standard that specifies requirements for a quality management system
IoT	Internet of things
LED	Light-emitting diode
Loan Agreement	Loan and Security Agreement
MEMS	Microelectromechanical systems

mm	Millimeter
NIGPP	National Integrated Group Pension Plan and Trust Fund
Note __	Note __ to the consolidated financial statements
O-S-D	Optoelectronic Sensors & Discrete
OEM	original equipment manufacturer
OSATS	Outsourced Semiconductor Assembly and Test Services
our	Amtech Systems, Inc. and Subsidiaries
PCAOB	Public Company Accounting Oversight Board
Power Semiconductor	The fundamental component of modern power electronic circuitry. Power semiconductors perform the same tasks as regular semiconductors — only on a much larger scale. These high-performance components are capable of handling extremely high electrical currents, voltages, and frequencies. They are used in, but not limited to the following applications: electric vehicles, wireless communication, advanced control of electric drives, advanced computer systems, antennas, automobile sensors, broadband wireless, consumer and industrial electronics, and more. They form an indispensable part of electrical appliances, machines, and systems.
PR Hoffman	P.R. Hoffman Machine Products, Inc.
Proxy Statement	Amtech’s Proxy Statement to be filed with the SEC in connection with its 2024 Annual Meeting of Shareholders
PVA	Polyvinyl alcohol
R&D	Research and development
RD&E	Research, development and engineering
Registrant	Amtech Systems, Inc.
RF	Radio frequency
ROU	Right-of-use
RSU	Restricted stock unit
SEC	Securities and Exchange Commission
Securities Act	Securities Act of 1933, as amended
Semi	Semiconductor
SEO	Search engine optimization
SG&A	Selling, general and administrative expenses
SiC	Silicon carbide
SMT	Surface-mount technology
SSP	Standalone selling price
Subsidiaries	Subsidiaries of Amtech Systems, Inc. listed on Exhibit 21 hereto
TTV	Total thickness variation
UK	United Kingdom
us	Amtech Systems, Inc. and Subsidiaries
U.S.	The United States of America
USA PATRIOT act	The Uniting and Strengthening America by Providing Appropriate Tools to Restrict, Intercept, and Obstruct Terrorism Act of 2001
we	Amtech Systems, Inc. and Subsidiaries
xEV	Hybrid and electric vehicles

## Cautionary Note Regarding Forward-Looking Statements

Our discussion and analysis in this Annual Report on Form 10-K, our 2023 Annual Report to Shareholders, our other reports that we file with the SEC, our press releases and in public statements of our officers and corporate spokespersons contain “forward-looking” statements within the meaning of Section 27A of the Securities Act, Section 21E of the Exchange Act, and the Private Securities Litigation Reform Act of 1995. Forward-looking statements give our or our officers’ current expectations or forecasts of future events. 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 initiatives; difficulties in executing on our strategic initiatives with respect to our material and substrate business segment; our ability to effectively integrate our acquisition of Entrepix, Inc., which we acquired in January 2023; 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; business interruptions, and any future pandemic on our business operations, financial results and financial position; risks of future cybersecurity incidents; adverse developments affecting financial institutions, including bank failures; failure to comply with financial and other covenants under our credit agreement with UMB Bank; and other circumstances and risks identified in this Annual Report 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 Annual Report on Form 10-K 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.

The Company undertakes no obligation to update or publicly revise any forward-looking statement whether as a result of new information, future developments or otherwise after the date of this Annual Report on Form 10-K. All subsequent written or oral forward-looking statements attributable to the Company or persons acting on its behalf are expressly qualified in their entirety by this cautionary statement. You are advised, however, to consult any further disclosures we make on related subjects in our subsequently filed Form 10-Q and Form 8-K reports and our other filings with the SEC. Also note that we provide a cautionary discussion of risks, uncertainties and possibly inaccurate assumptions relevant to our business under “Item 1A. Risk Factors” of this Annual Report on Form 10-K. We note these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995. You should understand it is not possible to predict or identify all such factors.

Unless the context indicates otherwise, the terms “Amtech,” the “Company,” “we,” “us” and “our” refer to Amtech Systems, Inc., an Arizona corporation, together with its subsidiaries.

## PART I

### ITEM 1. BUSINESS

#### OUR COMPANY

We are a leading, global manufacturer of capital equipment, including thermal processing, wafer polishing and cleaning, and related consumables used in fabricating semiconductor devices, such as silicon carbide (SiC) and silicon power devices, analog and discrete devices, electronic assemblies, and light-emitting diodes (LEDs). We sell these products to semiconductor device and module manufacturers worldwide, particularly in Asia, North America and Europe. Our strategic focus is on semiconductor growth opportunities in power electronics, sensors and analog devices leveraging our strength in our core competencies in thermal and substrate processing. We are a market leader in the high-end power chip market (SiC substrates, 300mm horizontal thermal reactors, and electronic assemblies used in power, RF, and other advanced applications), developing, and supplying essential equipment and consumables used in the semiconductor industry.

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

Reportable Segment	% of 2023 Consolidated Net Revenue
Semiconductor	68 %
Material and Substrate	32 %

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

#### Semiconductor:

- Bruce Technologies, a Massachusetts corporation based in North Billerica, Massachusetts, acquired in July 2004; and
- BTU, a Delaware corporation based in North Billerica, Massachusetts, with operations in China, Malaysia and the UK, acquired in January 2015.

#### Material and Substrate:

- 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 (operations to begin in 2024);
- 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.

Our strategic focus in the semiconductor industry is the development of equipment for thermal processing and deposition for semiconductor manufacturing, specifically focusing on substrate, fabrication, packaging and surface-mount technology ("SMT"). The markets we serve are experiencing technological advances and are, historically, cyclical. Therefore, future profitability and growth depend on our ability to invest in, develop and/or acquire and market new technology products and on our ability to adapt to cyclical trends.

Integrated circuits, optoelectronic, sensor, and discrete (O-S-D) components, such as power chips, LEDs, and certain MEMS, are semiconductor devices fabricated on silicon and compound semiconductor wafer substrates, such as silicon carbide. Semiconductor chips are part of the circuitry of many products including inverters, onboard charging, computers, telecommunications devices, automotive electronics and sensors, consumer electronics, and industrial

automation and control systems. LEDs manufactured using our equipment are used in industrial, commercial and residential lighting. Our thermal processing and consumable products currently address the diffusion and deposition steps used in the fabrication of semiconductors, LEDs, MEMS and the polishing of newly sliced silicon and compound semiconductor wafers, as well as the packaging and assembly of the electronic components and assemblies. Our reflow ovens provide key thermal processing steps for both semiconductor packaging and electronics assembly. Key end-markets for these packages and assemblies include: electric vehicles and charging infrastructure, renewable energy, communications, automotive electronics and sensors, computing and networking, and consumer and industrial electronics.

Our Material and Substrate segment provides solutions to the lapping and polishing marketplace for SiC power chip applications, silicon, LED, optics, ceramics and photonics. Lapping and polishing are the processes of abrading components with a high degree of precision for flatness, parallelism, and surface finish. Common applications for this technology are silicon wafers for semiconductor products, compound substrates, like SiC wafers, for LED and power device applications, sapphire substrates for LED lighting and mobile devices, various glass and silica components for 3D image transmission, quartz and ceramic components for telecommunications devices, medical device components and optical and photonics applications.

We believe our product portfolio, developed through a track record of technological innovation as well as the successful 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. Our customers use our equipment to manufacture semiconductor chips, silicon and compound semiconductor wafers and MEMS, which are used in end markets such as telecommunications (5G), consumer and industrial electronics (IoT and embedded devices), computing (data centers), automotive electronics and sensors (xEV), and mobile devices (smart devices). To complement our research and development efforts, we also sell our equipment to, and coordinate certain development efforts with, research institutes, universities and customers.

The semiconductor industry is cyclical and historically has experienced significant fluctuations. Our revenue is impacted by these broad industry trends. We are currently in a longer-than-historical-average contraction cycle, which we believe is due primarily to a prolonged downturn in demand for personal computers and smartphones following a spike in demand for these products during the COVID pandemic.

For information regarding net revenue, operating income and identifiable assets attributable to each of our two reportable segments, see Note 16 of the Notes to Consolidated Financial Statements included in “Item 8. Financial Statements and Supplementary Data” and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this Annual Report. For information on the products of each reportable segment, see “Semiconductor Products” and “Material and Substrate Products” within this “Item 1. Business” section. For information regarding risks to our business, see “Item 1A. Risk Factors.”

Our fiscal year is from October 1 to September 30. Unless otherwise stated, references to the years 2023, 2022 and 2021 relate to the fiscal years ended September 30, 2023, 2022 and 2021, respectively.

## **ACQUISITIONS**

On January 17, 2023 we acquired 100% of the issued and outstanding capital stock of Entrepix, an Arizona based manufacturer of chemical mechanical polishing (“CMP”) technology for a cash purchase price of \$39.2 million. Entrepix’s CMP technology portfolio and water cleaning equipment complements our existing substrate polishing and wet process chemical offerings. Entrepix's results of operations are included in our Material and Substrate segment from the date of acquisition.

On March 3, 2021, we acquired 100% of the issued and outstanding capital stock of Intersurface Dynamics, a Connecticut-based manufacturer of substrate process chemicals used in various manufacturing processes, including semiconductors, silicon and compound semiconductor wafers, and optics, for a cash purchase price of \$5.3 million. Intersurface Dynamics' results of operations are included in our Material and Substrate segment from the date of acquisition.

## GROWTH AND INVESTMENT STRATEGY

We believe there are three key secular trends that are key to our future growth:

- **Advanced Mobility** - Advanced Mobility encompasses both the development and adoption of electric vehicles and charging infrastructure, including both EV and HEV, as well as advanced automotive electronics including Advanced Driver Assistance Systems ("ADAS"), infotainment and telematics. Our products intersect these markets in multiple ways: consumables and wafer cleaning systems for the SiC substrates used in the power modules; thermal processing systems for cooling modules and DBC substrate manufacturing; and reflow ovens for ADAS, infotainment and telematics component assemblies.
- **Supply Chain Resiliency** - There is a global trend of creating supply chain resiliency by expanding and/or relocating operations outside of mainland China. These factory openings will create demand for new equipment and services in growing regions like Mexico and Southeast Asia.
- **Artificial Intelligence** - With Artificial Intelligence ("AI"), our reflow oven systems are the favored choice for Outsourced Semiconductor Assembly and Test Services ("OSATS") providers who perform advanced packaging of the AI chips.

We continue to invest in research and development and introduced our next-generation reflow platform, Aurora, in 2023. Historically, we have grown our business primarily through acquisitions, including the businesses that currently comprise our two reportable segments in the Semiconductor and Material and Substrate industries: Bruce Technologies, BTU, PR Hoffman, Intersurface Dynamics and Entrepix. Our 2023 acquisition of Entrepix bolstered our offerings in the CMP technology space and incorporated wafer cleaning into our existing capital equipment product lines. While we continue to believe this inorganic growth strategy is the backbone of who Amtech is as a company, we also have a complimentary strategy of pursuing organic growth, particularly during times when we lacked sufficient capital resources to pursue growth through acquisitions. We intend to accomplish these parallel objectives through the pursuit of the following strategies:

**Grow consumables revenue to reduce vulnerability to semiconductor business cycles.** The semiconductor industry is highly cyclical, and the conditions of this industry remain volatile. We are currently in a longer-than-historical-average contraction cycle, which we believe is due to the capacity that was pulled in during COVID as demand for consumer electronics spiked during the pandemic. While all industry participants have been impacted by these fluctuations in demand, they can be particularly problematic for equipment suppliers who rely on capacity expansion for many orders. These sharp business cycles not only impact short-term financial results but can also weaken the strength of suppliers as they reduce their organizations to align with the reduced production demand. Our line of consumables products, including templates, carriers, polishing-related chemicals and spare parts, generates continuous revenue streams regardless of capacity expansions as they are used in equipment already in service. In an effort to minimize both the financial shortfalls and organizational harm of these business cycles, we are seeking to increase the consumables portion of our business. Our initial focus is on aggressively growing the consumable business in our Materials and Substrate division, which was approximately 19% of our consolidated revenue in fiscal 2023. In addition, we are working to transform the aftermarket sales business in our Semiconductor division, leveraging the strength of our expansive installed base to increase higher-margin sales of replacement parts and services.

**Increase the portion of our product line portfolio tied to high-growth, megatrend end markets such as EV.** We believe the opportunity for organic growth through strategic alignment to projects tied to megatrends is an opportunity that exists across all our divisions. In the Material and Substrate division, processing of SiC substrates is directly tied to the production of power modules used in electric vehicles and in other green technology applications such as wind and solar power. Our Semiconductor division has multiple intersections with EV production, including the use of our diffusion furnaces and surface-mount technology reflow products to manufacture power semiconductors and our high-temp furnaces used in DBC applications used in power modules. In order to increase the portion of our business



tied to these high-growth megatrends, we are employing multiple tactics and strategies, including strategic selling and customer-centric product development.

**Customer-centric product development in R&D.** In order to both increase the output of our development teams and mitigate the risk associated with the introduction of new products, we are emphasizing and prioritizing customer-centric product development in all of our divisions. For example, the development and roll out of the Aurora reflow system for BTU employed direct customer input in the manufacturing requirements, and the new systems were first deployed as beta units to customers in multiple regions for validation. In addition, development of equipment and aftermarket solutions at Entrepix has focused on eliminating customer pain points, often in areas overlooked by the industry. In 2023, we added a key customer-facing resource for Entrepix to enable this type of customer collaboration in the EMEA region with a Europe-based business development manager. In evaluating the potential R&D projects in our portfolio, opportunities where a strong customer partner or partners exist will be given priority over internally-driven programs.

**Enhance and invest in legacy business operations.** Our legacy business is key to funding both organic and inorganic growth opportunities across our divisions. Throughout 2023, we have been re-enforcing Amtech's core values, purpose and methods across all divisions and locations, including an emphasis on continuous improvement and problem-solving. We have increased cross-divisional sharing of resources and expertise, such as best practices and global sourcing. This strategy has been developed by our CEO and CFO, in conjunction with our Vice President of Operations, Vice President of Sales and Customer Service, Segment Managers and Corporate Director of Strategic Marketing, to ensure these advancements are implemented uniformly across all Amtech operations. Additionally, we have made capacity investments at several of our locations and expect to make future investments upon the expiration of the two-year leaseback of our Massachusetts facility (see Note 7). We are also evaluating our management information systems and needs in order to allow for greater efficiencies and to ensure our infrastructure can support our future growth plans. During fiscal 2024, we intend to focus on further investments to strengthen and expand our manufacturing capacity, including evaluating back-up and alternative manufacturing sites as well as contract manufacturing, to meet anticipated growth demands from the SiC industry segment, and to both increase our efficiency and reduce single-point failure risks to our business.

## SEMICONDUCTOR AND MATERIAL AND SUBSTRATE OPERATIONS

We provide diffusion and reflow thermal systems as well as wafer cleaning equipment, polishing consumables and related services to leading semiconductor manufacturers. Our products include horizontal diffusion furnaces used to produce semiconductors, such as analog, sensors, and discrete devices, and MEMS, as well as wafer cleaning systems, double-sided lapping and polishing carriers, single side polishing templates and CMP services.

As demand for increasingly sophisticated electronic devices continues, new technologies such as EVs, AI, advanced power management, advances in consumer electronics, 5G communications, and IoT will help drive future growth. Electronic equipment continues to become more complex, yet end users demand smaller, lighter and less expensive devices. This trend, in turn, requires increased performance and reduced cost for electronic assemblies, printed circuit boards and semiconductors. In response to these developments, manufacturers are increasingly employing more sophisticated production and assembly techniques requiring more advanced manufacturing equipment and related consumables.

Although the semiconductor market has experienced significant growth over the past fifteen years, it remains cyclical by nature. The market is characterized by short-term periods of under or over utilization of capacity for most semiconductors, including microprocessors, memory, power management chips and other logic devices. When capacity utilization decreases due to the addition of excess capacity, semiconductor manufacturers typically slow their purchasing of capital equipment. Conversely, when capacity utilization increases, so does capital spending. We believe the continued expansion of our consumable and aftermarket product offerings, primarily in our Material and Substrate segment, will enable us to partially offset some of these cyclical effects.

## SEMICONDUCTOR PRODUCTS

Our furnace equipment is manufactured in our facilities in Massachusetts and China and via contract manufacturers in Canada and Mexico. The following paragraphs describe the products that comprise our current product lines in our semiconductor business:

**Continuous Thermal Processing Systems.** We produce and sell thermal processing systems used in the solder reflow and curing stages of printed circuit board assembly as well as systems for the thermal processes used in advanced semiconductor packaging. Our printed circuit board assembly products are used primarily in the advanced, high-density segments of the market that utilize surface mount technology.

Flip-chip reflow provides the physical and electronic bond of the semiconductor device to its package. Our range of convection reflow systems, utilizing patented closed loop convection technology, are rated at up to 400°C and operate in air or nitrogen atmospheres. These products are manufactured at our ISO 9001:2015 certified facility in Shanghai, China and utilize forced impingement convection technology to transfer heat to the substrate. Using configurable heating elements of up to eight kilowatts, they can process substrates in dual-lane, dual-speed configurations, thereby enabling our customers to double production without increasing the machine's footprint. These products are available in four models based on the heated lengths of thermal processing chambers. Heated length is based on the customer's required production rate and loading requirements.

**High-Temperature Belt Furnace.** We also produce and sell high-temperature belt furnaces, which have been manufactured in Massachusetts for over six decades with ISO 9001:2015 quality certification safe-guarding that each unit is subject to exacting build and test criteria. These furnaces operate at temperatures up to 1180°C and are capable of processing in controlled atmospheres, such as nitrogen, argon, and hydrogen. Applications include DBC, furnace brazing, annealing, glass-to-metal sealing, sintering, and heat-treating for diverse markets including automotive, semiconductors, aerospace and medical.

**Horizontal Diffusion Furnaces.** We produce and sell 200mm and 300mm horizontal diffusion and deposition furnaces. Our horizontal furnaces currently address several steps in the semiconductor manufacturing process, including diffusion, high temperature oxidation (used in silicon power chips), and annealing.

Our horizontal furnaces generally consist of three large modules: the load station, where the loading of the wafers occurs; the furnace section, which is comprised of one to four thermal reactor chambers; and the gas distribution cabinet, where the flow of gases into the reactor chambers is controlled and is often configured through a range of options to meet the requirements of our customers' particular process needs. The horizontal furnaces utilize a combination of existing industry and proprietary technologies and are sold primarily to semiconductor customers. Our products are capable of processing all currently existing wafer sizes.

## FUTURE SEMICONDUCTOR PRODUCT

The following paragraph describes a product currently in the final stages of development that we expect to begin offering to customers during fiscal year 2024 as part of our Semiconductor product lines:

**Reflow.** We have begun a project to eventually replace the current Pyramax reflow product with a next-generation platform. This updated platform will address areas of the market not currently served by the Pyramax line and provide existing customers with additional enhancements and capabilities. This next-generation platform, Aurora, was launched in mid-2023 with full production commencing in early 2024.

## MATERIAL AND SUBSTRATE PRODUCTS

Our Material and Substrate segment manufactures the products described below in Arizona, Pennsylvania and Connecticut and sells them under our Entrepix, PR Hoffman and Intersurface Dynamics brand names, respectively. Our South Carolina facility will begin production in 2024.

**Double-Sided Wafer Cleaning System.** The Entrepix Double-Sided Wafer Cleaning System (OnTrak) is a single wafer cleaner that uses water or mild chemistries supplied through PVA brushes to clean both sides of a substrate simultaneously. These wafers (substrates) require cleaning following various process steps that leave the substrate contaminated by material particles. The system is designed to accept wet wafers in and send each substrate through two brush cleaning steps followed by a rinse and a spin dry while also providing heat via a high-powered lamp to dry any residual liquid droplets. The Entrepix cleaner is commonly used in post polishing steps, prime silicon/silicon carbide cleaning, epitaxial silicon deposition processes, and general wafer cleaning needs.

**Entegrity Head Tester.** The Entrepix Entegrity Head Tester is a table-top CMP head testing system that provides our customers with invaluable data regarding their head consumables that make up the polishing heads. The system allows users to customize operation and recipe programming. This allows the user to test individual zones for leaks or cross talk and track each head's performance by generating data that can be used to track issues with head rebuild before it is installed on the polisher. The Entegrity's user friendly touch interface displays data in real time, and also provides a live graph of the individual zone's performance. The ability to scan each head barcode prior to testing allows the user to create a data set for each specific head that can be viewed on the screen or downloaded via network connection.

**Substrate Carriers.** We manufacture carriers in a variety of sizes and materials. Sizes range from 3 to 38 inches in diameter using a variety of special steels, laminates and extruded polymer raw materials. Silicon wafers, compound semiconductor wafers, and large optics require these special insert carriers. These carriers combine the strength of hardened steel as the processing backbone with a softer plastic material in the work holes known as an insert. Inserts are permanently molded into the work holes via a pressurized process. These inserted work holes provide smoother processing, improved wafer total thickness variation (TTV) and improved wafer edge quality. Insert carriers are available for all wafer sizes from 75mm to 450mm and can be made from hardened and tempered carbon steel or specialized stainless steel when metal contamination is a processing concern. Insert carriers are widely accepted as the industry solution for both prime wafer and reclaim wafer manufacturers when dual sided lapping or polishing are utilized in the front-end wafer process.

**Substrate Polishing Templates.** Our polishing templates are used to securely hold SiC, silicon, sapphire or other wafer materials in place during single-sided wax-free polishing processes. Polishing templates are customized for specific applications and are manufactured to extremely tight tolerances. We offer a variety of options to provide the best solution for each specific process. Polishing templates are manufactured for all brands of tools and virtually any wax-free customer process. Critical front-end wafer surface specifications are finalized during the polishing process.

**Double-Sided Lapping and Polishing Machines.** We decided to discontinue the manufacturing of our legacy double-sided lapping and polishing machines. PR Hoffman will divert these resources to focus on the core consumable business product lines. Subsequent parts and service for these legacy systems will be transferred to our Entrepix division. Our largest double-sided polishing machine is currently under evaluation, including additional testing and documentation.

**Single-Sided Polisher.** We developed a new single-side batch polisher to specifically to address the challenges in polishing compound semiconductor substrates, such as silicon carbide. This system is also under evaluation, including additional testing and documentation.

**Substrate Process Chemicals.** Through Intersurface Dynamics, we produce and sell substrate process chemicals which are used to achieve specific surface morphologies on a variety of materials. Our substrate process chemical customers include some of the world's largest manufacturers of semiconductor devices, silicon wafers, precision optics, ophthalmic lens, advanced displays and flat glass. We offer three different product lines: Tensor Series Products, Vector Series Products, and Challenge Series Products. Tensor Series Products are used by manufacturers of integrated circuits in applications such as cleaning, etching, dicing and CMP. Vector Series Products were designed specifically for grinding, sawing, lapping, cleaning, etching and polishing semiconductor materials such as silicon wafers. Challenge Series Products address similar processes for manufacturers of precision optics, technical ceramics and advanced displays helping to achieve optimum yields.

## MANUFACTURING, RAW MATERIALS AND SUPPLY CHAIN

Our semiconductor manufacturing activities consist primarily of engineering design to meet specific and evolving customer needs and procurement and assembly of various commercial and proprietary components into finished thermal processing systems in Massachusetts and China or via our contract manufacturing partners in Canada and Mexico.

Our manufacturing activities in the polishing business include laser-cutting and other fabrication steps in producing lapping and polishing consumables, including carriers, templates, gears, wear items and spare parts in our ISO 9001:2015 certified facility in Pennsylvania, from raw materials manufactured to our specifications by our suppliers. These products are engineered and designed for specific applications and to meet the increasingly tight tolerances required by our customers. Many items, such as proprietary components for our semiconductor equipment, are purchased from suppliers who manufacture these items to our specifications.

Our cleaner manufacturing activities include electrical and mechanical assembly of components and assemblies for the construction of two versions of our double-side scrubbers/cleaners at our Phoenix facility. These components and assemblies are engineered and designed for specific applications and to meet the increasingly tight tolerances required by our customers. Many items are purchased from suppliers who manufacture these items to our specifications. We also utilize our second manufacturing center in north Phoenix to manufacture and machine parts from raw materials, for our own use in construction of the cleaners as well as for customers.

Final assembly and tests of our machines are performed within our manufacturing facilities. Quality control is maintained through inspection of incoming materials and components, in-process inspection during equipment assembly, testing of assemblies and final inspection and, when practical, operation of manufactured equipment prior to shipment.

Our polishing supplies business relies on key suppliers for certain materials, including specialized steel mills in Germany and Japan, an injection molding machine, a single-sourced pad supplier from Japan and an adhesive manufacturer. Injection molding for our insert carriers is subcontracted out to a third party. To minimize the risk of production and service interruptions and/or shortages of key parts, we seek to maintain appropriate inventory levels of key raw materials and parts. In addition, in order to respond to the anticipated growth rates for SiC substrate manufacturing and to provide our customers with assurance for business continuity and risk mitigation, we have opened a new manufacturing facility for SiC related polishing consumables in Spartanburg, South Carolina. This facility, run by our ACMI subsidiary, not only provides additional manufacturing capacity, but it also brings us geographically closer to key customers in the region allowing for even faster response times.

Beginning in 2019 and throughout 2023, we experienced increased lead-times for various parts and services across both our reportable segments. In response to these increased lead-times, we have increased the amount of on-hand inventory and purchase order commitments related to long lead-time items. We also increased on-hand inventory of certain parts as part of a strategy to mitigate supply chain risk. In late fiscal 2023, lead times and supply chain disruptions began to normalize. Despite these strategic increases, there can be no assurance that we will have enough inventory on-hand at the time we receive orders and that we will not incur delays in production time. Additionally, we may order items prior to receiving a customer order, which could result in increased inventory reserve expenses.

During 2023, we partnered with contract manufacturers ("CM") to improve our lead times and diversify our manufacturing operations. One CM is located in Canada and is building our high temperature belt furnaces. By partnering with this CM, we achieved record shipments of our high temperature belt furnaces in the fourth quarter of fiscal 2023. We also have partnered with a CM in Mexico, who will build our Pyramax furnaces and ship to our North American and European customers. We expect the first shipments from our Mexican CM to occur in the first half of fiscal 2024. We also are using a CM partner as well as our Shanghai factory as backup sources to manufacture key components for certain high temperature belt furnaces. This CM strategy is key to ensuring we are not concentrated in one geographic location and to give us additional capacity during peak semiconductor cycles.

## **CUSTOMERS AND SEASONALITY**

Our customers are primarily manufacturers of semiconductor substrates, devices and electronic assemblies. Additionally, our Material and Substrate segment also serves customers in the ceramics and optics industries. During 2023, 52% of our net revenue came from customers outside of North America. This group represented 64% of revenues in 2022. In 2023, net revenue was distributed among customers in different geographic regions as follows:

- North/South America 48% (39% of which is in the United States)
- Asia 31% (including 14% in China, 5% in Taiwan and 6% in Malaysia)
- Europe 21% (including 5% in Czech Republic, 4% in Austria and 2% in Germany)

One Semiconductor customer accounted for 11% of our net revenues in 2023. In 2022, two Semiconductor customers accounted for 14% and 12% of our net revenues.

Our business is not seasonal in nature, but is cyclical based on the capital equipment investment patterns of semiconductor manufacturers. These expenditure patterns are based on many factors, including capacity utilization, anticipated demand, the development of new technologies and global and regional economic conditions. Historically, these cycles typically last between 10-17 quarters, with each complete cycle made up of a contraction phase of about 4-6 quarters, followed by an expansion phase of approximately 6-11 quarters. We are currently in a longer-than-historical-average contraction cycle, which we believe is due primarily to a prolonged downturn in demand for personal computers and smartphones following a spike in demand for these products during the COVID pandemic.

## **SALES AND MARKETING**

Due to the highly technical nature of our products, we market our products primarily by direct customer contact through our sales personnel and through a network of domestic and international independent sales representatives and distributors that specialize in semiconductor equipment and supplies. Our promotional activities include direct sales contacts, participation in trade shows, advertising and press releases in trade magazines and digital marketing including website SEO and pay-per-click advertising.

We use a mix of direct sales, representatives and distributors globally. Manufacturer representatives provide sales coverage in specific geographic regions and are paid a commission when products are sold. Sales to distributors are generally on terms comparable to sales to end-user customers, as our distributors generally quote their customers after first obtaining a quote from us and have an order from the end-user before placing an order with us. Our sales to distributors are not contingent on their future sales and do not include a general right of return. Historically, returns have been rare. Distributors of our semiconductor equipment do not stock a significant amount of our products, as the inventory they hold is generally limited to parts needed to provide timely repairs to customers. Our manufacturer representatives and distributors are closely managed by our global sales team.

Historically, each of our segments have been responsible for their own sales and marketing activities, including managing sales personnel and representative and distributor relationships, however, as we continue to refocus and grow our organization, we are developing opportunities for increased collaboration and teamwork across our divisions. These cross-segment collaboration opportunities will continue to be a focus at all levels and departments of our organization, as we believe they can lead to greater efficiencies while reducing operating costs. These efforts are further coordinated by our Vice President of Sales and Customer Service, who oversees all sales and marketing activities at each division.

## **RESEARCH, DEVELOPMENT AND ENGINEERING**

The markets we serve are characterized by rapidly-evolving industry standards and technological change. To compete effectively, we must continually maintain or exceed the pace of such change by improving our products and our process technologies and by developing new technologies and products that are competitive based on price and performance. To assure that these technologies and products address current and future customer requirements, we obtain as much customer cooperation and input as possible, thus increasing the efficiency and effectiveness of our

research and development efforts. In addition, we look for strategic acquisitions that will provide us with new technologies to compete effectively in the markets in which we operate.

RD&E expenses may vary from period to period depending on the engineering projects in process. Expenses related to engineers working on strategic projects or sustaining engineering projects are recorded in RD&E. However, from time to time we add functionality to our products or develop new products during engineering and manufacturing to fulfill specifications in a customer's order, in which case the cost of development, along with other costs of the order, are charged to cost of goods sold.

In 2023, 2022 and 2021, we recorded RD&E expense of \$7.3 million, \$6.4 million and \$6.0 million, respectively. We plan to continue to develop new products and invest in upgrades to existing products to stay competitive in the markets we serve. In fiscal 2023, we introduced our next-generation reflow platform, Aurora, which provides updated options and longer configurations for our customers. We expect our RD&E investments in the future to focus on our consumables and other products in our Material and Substrate segment.

## COMPETITION

We compete in several distinct equipment markets for semiconductor devices, semiconductor substrates, MEMS, semiconductor packaging, and electronics assembly, as well as the markets for supplies used in power semiconductor applications. Each of these markets is highly competitive. Our ability to compete depends on our ability to continually improve our products, processes and services, as well as our ability to develop new products that meet constantly evolving customer requirements. Significant competitive factors for succeeding in these markets include the product's technical capability, productivity, cost-effectiveness, overall reliability, ease of use and maintenance, contamination and defect control and the level of technical service and support.

**The Semiconductor Market.** Our Semiconductor equipment primarily competes with equipment produced by other OEMs. Some of these manufacturers are well-established firms that are much larger and have substantially greater financial and other resources than we have with which to pursue development, engineering, manufacturing, marketing and distribution of products. Additionally, these manufacturers may generally be better situated to withstand adverse economic or market conditions.

Competitors of our horizontal diffusion furnaces include Centrotherm GmbH and CVD Equipment, Inc. Our principal competitors for printed circuit board assembly equipment and advanced semiconductor packaging vary by product application. The principal competitors for solder reflow systems are ITW/EAE Vitronics-Soltec, Heller, Folungwin, ERSAs, Shenzhen JT Automation Equipment Co., Ltd. and Rehm. The principal competitors for advanced semiconductor packaging are ITW/EAE Vitronics-Soltec and Heller. Our in-line, controlled atmosphere furnaces compete primarily against products offered by Centrotherm and SierraTherm/Schmid Thermal Systems. We also face competition from emerging low-cost Asian manufacturers and other established European manufacturers.

Although price is a factor in buying decisions, we believe that technological leadership, process capability, throughput, safer designs, uptime, mean time-to-repair, cost of ownership and after-sale support have become increasingly important factors to purchasers of our products. As such, we believe we compete primarily on the basis of these criteria, rather than on the basis of price alone.

**General Semiconductor Substrate Markets.** Our Material and Substrate segment experiences price competition for wafer carriers from foreign manufacturers for which there is very little publicly available information. As a result, we are intensifying our efforts to reduce the cost of our carriers and expect to compete with other manufacturers of carriers by continuing to update our product line to keep pace with the rapid changes in our customers' requirements and by providing a high level of quality and customer service. We produce steel carriers, including insert carriers, on advanced laser-cutting tools, which reduces our costs and lead times and increases our control over quality.

Entrepix competes with other cleaning equipment providers including Screen and TEL with the OnTrak double sided scrubber. The OnTrak is normally paired with a stand-alone CMP tool to match the throughput. The OnTrak competes with other cleaning technologies in several other applications like SiC substrate manufacturing and others that require particle removal from the surface of a device wafer.

Entrepix also competes with other companies specializing in refurbishment of older legacy CMP equipment. Competitors include Axus Technology and many other companies located in geographical regions such as China, South Korea and Taiwan. Entrepix's strategy consists of providing solutions for obsolete equipment for legacy 200mm and smaller wafer processing equipment where support has been discontinued by the OEM. In addition, Entrepix provides support for their customers various wafer production and R&D requirements in their class 1000 clean room foundry.

The competitive landscape in the substrate process chemical industry is varied, ranging from large multinational companies to small regional or regionally-focused companies. Intersurface Dynamics competes with much larger companies, such as Entegris, Inc. and Cabot.

## HUMAN CAPITAL

### *The Amtech Values*

Amtech is focused on growth: profitable company growth and employee growth. To encourage that growth, Amtech's Chief Executive Officer and Chief Financial Officer developed Amtech's core values, which are communicated to employees on a regular basis. These core values include the following:

- Safety – Safety is paramount to all of our operations.
- Customer Focus – Our customers' success determines our own.
- Continuous Improvement – Striving to better our performance in all areas.

### *Amtech's Employees*

Our employees are critical to our success as a leading, global manufacturer of capital equipment and related consumables used in fabricating semiconductor devices. To continue producing and delivering high-quality products and services to our customers, and to compete and succeed in the highly competitive and continually evolving markets in which we operate, it is critical that we continue to attract, retain and develop a diverse group of talented individuals at all levels of our organization.

Our management seeks to align employment levels with the needs of our business. As of September 30, 2023, we employed 405 people. We also employ individuals on a temporary full-time basis and use the services of contractors as necessary. Of our 405 total employees, 39% were engaged in manufacturing, 20% were engaged in sales and service, 11% were engaged in research, development and engineering, and 30% were engaged in other roles. Our employees were based out of the following locations:

- Tempe, Arizona corporate offices — 18
- Phoenix, Arizona manufacturing plants — 62
- Bethel, Connecticut manufacturing plant — 5
- North Billerica, Massachusetts manufacturing plant — 107
- Carlisle, Pennsylvania manufacturing plant — 50
- Shanghai, China manufacturing plant — 143
- Other Asia-Pacific offices — 12
- UK office — 8

Of the 50 people employed at our Carlisle, Pennsylvania facility, 25 were represented by the United Auto Workers Union - Local 1443. We have a three-year agreement with this union, which expires on September 30, 2025. We expect this agreement to be renewed prior to expiration. We have never experienced a work stoppage or strike, and other than employees at the Carlisle facility, no other employees are represented by a union. At select business units,

we have hired certain highly specialized employees under employment contracts that specify a term of employment, pay and other benefits. We consider our employee relations to be good.

#### *Talent Acquisition and Retention*

The future growth and success of our company largely depends on our ability to attract, train and retain qualified professionals. As part of our effort to do so, we offer competitive rewards, compensation and benefits, including an employee equity award program, performance-based bonuses, health and wellness benefits, retirement benefits, flexible schedules and holiday and paid time off. We understand that effective compensation and benefits programs are important in retaining high-performing and qualified individuals. In 2023, we hired a Chief Human Resources Officer, who will continue to assess our compensation plans and healthcare and retirement benefits in order to provide a competitive total compensation package to our employees.

We know that retention of high-performing employees benefits us and our customers. We are committed to helping our employees develop in their careers and thrive within the Company. Management provides regular performance reviews to ensure our employees are receiving timely and constructive feedback, as well as rewards based on their performance. These performance reviews also assess each employee's performance as it relates to Amtech's Values. We believe these programs and efforts contribute to attracting and retaining a talented and driven workforce.

#### *Turnover*

In 2023, our total employee turnover was 5.4%, of which approximately 70.8% was voluntary. Approximately 4.6% of voluntary turnover were employees that retired from the workforce. The average tenure of our employees is approximately 9 years and approximately 41.4% of our employees have been employed with us for more than 10 years. In 2022, our total employee turnover was 12.4%, of which approximately 71.1% was voluntary. Approximately 14.8% of voluntary turnover were employees that retired from the workforce.

In the first quarter of fiscal 2024, we began making targeted labor reductions as a result of the shift to contract manufacturing and the longer than expected slowdown in the broader semiconductor industry.

#### *Diversity, Equity, and Inclusion*

Amtech is dedicated to building a diverse workforce, fostering a culture built on the principle of inclusion, and maintaining a workplace free from discrimination. We strongly believe that a diversity of experience, perspectives and backgrounds will lead to a better environment for our employees and better products and service for our customers. Amtech's commitment to diversity covers our Board of Directors, our leadership team and all teams and functions across our global locations.

#### *Health and Safety*

It is our highest priority to keep our employees, customers and suppliers safe. We provide our employees with ongoing safety training to ensure safety policies and procedures are communicated and implemented in an effective and timely manner.



## PATENTS

The following table shows our material patents and the expiration date of each patent:

Product	Countries	Expiration Date or Pending Approval
Ultrafast gas bearing-based reactive ion etching	Europe	2030
Convection furnace thermal profile enhancement	United States	2023
Lapping machine adjustable mechanism	Various	2027
RFID-containing carriers used for silicon wafer quality	United States	2030
Polishing machine wafer holder	Various	2037
Devices, Systems and Methods for Flux Removal from Furnace Process Gas	Various	2038

To our knowledge, there are currently no pending lawsuits against us regarding infringement of any existing patents or other intellectual property rights or any material unresolved claims made by third parties that allege we are infringing the intellectual property rights of such third parties.

## AVAILABLE INFORMATION

We file our annual report on Form 10-K, quarterly reports on Form 10-Q, Current Reports on Form 8-K, proxy statements, and other documents (including registration statements) with the SEC under the Securities Exchange Act of 1934 or the Securities Act of 1933, as applicable. Our SEC filings are available to the public on the SEC's website at [www.sec.gov](http://www.sec.gov) and through The Nasdaq Global Select Market, 165 Broadway, New York, New York 10006, on which our common stock is listed.

## AMTECH WEBSITE

In addition to the information contained in this Report, extensive information about Amtech can be found at [www.amtechsystems.com](http://www.amtechsystems.com), including information about our management team, products and services, and corporate governance practices. The corporate governance information on our website includes our Code of Conduct, Corporate Governance guidelines and the charters for each of the committees of the Board. In addition, amendments to these documents and waivers granted to directors and executive officers under the Code of Conduct, if any, will be posted in this area of the website. In addition, our filings with the SEC, as well as Section 16 filings made by any of our executive officers or directors with respect to Amtech's common stock, are available free of charge on our website as soon as reasonably practicable after the filing is electronically filed with, or furnished to, the SEC.

These details about our website and its content are only for information. The contents of our website are not, nor shall they be deemed to be, incorporated by reference in this Report. Further, our references to website URLs are intended to be inactive textual references only.

## ITEM 1A. RISK FACTORS

*There are many factors that affect our business, financial condition, operating results and cash flows, as well as the market price for our securities. The following is a description of important factors that may cause our actual results of operations in future periods to differ materially from those currently expected or discussed in forward-looking statements set forth in this Report. The risks and uncertainties described below are not the only risks we face. We operate in a continually changing business environment. Additional risks and uncertainties not presently known to us or that we may currently deem immaterial also may impair our business operations. Forward-looking statements and such risks, uncertainties and other factors speak only as of the date of this Report, and we expressly disclaim any obligation or undertaking to update or revise any forward-looking statement contained herein, to reflect any change in our expectations with regard thereto, or any other change in events, conditions or circumstances on which any such statement is based, except to the extent otherwise required by law. The following risk factors should be read in conjunction with all the other information in this Annual Report on Form 10-K, including "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes.*

## Risks Related to the Semiconductor Industry

### *There is ongoing volatility in the semiconductor equipment industry.*

The semiconductor equipment industry is highly cyclical and volatile. As such, demand for, and the profitability of, our products can change significantly from period to period as a result of numerous factors, including the following: (a) changes in global and regional economic conditions; (b) the shift of semiconductor production to Asia, where there often is increased price competition; (c) tariffs, quotas and international trade barriers; (d) changes in capacity utilization and production volume of manufacturers of semiconductors, silicon wafers and MEMS; (e) the profitability and capital resources of those manufacturers; and (f) challenges associated with marketing and selling manufacturing equipment and services to a diverse and diffuse customer base.

The purchasing decisions of our customers are highly dependent on their capacity utilization, which changes when new facilities are put into production and with the level of demand for our products, as well as our customers' capital expenditure budgets. Purchasing decisions are also impacted by changes in the economies of the countries served by our customers, as well as the state of the worldwide industries in which we operate or expect to operate in the future. The timing, length, and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. Additionally, we generally experience a one-to-two quarter lag between upturns/downturns experienced by larger equipment manufacturers.

When cyclical fluctuations result in lower than expected revenue levels, our operating results are adversely affected. Cost reduction measures may be necessary for us to remain competitive and financially sound. During a down cycle, our operating results may be adversely affected if we are unable to make timely adjustments to our cost and expense structure to correspond to the prevailing market conditions, effectively manage our supply chain, and motivate and retain key employees. In addition, during periods of rapid growth, our operating results may be adversely affected if we are unable to increase manufacturing capacity and personnel to meet customer demand, which may require additional liquidity. We can provide no assurance that we can timely and effectively respond to the industry cycles, and our failure to do so could have a material adverse effect on our business.

### *The semiconductor equipment industry is highly competitive and, because we are relatively small and have fewer financial and other resources compared to our competitors, we may not be able to compete successfully with them.*

Our industry includes large manufacturers with substantial resources to support customers worldwide. Our future performance depends, in part, upon our ability to continue to compete successfully in these markets. Some of our competitors are diversified companies with extensive financial resources and research, engineering, manufacturing, marketing and customer service and support capabilities that are greater than ours. We face competition from companies whose strategy is to provide a broad array of products, some of which compete with the products and services we offer. These competitors may bundle their products in a manner that discourages customers from purchasing our products. In addition, we face competition from emerging semiconductor equipment companies whose strategy is to provide a portion of the products and services that we offer often at a lower price than ours and use innovative technology to sell products into specialized markets. We also face competition from Chinese equipment manufacturers that may receive greater support than we do from Chinese customers and governmental agencies because they are locally based. In addition, our local Chinese competitors may offer lower prices and more liberal payment terms than ours. Loss of our competitive position due to any of these factors could impair our prices, customer orders, revenue, gross margin, and market share, any of which would negatively affect our business, financial position and results of operations.

## Risks Related to Our Business

### *Our leverage may make it difficult for us to service our debt and operate our business.*

As of September 30, 2023, we had \$10.7 million of total indebtedness, consisting of \$10.6 million of borrowings under our Loan and Security Agreement ("Loan Agreement") with UMB Bank, N.A. ("UMB Bank" or "Lender"). Our leverage could have important consequences, including: (a) making it more difficult to satisfy our obligations with respect to our various debt and liabilities; (b) requiring us to dedicate a substantial portion of our cash flow from operations to debt payments, thus reducing the availability of cash flow to fund internal growth through working

capital and capital expenditures for general corporate purposes; (c) increasing our vulnerability to a downturn in our business or adverse economic or industry conditions; (d) placing us at a competitive disadvantage compared to our competitors that have less debt in relation to cash flow and that, therefore, may be able to take advantage of opportunities that our leverage would prevent us from pursuing; (e) limiting our flexibility in planning for or reacting to changes in our business and industry; (f) restricting us from pursuing strategic acquisitions or exploiting certain business opportunities or causing us to make non-strategic divestitures; (g) requiring additional monitoring, reporting and borrowing base requirements under our Loan Agreement if borrowings significantly increase or if certain liquidity thresholds are not satisfied; and (h) limiting our ability to borrow additional funds or raise equity capital in the future and increasing the costs of such additional financings.

At September 30, 2023, we were not in compliance with the Debt to EBITDA and Fixed Charge Coverage Ratio financial covenants under our Loan Agreement. On December 5, 2023, we entered into a Forbearance & Modification Agreement (the "Forbearance Agreement") with UMB Bank related to such non-compliance, pursuant to which UMB Bank agreed to forbear from exercising its rights and remedies available to it as a result of such defaults. We will be operating under the terms of such Forbearance Agreement through January 17, 2025 (the "Forbearance Period").

Our ability to comply with terms of the Loan Agreement and the Forbearance Agreement, as well as meet our debt service obligations or to refinance our debt depends on our future operating and financial performance, which will be affected by our ability to successfully implement our business strategy as well as general economic, financial, competitive, regulatory and other factors beyond our control. If our business does not generate sufficient cash flow from operations, or if future borrowings are not available to us in an amount sufficient to enable us to pay our indebtedness or to fund our other liquidity needs, we may need to refinance all or a portion of our indebtedness on or before its maturity, sell assets, reduce or delay capital investments or seek to raise additional capital, any of which could have a material adverse effect on our operations. In addition, we may not be able to affect any of these actions, if necessary, on commercially reasonable terms or at all. Any refinancing of our debt could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. The terms of our existing or future debt instruments may limit or prevent us from taking any of these actions. If we are unable to comply with the terms of the Forbearance Agreement or otherwise default on the payments required under the terms of certain of our indebtedness, that indebtedness, together with debt incurred pursuant to other debt agreements or instruments that contain cross-default or cross-acceleration provisions, may become payable on demand, and we may not have sufficient funds to repay all our debts. As a result, our inability to generate sufficient cash flow to satisfy our debt service obligations, or to refinance or restructure our obligations on commercially reasonable terms or at all, would have an adverse effect, which could be material, on our business, financial condition and results of operations, as well as on our ability to satisfy our debt obligations.

***We are subject to and may, in the future become subject to, covenants that limit our operating and financial flexibility and, if we default under our debt covenants, we may not be able to meet our payment obligations.***

Our Loan Agreement, as well as any instruments that govern any future debt obligations, contains covenants that impose significant restrictions on our and our restricted subsidiaries' ability to operate, including restrictions on the ability to: (a) incur or guarantee additional indebtedness; (b) create or incur liens; (c) make loans, acquisitions or other investments; (d) engage in mergers or consolidations; (e) transfer or dispose of assets; (f) make certain payments, including dividends or other distributions, with respect to our equity securities; (g) engage in transactions with affiliates; (h) enter into any unconditional obligation for the purchase of materials, supplies or other property; (i) cancel any material claim or debt owing to us; (j) enter into any agreement containing any provision inconsistent with the covenants contained in the Loan Agreement; (k) establish any new deposit accounts or other bank accounts; (l) engage in business activities that are materially different from existing business activities; and (m) amend our organizational documents. Although these limitations are subject to exceptions and qualifications, these covenants could limit our ability to finance future operations and capital needs and our ability to pursue acquisitions and other business activities that may be in our interest.

At September 30, 2023, we were also required to comply with certain financial covenants such that, as of the end of each fiscal quarter, beginning March 31, 2023, we must maintain (i) a ratio of consolidated debt to consolidated EBITDA (as defined in the Loan Agreement) for such fiscal quarter, of not greater than 1.50 to 1.00, through December 31, 2024, based on a building four quarters (as described in the Loan Agreement), and then 1.00 to 1.00 each fiscal quarter thereafter (the "Debt to EBITDA Ratio"), (ii) a ratio of (a) the total for such fiscal quarter of

EBITDAR (as defined in the Loan Agreement) minus the sum of all income taxes paid in cash plus cash dividends/distributions plus maintenance Capital Expenditures (as defined in the Loan Agreement) plus management fees paid in cash, to (b) the sum for such fiscal quarter of (1) Interest Charges (as defined in the Loan Agreement) plus (2) required payments of principal on Debt (as defined in the Loan Agreement) (including the Term Loan, but excluding the Revolver) plus (3) operating lease/rent expense, of not less than 1.30 to 1.00 based on a building four quarters (as described in the Loan Agreement) (the "Fixed Charge Coverage Ratio Covenant"), and (iii) a consolidated working capital of current assets (excluding related party receivables and prepaid expenses) minus current liabilities of at least \$35.0 million. See Note 20 to our Consolidated Financial Statements included elsewhere herein for a discussion of our failure to be in compliance with the Debt to EBITDA and Fixed Charge Coverage Ratio covenants at September 30, 2023, amendments to the Loan Agreement entered into in December 2023 pursuant to the Forbearance Agreement (discussed below), and related changes to the above financial covenants.

Our ability to comply with these covenants and restrictions may be affected by events beyond our control. These include prevailing economic, financial and industry conditions. If we default on our obligations under our Loan Agreement, then the lender could elect to declare the debt, together with accrued and unpaid interest and other fees, if any, immediately due and payable and proceed against any collateral securing that debt. If such debt were accelerated, our assets may be insufficient to repay in full such indebtedness. Any of the foregoing could have serious consequences to our financial position, results of operations or cash flows and could cause us to become bankrupt or insolvent.

***We may not be able to obtain waivers of potential defaults in the future from our lender if we do not meet future requirements associated with our Forbearance and Modification Agreement***

At September 30, 2023, we were not in compliance with the Debt to EBITDA and Fixed Charge Coverage Ratio financial covenants discussed above. On December 5, 2023, we entered into a Forbearance and Modification Agreement (the "Forbearance Agreement") with UMB Bank related to such non-compliance, pursuant to which UMB Bank agreed to forbear from exercising its rights and remedies available to it as a result of such defaults and will be operating under the terms of such Forbearance Agreement through January 17, 2025. We cannot provide any assurance that UMB Bank will extend the terms of the Forbearance Agreement or provide us with a waiver should we not be in compliance in the future. A failure to maintain compliance with the terms of the Forbearance Agreement along with UMB Bank not agreeing to a waiver for the non-compliance would cause the outstanding borrowings to be in default and payable on demand which would have a material adverse effect on us and our financial position, results of operations, and cash flows.

***We may not be able to generate sufficient cash flows or obtain access to external financing necessary to fund existing operations and our growth plan.***

Our cash flows may be insufficient to provide adequate working capital in the future and we may require additional financing to fund existing operations as well as our growth plan. There is no assurance that any additional financing will be available if required, or, even if available, that it would not materially dilute the ownership percentage of our then existing shareholders, result in increased expenses or result in covenants or special rights that would restrict our operations.

***We may not be able to manage our business successfully through severe business cycles.***

We may be unable to successfully expand or contract our business to meet fluctuating demands. Market fluctuations place significant strain on our management, personnel, systems, and resources. To successfully manage our growth through such market fluctuations, we believe we must effectively: (a) maintain the appropriate number and mix of permanent, part-time, temporary and contract employees to meet the fluctuating demand for our products; (b) train, integrate and manage personnel, particularly process engineers, field service engineers, sales and marketing personnel, and financial and information technology personnel to maintain and improve skills and morale; (c) retain key management and augment our management team, particularly if we lose key members; (d) continue to enhance our customer resource and manufacturing management systems to maintain high levels of customer satisfaction and efficiencies, including inventory control; (e) implement and improve existing and new administrative, financial and

operations systems, procedures and controls; (f) expand and upgrade our technological capabilities; and (g) manage multiple relationships with our customers, suppliers and other third parties.

We may encounter difficulties in effectively managing the budgeting, forecasting and other process control issues presented by rapidly changing business cycles. If we are unable to effectively manage our business through these cycles, we may not be able to take advantage of market opportunities, develop new technologies and other products, satisfy customer requirements, execute our business plan or respond to competitive pressures.

***Our inability to attract, train and retain effective employees and management could harm our business.***

Our success depends upon the continued contributions of our executive officers and certain other employees, many of whom have many years of experience with us and would be extremely difficult to replace. We must also attract and retain experienced and highly skilled engineering, sales and marketing and managerial personnel. Competition for qualified personnel is intense in our industry, and we may not be successful in hiring and retaining these people. If we lost the services of our executive officers or our other highly qualified and experienced employees or cannot attract and retain other qualified personnel, our business could suffer as a result of less effective management due to loss of accumulated knowledge of our business or through less successful products due to a reduced ability to design, manufacture and market our products.

***We may be unable to successfully acquire and integrate new operations, which could cause our business to suffer.***

We continually evaluate potential acquisitions and consider acquisitions an important part of our future growth strategy. In the past, we have made acquisitions of, or significant investments in, other businesses with synergistic products, services and technologies and plan to continue to do so in the future. There can be no assurance that we will be able to identify suitable acquisition opportunities in the future or that we will be able to consummate any such transactions on terms and conditions acceptable to us.

Additionally, we cannot predict if or when acquisitions will be completed, and we may face significant competition for acquisition targets. Acquisitions involve numerous risks, including: (a) difficulties in integrating the operations, technologies, management information systems, products and personnel of the acquired companies; (b) diversion of management's attention from normal daily operations of the business; (c) loss of key employees; (d) difficulties in entering markets in which we have no or limited prior experience and where our competitors in such markets have stronger market positions; (e) difficulties in complying with regulations, such as antitrust and environmental regulations, and managing risks related to an acquired business; (f) an inability to timely obtain financing, including any amendments required to our existing financing agreement; (g) an inability to implement uniform standards, controls, procedures and policies; (h) undiscovered and unknown problems, defects, liabilities or other issues related to any acquisition that become known to us only after the acquisition; and (i) loss of key customers or suppliers. Any of these risks could have a material adverse effect on our business, results of operations, financial condition, or cash flows, particularly in the case of a large acquisition.

***Our reliance on sales to a few major customers, often on credit terms, places us at financial risk.***

We currently sell to a relatively small number of customers and expect to do so for the foreseeable future. Therefore, our operating results depend on the ability of these customers to sell products that require our equipment in their manufacturing operations. Many of our customer relationships have developed over a short period of time and certain ones are in the early stages of development. The loss of sales to any of these customers would have a significant negative impact on our business. Additionally, our customers may cancel their agreements or orders with us if we fail to meet certain product specifications, materially breach agreements or encounter insolvency or bankruptcy. Any such cancellations may result in inventory that we may not be able to quickly resell. They also may seek to renegotiate the terms of current agreements or renewals. We cannot be certain our existing customers will generate significant revenue for us in the future or that these new customer relationships will be maintained or continue to develop. If we are unable to maintain or expand our customer base, we may not be able to maintain or increase our revenue.

In addition to having a relatively limited number of customers, we manufacture a limited number of products for each of our customers. If we lose any of our largest customers (as we have in the past from time to time), experience a

significant reduction in sales to any such customers or no longer manufacture a particular product line for one of our largest customers, we will experience a significant reduction in our revenue.

As of September 30, 2023, two Semiconductor customers each individually represented 17% of our accounts receivable. A concentration of our receivables from one or a small number of customers places us at risk. A significant change in the liquidity or financial position of any of our customers that purchase large systems could have a material impact on the collectability of our accounts receivable and our future operating results. We attempt to manage this credit risk by requiring significant partial payments prior to shipment, where appropriate, and by actively monitoring collections. We also require letters of credit from certain customers depending on the size of the order, type of customer or its creditworthiness and its country of domicile. Our major customers may seek and, on occasion, may receive pricing, payment or other commercial terms that are less favorable to us than the current terms we customarily obtain. If any one or more of our major customers were to seek to re-negotiate their agreements on more favorable terms, or not pay us or continue business with us, it could adversely affect our business, financial position and results of operations.

***Manufacturing interruptions or delays could affect our ability to meet customer demand and lead to higher costs.***

Our business depends on timely supply of equipment, services and related products that meet the rapidly changing technical and volume requirements of our customers. Some key parts to our products are subject to long lead times and/or are obtainable only from a single supplier or limited group of suppliers. Cyclical industry conditions and the volatility of demand for manufacturing equipment increase capital, technical, operational and other risks for us and for companies throughout our supply chain. Further, these conditions may cause some suppliers to scale back operations, exit businesses, merge with other companies, file for bankruptcy protection or possibly cease operations. We also may experience significant interruptions of our manufacturing operations, delays in our ability to deliver products or services or increased costs as a result of any of the following: (a) the failure or inability of suppliers to deliver sufficient quantities of quality parts on a cost-effective and timely basis; (b) volatility in the availability and cost of materials, including rare earth elements; (c) difficulties or delays in obtaining required import or export approvals; (d) information technology or infrastructure failures; and (e) natural disasters or other events beyond our control (such as earthquakes, floods or storms, regional economic downturns, pandemics, social unrest, political instability, terrorism, or acts of war), particularly where we conduct manufacturing operations.

We use third parties for certain of our manufacturing activities. If our contract manufacturers do not perform effectively, we may not be able to achieve the expected cost savings and may incur additional costs to correct errors or fulfill customer demand. Depending on the function involved, such errors may also lead to business disruption, processing inefficiencies, the loss of or damage to intellectual property through security breach, or an impact on employee morale. Our operations may also be negatively impacted if any of these contract manufacturers do not have the financial capability to meet our growing needs.

There are also inherent execution risks in starting up a new factory or expanding production capacity, whether one of our own factories or that of our contract manufacturers, as well as risks to moving production to different contract manufacturers, which could increase costs and reduce our operating results. In the fourth quarter of fiscal 2023, we opened a new SiC consumables facility in Spartanburg, South Carolina to complement our manufacturing facility in Carlisle, Pennsylvania. We are also working with contract manufacturing facilities in Canada and Mexico. The establishment and operation of new manufacturing facilities or contract manufacturing involves significant risks and challenges, some of which we have experienced and may experience in the future, including, but not limited to, the following: (a) design and construction delays and cost overruns; (b) issues in installing and qualifying new equipment and ramping production; (c) poor production process yields and reduced quality control; and (d) insufficient personnel with requisite expertise and experience to operate a manufacturing facility for the products we manufacture.

***Because we depend on revenue from international customers, our business may be adversely affected by changes in the economies and policies of the countries or regions in which we do business.***

In 2023, 52% of our net revenue came from customers outside of North America as follows: Asia - 31% (including China - 14%, Taiwan - 5% and Malaysia - 6%); and Europe - 21% (including Czech Republic - 5%, Austria - 4% and Germany - 2%).

Each geographic region in which we, our customers, and our suppliers operate exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Our business and results of operations could be negatively affected by periodic local or international economic downturns, trade balance issues and political, social and military instability in countries such as China, Russia, India, South Korea, Taiwan, Ukraine and possibly elsewhere. In addition, we face competition from a number of suppliers based in Asia that have certain advantages over suppliers from outside of Asia. These advantages include lower operating, shipping and regulatory costs, proximity to customers, favorable tariffs and other government policies that favor local suppliers. Additionally, the marketing and sale of our products to international markets expose us to a number of risks, including the following: (a) increased costs associated with maintaining the ability to understand the local markets and follow their trends and customs, as well as developing and maintaining an effective marketing and distributing presence; (b) limitations on our ability to require advance payments from our customers; (c) difficulty in providing customer service and support in local markets; (d) difficulty in staffing and managing overseas operations; (e) longer sales cycles and collection periods; (f) fewer or weaker legal protections for our intellectual property rights; (g) failure to develop appropriate risk management and internal control structures tailored to overseas operations; (h) difficulty and costs relating to compliance with the different or changing commercial and legal requirements of our overseas markets; (i) fluctuations in foreign currency exchange and interest rates; (j) failure to obtain or maintain certifications for our products or services in these markets; and (k) international trade barriers such as export requirements, tariffs, taxes and other restrictions and expenses.

***Our business may be adversely affected by significant exchange rate fluctuations.***

Though our business has not been materially affected in the past by currency fluctuations, there is a risk that it may be materially adversely affected in the future. Such risk includes possible losses due to currency exchange rate fluctuations, future prohibitions against repatriation of earnings, or proceeds from disposition of investments.

***We are exposed to risks associated with an uncertain global economy.***

Uncertain global economic conditions and slowing growth in China, Europe and the United States, along with difficulties in the financial markets, national debt concerns and government austerity measures in certain regions, pose challenges to the industries in which we operate. Related factors, including unemployment, inflation and fuel prices, exacerbate negative trends in business and consumer spending and may cause our customers to delay, cancel, or refrain from placing orders for equipment or services. These actions may, in turn, reduce our net sales, reduce backlog, and negatively affect our ability to convert backlog to sales. Uncertain market conditions, difficulties in obtaining capital, or reduced profitability also may cause some customers to scale back operations, exit businesses, merge with other manufacturers, or file for bankruptcy protection and potentially cease operations, which can result in lower sales and/or additional inventory or bad debt expense for us. These conditions may similarly affect key suppliers, impairing their ability to deliver parts and potentially causing delays or added costs for delivery of our products. In addition, these conditions may lead to strategic alliances by, or consolidation of, other equipment manufacturers, which could adversely affect our ability to compete effectively. Uncertainty about future economic and industry conditions also makes it more challenging for us to forecast our operating results, make business decisions, and identify and prioritize the risks that may affect our businesses, sources and uses of cash, financial condition and results of operations. We may be required to implement additional cost reduction efforts, including restructuring activities, and/or modify our business model, which may adversely affect our ability to capitalize on opportunities in a market recovery. If we do not timely and appropriately adapt to changes resulting from these uncertain macroeconomic and industry conditions, or to difficulties in the financial markets, our business, financial condition and results of operations may be materially and adversely affected.

***If we fail to maintain optimal inventory levels, our inventory obsolescence costs could increase, our liquidity could be significantly reduced, or our revenue could decrease.***

While we must maintain sufficient inventory levels to operate our business successfully, meet our customers' demands, and mitigate the possible impact of supply chain issues, accumulating excess inventory may have a significant unfavorable impact on our operating results and financial condition. Changing customer demands, supplier lead times and uncertainty surrounding new product launches expose us to risks associated with excess inventory or shortages. Our products are manufactured using a wide variety of purchased parts and raw materials and we must maintain sufficient inventory levels to meet the demand for the products we sell, which can change rapidly and

unexpectedly. During peak years of our business, increases in demand for capital equipment result in longer lead times for many important system components. Future increases in demand could cause delays in meeting the shipment requirements or expectations of our customers. Because of the variability and uniqueness of customer orders, we try to avoid maintaining an extensive inventory of materials for manufacturing. However, long lead times for important system components during industry upturns sometimes require us to carry higher levels of inventory and make larger purchase commitments than we otherwise would make. We may be unable to sell sufficient quantities of products if market demand changes, resulting in increased risk of excess inventory that could lead to obsolescence or reduced liquidity as we fulfill our purchase commitments. Conversely, if we do not have a sufficient inventory of a product to fulfill customer orders, we may lose orders or customers, which may adversely affect our business, financial condition and results of operations. We may not be able to accurately predict market demand to avoid inventory shortages or build inventories and issue purchase commitments in excess of our current requirements.

***Supplier capacity constraints, supplier production disruptions, supplier quality issues or price increases could increase our operating costs and adversely impact the competitive positions of our products.***

We use numerous suppliers covering a wide range of materials and services in the production of our products including custom electronic and mechanical components. Key vendors include suppliers of controllers, quartz and silicon carbide for our diffusion systems, steel mills capable of producing the types of steel to the tolerances needed for our wafer carriers, an injection molding machine that molds plastic inserts into our steel carriers, an adhesive manufacturer that supplies the critical glue and a pad supplier that produces a unique material used in the manufacture of our polishing templates. We also rely on third parties for certain machined parts, steel frames and metal panels and other components used particularly in the assembly of our production equipment. Although we strive to ensure that parts are available from multiple suppliers, we procure some key parts from a single supplier or a limited number of suppliers. Thus, at times, certain parts may not be available in sufficient quantities, or on a timely and cost-efficient basis, to adequately meet our needs and the needs of our customers.

In the event of supplier capacity constraints, production disruptions, or failure to meet our requirements concerning quality, cost or performance factors, we may seek to transfer our business to alternative sourcing which could lead to further delays, additional costs or other difficulties. If, in the future, we do not receive, in a timely and cost-effective manner, a sufficient quantity and quality of parts to meet our production requirements, our business, financial position and results of operations may be materially and adversely affected.

***Our income taxes are subject to variables beyond our control.***

Our net income and cash flow may be adversely affected by conditions affecting income taxes which are outside our control. Examples of the potential uncontrollable circumstances that could affect our tax rate are as follows:

- We sell and operate globally in the United States, Europe and Asia. Disagreement could occur on the jurisdiction of income and taxation among different governmental tax authorities. Potential areas of dispute may include transfer pricing, intercompany charges and intercompany balances.
- We are subject to a Chinese withholding tax on certain non-tangible charges made under our transfer pricing agreements. The interpretation of what charges are subject to the tax and when the liability for the tax occurs has varied and could change in the future.
- Tax rates may increase, or new tax rates may be implemented (i.e., a global minimum rate), and, therefore, have a material adverse effect on our earnings and cash flows.

***Natural disasters, outbreaks of infectious diseases, terrorist attacks, wars and threats of war may negatively impact our operations, revenue, costs, and stock price.***

Natural disasters such as earthquakes, floods, severe weather conditions, outbreaks of infectious diseases in addition to COVID-19 or other catastrophic events may severely affect our operations or those of our suppliers and customers. Acts of terrorism, as well as events occurring in response or connection to them, including potential future terrorist attacks, rumors or threats of war, actual military conflicts or trade disruptions impacting our domestic or foreign customers or suppliers, may negatively impact our operations by causing, among other things, delays, or losses in the delivery of supplies or finished goods and decreased sales of our products. More generally, any of these events could cause consumer confidence and spending to decrease and/or result in increased volatility in the worldwide financial



markets and economy. They also could result in economic recession either globally or in the markets in which we operate. Any of these occurrences could have a significant adverse impact on our business, financial position and results of operations.

***We maintain cash deposits in excess of federally insured limits. Adverse developments affecting financial institutions, including bank failures, could adversely affect our liquidity and financial performance.***

We maintain domestic cash deposits in Federal Deposit Insurance Corporation (“FDIC”) insured banks that exceed the FDIC insurance limits. We also maintain cash deposits in foreign banks where we operate, some of which are not insured or are only partially insured by the FDIC or similar agencies. Bank failures, events involving limited liquidity, defaults, non-performance, or other adverse developments that affect financial institutions, or concerns or rumors about such events, may lead to liquidity constraints. The failure of a bank, or other adverse conditions in the financial or credit markets impacting financial institutions at which we maintain balances, could adversely impact our liquidity and financial performance. There can be no assurance that our deposits in excess of the FDIC or other comparable insurance limits will be backstopped by the U.S. or applicable foreign government, or that any bank or financial institution with which we do business will be able to obtain needed liquidity from other banks, government institutions, or by acquisition in the event of a failure or liquidity crisis.

***We have identified material weaknesses in our internal control over financial reporting which, if not remediated, could result in material misstatements in our financial statements.***

During the fourth quarter ended September 30, 2023, we identified a material weakness in internal control related to ineffective information technology general controls in the areas of user access, segregation of duties, and program change-management over information technology systems that support substantially all of the Company’s financial reporting processes. This resulted in our inability to segregate user duties within the Company’s business processes. A substantial portion of the Company’s controls are dependent upon the information derived from the information technology systems and therefore the dependent controls were concluded to be ineffective. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual consolidated financial statements will not be prevented or detected on a timely basis.

Additionally, in the fourth quarter ended September 30, 2023, we identified a material weakness because we did not design and maintain adequate internal controls over non-routine and complex transactions, including the preparation and review of the third-party service provider valuation reports in the areas of goodwill and intangible assets.

Our management, under the oversight of our Audit Committee, has begun evaluating and implementing measures designed to remediate the control deficiencies contributing to these material weaknesses. The material weaknesses will not be remediated until all necessary internal controls have been implemented, tested and determined to be operating effectively. In addition, we may need to take additional measures to address the material weaknesses or modify the planned remediation steps, and we cannot be certain that the measures we have taken, and expect to take, to improve our internal controls will be sufficient to address the issues identified, to ensure that our internal controls are effective or to ensure that the identified material weaknesses will not result in a material misstatement of our annual consolidated financial statements. Moreover, we cannot assure you that we will not identify additional material weaknesses in our internal control over financial reporting in the future. If we are unable to remediate the material weaknesses, our ability to record, process and report financial information accurately, and to prepare financial statements with the time periods specified by the rules and forms of the Securities and Exchange Commission, could be adversely affected. This failure could negatively affect the market price and trading liquidity of our common stock, cause investors to lose confidence in our reported financial information, subject us to civil and criminal investigations and penalties and generally materially and adversely impact our business and financial condition.

## Risks Related to Regulations and Litigation

*We are subject to various laws and regulations, including recent pronouncements related to laws and regulations governing climate related disclosures, cybersecurity, privacy, anti-corruption and the environment. Obligations and liabilities under these laws and regulations may materially harm our business.*

Our operations are subject to an array of governmental regulations in each of the jurisdictions in which we operate, including taxation policies, governance and audit requirements, employment and labor laws, environmental regulations, transportation regulations, import and export regulations and tariffs, possible foreign exchange restrictions and international monetary fluctuations. Noncompliance with applicable regulations, implementation of new regulations or modifications to existing regulations may increase costs of compliance, require a termination of certain activities or otherwise materially adversely affect our business, results of operations and financial condition.

**Recent Pronouncements** - Recent pronouncements by the SEC, Federal Trade Commission, Department of Justice, and from the state of California, among others, related to antitrust, climate related disclosures, cybersecurity and privacy could have the impact of increasing Company compliance costs, increasing potential liability to the Company as a result of frivolous lawsuits, or place the Company in a position of not knowing when or if the laws are settled in a particular area in order for the Company to effectively comply.

**Anti-Corruption Laws and Regulations** - We are a U.S.-based multinational company with extensive operations in Asia and elsewhere. We operate in several high-risk jurisdictions, including, but not limited to China. Various U.S. and certain non-U.S. anti-corruption/anti-bribery and other international trade laws and regulations apply to us and our businesses. These laws and regulations may include, among others, the Foreign Corrupt Practices Act of 1977, as amended, the U.S. Travel Act, domestic anti-corruption laws such as 18 U.S.C. §201, the Money Laundering Control Act of 1986, the USA PATRIOT Act, the U.S. Export Control Reform Act of 2018, the U.S. Export Administration Regulations (15 C.F.R. §§730 et seq.), U.S. sanctions contained in 31 C.F.R. Parts 500-599, the U.S. International Emergency Economic Powers Act, the U.S. Trading with the Enemy Act, the International Boycott Provisions (Section 999) of the U.S. Internal Revenue Code, the UK Bribery Act 2010, the UK Proceeds of Crime Act 2002, and certain other anti-corruption, anti-bribery, anti-kickback, anti-fraud, anti-money laundering, anti-terrorist financing, anti-narcotics, anti-boycott, export control, sanctions, embargo, import control, customs, tax, insider trading, insurance, banking, false claims, anti-racketeering, and other laws, regulations, decrees, government or executive orders, or judicial or administrative decisions or determinations to the extent applicable.

These laws and regulations are interpreted very broadly and will impact and raise legal compliance risks for our business in the various jurisdictions where we operate. Violations of any of these laws and regulations may result in substantial civil and/or criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

Anti-corruption/anti-bribery and the other laws and regulations referenced above are actively enforced by U.S. and other government agencies. Among various matters, anti-corruption/anti-bribery laws prohibit our companies, subsidiaries, directors, officers, employees, and business partners, as well as third parties acting for or on our behalf, from authorizing, promising, offering, providing, soliciting, or accepting, whether directly or indirectly, improper payments or anything else of value to or from recipients in the public or private sector. We may engage vendors and third-party business partners to sell our products or services and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated organizations. These activities raise our anti-corruption/anti-bribery risk exposure. We can be held liable for the corrupt or other illegal activities of our officers, directors, employees, and business partners, as well as the conduct of third parties acting for or on our behalf, even if we do not explicitly authorize or have actual knowledge of their misconduct. The application of these laws to us also may place us at a competitive disadvantage to foreign companies that are not subject to similar laws/regulations.

**Environmental Laws and Regulations** - We are subject to a variety of national, state, regional and local environmental laws and regulations. Among other things, these laws and regulations impose limitations and prohibitions on the discharge and emission of, and establish standards for the use, disposal and management of, regulated materials and waste and impose liabilities for the costs of investigating and cleaning up, and damages resulting from, present and past spills, disposals or other releases of hazardous substances or materials. In the ordinary

course of business, we use and generate substances that are regulated or may be hazardous under environmental laws. We have an inherent risk of liability under environmental laws and regulations, both with respect to ongoing operations and with respect to contamination that may have occurred in the past on our properties or as a result of our operations. While we endeavor to comply with all regulatory requirements, from time to time, our operations or conditions on properties that we have acquired have resulted in liabilities under these environmental laws. We may in the future incur material costs to comply with environmental laws or sustain material liabilities from claims concerning noncompliance or contamination. Under certain environmental laws, we could be held responsible for all the costs relating to any contamination at, or migration to or from, our or our predecessors' past or present facilities. These laws often impose liability even if the owner, operator or lessor did not know of, or was not responsible for, the release of such hazardous substances. While we maintain certain related insurance coverages, we have no reserves for any such liabilities.

We are also required to obtain environmental permits from governmental authorities for certain of our operations. If we violate or fail to obtain or comply with these laws, regulations, or permits, we could be fined or otherwise sanctioned by regulators. We could also become liable if employees or other parties are improperly exposed to hazardous materials.

We cannot predict what environmental legislation or regulations will be enacted in the future, how existing or future laws or regulations will be administered or interpreted, or what environmental conditions may be found to exist at our facilities or at third party sites for which we may be liable. Enactment of stricter laws or regulations, stricter interpretations of existing laws and regulations or the requirement to undertake the investigation or remediation of currently unknown environmental contamination at sites we own or third-party sites may require us to make additional expenditures, some of which could be material. Responding to governmental investigations or other actions may be both time-consuming and disruptive to our operations and could divert the attention of our management and key personnel from our business operations. The impact of these and other investigations and lawsuits could have a material adverse effect on our financial statements.

***The United States could withdraw from or materially modify certain international trade agreements, or change tariff, trade, or tax provisions related to the global manufacturing and sales of our products in ways that we currently cannot predict.***

A portion of our business activities are conducted in foreign countries, including China, Malaysia and Taiwan. Our business benefits from free trade agreements, and we also rely on various U.S. corporate tax provisions related to international commerce as we build, market and sell our products globally. Changes in U.S. or international social, political, regulatory and economic conditions could impact our business, reputation, financial condition and results of operations. Political and economic instability, geopolitical conflicts, political unrest, civil strife, terrorist activity, acts of war, public corruption, expropriation, nationalism and other economic or political uncertainties in the United States or internationally could interrupt and negatively affect the sale of our products or other business operations. Any negative sentiment toward the United States as a result of any such changes could also adversely affect our business. In addition, changes in laws and policies governing foreign trade, manufacturing, development and investment in the territories or countries where we currently sell our products or conduct our business could adversely affect our business. U.S. presidential administrations have instituted or proposed changes in trade policies that include the negotiation or termination of trade agreements, the imposition of higher tariffs on imports into the U.S., economic sanctions on individuals, corporations or countries, and other government regulations affecting trade between the U.S. and other countries where we conduct our business. It may be time-consuming and expensive for us to alter our business operations to adapt to or comply with any such changes. Changes or proposed changes in U.S. or other countries' trade policies may result in restrictions and economic disincentives on international trade. Tariffs and other changes in U.S. trade policy have in the past and could in the future trigger retaliatory actions by affected countries, and certain foreign governments have instituted or are considering imposing retaliatory measures on certain U.S. goods. Further, any emerging protectionist or nationalist trends either in the United States or in other countries could affect the trade environment. Amtech, like many other multinational corporations, does a significant amount of business that would be impacted by changes to the trade policies of the United States and foreign countries (including governmental action related to tariffs, international trade agreements, or economic sanctions). Such changes have the potential to adversely impact the U.S. economy or certain sectors thereof or the economy of another country in which we conduct operations, our industry and the global demand for our products, and as a result, could have a material adverse effect on our business, financial condition and results of operations. We are continuing to evaluate the impact of the announced and other proposed tariffs on products that we import from China, and we may experience a material

increase in the cost of our products, which may result in our products becoming less attractive relative to products offered by our competitors.

These developments, or the perception that any of them could occur, may have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global trade and, in particular, trade between the impacted nations and the United States. Any of these factors, or any changes to U.S. corporate tax policies related to international commerce, could depress economic activity and have a material adverse effect on our business, financial condition and results of operations.

***We are subject to expanded export control restrictions recently adopted by the U.S. Department of Commerce's Bureau of Industry and Security that could negatively impact our business in China.***

The United States and certain other countries in which we do business maintain government controls that may restrict our ability to import or export our products and services or increase the cost of our operations through the imposition of tariffs, new controls, outright bans, or otherwise, that could harm our business and negatively impact our financial position and results of operations. For example, the U.S. Department of Commerce has added numerous China-based entities to the U.S. Entity List, including many entities active in the semiconductor industry in China, restricting our ability to provide products and services to such entities without an export license. Even if we apply for licenses to sell our products or provide services to companies on the U.S. Entity List, there can be no assurance that licenses will be granted. In addition, the U.S. Department of Commerce has imposed new export licensing requirements on exports to China-based customers engaged in development or production in China of advanced semiconductors and supercomputers, military end uses, support for military end users, or where Commerce has determined there is a risk of diversion to a military end use, as well as requiring our customers to obtain export licenses when they use certain semiconductor capital equipment based on U.S. technology to manufacture products connected to certain entities on the U.S. Entity List. The U.S. Department of Commerce has also imposed restrictions on the activities of U.S. persons supporting or facilitating transactions with projects in China for the development or production of advanced semiconductors and supercomputers. To date, these new rules have not significantly impacted our operations, but we are continually monitoring their impact. If additional companies are added to the U.S. Entity List, or other licensing requirements or restrictions are imposed, thereby limiting our ability to sell our products or services to other customers in China, our business could be significantly harmed. Similar actions by the U.S. government or another country could impact our ability to provide our products and services to existing and potential customers.

***We face a risk of product liability claims or other litigation, which could be expensive and may divert management's attention from running our business.***

Amtech and our subsidiaries are defendants from time to time in actions for matters arising out of our business operations. The manufacture and sale of our products, which, in our customers' operations, involve toxic materials and robotic machinery, involve the risk of product liability claims. In addition, a failure of one of our products at a customer site could interrupt the business operations of our customer. Our existing insurance coverage limits may not be adequate to protect us from all liabilities that we might incur in connection with the manufacture and sale of our products if a successful product liability claim or series of product liability claims were brought against us. As of September 30, 2023 and 2022, our accrued warranty costs amounted to \$1.0 million and \$0.9 million, respectively. Our assumptions regarding the durability and reliability of our products may not be accurate, and because our products have relatively long warranty periods, we cannot assure you that the amount of accrued warranty by us for our products will be adequate considering the actual performance of our products or that we won't experience higher than expected warranty claims. If we experience a significant increase in warranty claims, we may incur significant repair and replacement costs associated with such claims. Furthermore, widespread product underperformances or failures will damage our reputation and customer relationships and may cause our sales to decline, which in turn could have a material adverse effect on our business, financial condition and results of operations.

We also may be involved in other legal proceedings or claims and experience threats of legal action from time to time in the ordinary course of our business. For example, securities class action litigation is often brought against companies following periods of volatility in the market price of its securities or in connection with strategic transactions. We may in the future be the target of securities litigation due to volatility in the market price of our common stock or for other reasons. Any securities litigation could result in substantial costs and could divert the attention and resources of our management.

Where appropriate, we intend to vigorously defend all claims. However, any actual or threatened claims, even if not meritorious or material, could result in the expenditure of significant financial and managerial resources. The continued defense of these claims and other types of lawsuits could divert management's attention away from running our business. In addition, amounts required to be paid in settlement of any claims, and the legal fees and other costs associated with their defense or settlement, cannot be estimated and could, individually or in the aggregate, materially harm our financial condition.

#### **Risks Related to Our Research and Development and Intellectual Property Activities**

*We may not be able to keep pace with the rapid change in the technology needed to meet customer requirements.*

Success in the semiconductor equipment industry depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. For example, the semiconductor industry continues to shrink the size of semiconductor devices. This trend and other evolving customer needs require us to continually respond with new product developments. Technical innovations are inherently complex and require long development cycles and appropriate professional staffing. Our future success depends on our ability to develop and introduce new products, or new uses for existing products, that successfully address changing customer needs and gain market acceptance. We also must manufacture these new products in a timely and cost-effective manner. To realize future growth through technical innovations in the semiconductor industry, we must acquire the technology through product development, merger and acquisition activity or through the licensing of products from our technology partners. Potential disruptive technologies could have a material adverse effect on our business if we do not successfully develop and introduce new products, technologies or uses for existing products in a timely manner and continually find ways of reducing the cost to produce them in response to changing market conditions or customer requirements.

*Our research and development investments may not result in timely new products that can be sold at favorable prices and obtain market acceptance.*

The rapid change in technology in our industry requires that we continue to make investments in research and development to enhance the performance, functionality and cost of ownership of our products to keep pace with competitors' products and to satisfy customer demands for improved performance, features and functionality. We cannot provide assurance that revenue from future products or enhancements will be sufficient to recover the development costs associated with such products or enhancements, or that we will be able to secure the financial resources necessary to fund future development. Research and development costs are typically incurred before we confirm the technical feasibility and commercial viability of a product, and not all development activities result in commercially viable products. No assurance can be given that any new products or enhancements we develop will gain market acceptance, or that we will be able to sell these products at prices that are favorable to us, or at all. If we do not successfully manage our investments in research and development, our business, financial condition and results of operations could be materially and adversely affected.

*Third parties may violate our proprietary rights, in which we have made significant investments, resulting in a loss of value of some of our intellectual property or costly litigation.*

Our success is dependent in part on our technology and other proprietary rights. We own various U.S. and international patents and have additional pending patent applications relating to some of our products and technologies. Protecting and defending our patents domestically, and especially internationally, is costly. In addition, the process of seeking patent protection is lengthy and expensive. Therefore, we cannot be certain that pending or future applications will result in issued patents, or that issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies that are similar or superior to our technology or design around the patents we own or license. In addition, the patent for the technology that we license and use in our manufacture of insert carriers has expired, which, along with the other risks related to our patents described above, may have the effect of diminishing or eliminating any competitive advantage we may have with respect to our manufacturing process.

We also maintain trademarks on certain of our products and claim copyright protection for certain proprietary software and documentation. We can give no assurance, however, that our trademarks and copyrights will be upheld or will successfully deter infringement by third parties.

We attempt to protect our trade secrets and other proprietary information through confidentiality agreements with our customers, suppliers, employees and consultants and through other security measures. We also maintain exclusive and non-exclusive licenses with third parties for the technology used in certain products. However, these employees, consultants and third parties may breach these agreements, and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories, such as China, in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

***We may face intellectual property infringement claims that could be time-consuming and costly to defend and could result in our loss of significant rights and the assessment of treble damages.***

From time to time, we have received communications from other parties asserting the existence of patent rights or other intellectual property rights that they believe cover certain of our products, processes, technologies or information. Some of these claims may lead to litigation. We cannot assure that we will prevail in these actions, or that other actions alleging misappropriation or misuse by us of third-party trade secrets, infringement by us of third-party patents and trademarks or the validity of our patents, will not be asserted or prosecuted against us. If there is a successful claim of infringement against us, we may be required to pay substantial damages (including treble damages if we were to be found to have willfully infringed a third party's patent) to the party claiming infringement, incur costs to develop non-infringing technology, stop selling or using technology that contains the allegedly infringing intellectual property, or enter into royalty or license agreements that may not be available on acceptable or commercially practical terms, if at all. Intellectual property litigation, regardless of outcome, is expensive and time-consuming, and could divert management's attention from our business. Our failure to successfully defend against infringement claims, or to develop non-infringing technologies or license the proprietary rights on a timely basis, could have a material negative effect on our business, operating results or financial condition.

#### **Risks Related to Our Common Stock**

***Our stock price may be volatile.***

Historically, our common stock has experienced substantial price volatility, particularly as a result of fluctuations in our revenue, earnings and margins over the past few years, and variations between our actual financial results and the published expectations of analysts. For example, during the two-year period ended September 30, 2023, the price of our common stock has ranged from \$15.78 to \$6.66. If our future operating results or margins are below the expectations of stock market analysts or our investors, our stock price will likely decline.

Speculation and opinions in the press or investment community about our strategic position, financial condition, results of operations or significant transactions can also cause changes in our stock price. Competition in some of the markets we address such as the SiC industry, and the effect of tariffs or COVID-19 on our business, may have a dramatic effect on our stock price.

Additional factors may affect our stock price, including sales of our common stock by us or our existing shareholders as well as changes to the coverage and/or rating of our stock by securities analysts.

***Our officers, directors and largest shareholders could choose to act in their best interests and not necessarily those of our other shareholders.***

Our directors, executive officers and holders of five percent or more of our outstanding common stock and their affiliates represent a significant portion of our common stock held as of September 30, 2023, and, therefore, have significant influence over our management and corporate policies. These shareholders have significant influence over all matters submitted to our shareholders, including the election of our directors and approval of business combinations, and could potentially initiate or delay, deter or prevent a change of control. Circumstances may occur in which the interests of these shareholders may conflict with the interests of Amtech or those of our other shareholders, and these shareholders may cause us to take actions that align with their interests. Should conflicts of interest arise, we can provide no assurance that these shareholders would act in the best interests of our other shareholders or that any conflicts of interest would be resolved in a manner favorable to our other shareholders. In

addition, involvement of certain activist shareholders may impact our ability to recruit and retain talent or otherwise distract management or make decisions that we believe are in the long-term interest of all shareholders.

***Shareholder activists could cause a disruption to our business.***

An activist investor may indicate disagreement with our strategic direction or capital allocation policies and may seek representation on our Board of Directors. Our business, operating results or financial condition could be adversely affected and may result in, among other things: (a) increased operating costs, including increased legal expenses, insurance, administrative expenses and associated costs incurred in connection with director election contests; (b) uncertainties as to our future direction, which could result in the loss of potential business opportunities and could make it more difficult to attract, retain, or motivate qualified personnel, and strain relationships with investors and customers; and (c) reduction or delay in our ability to effectively execute our current business strategy and to implement new strategies.

***There are provisions in our corporate governing documents that could make an acquisition of the Company more difficult and limit attempts by our shareholders to replace or remove our current management.***

Our amended and restated articles of incorporation and our amended and restated bylaws, as well as Arizona law, contain provisions that may have the effect of deterring takeovers or delaying or preventing a change in control of us or changes in our management that a shareholder might deem to be in his or her best interest. Our amended and restated articles of incorporation and amended and restated bylaws contain provisions that: (a) authorize “blank check” preferred stock, which could be issued by our Board of Directors without shareholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock; (b) specify that special meetings of our shareholders can be called only by our Board of Directors, the Chairperson of our Board of Directors, our Chief Executive Officer, or a majority of the Board of Directors; (c) provide that vacancies on our Board of Directors may be filled only by a majority of directors then in office, though not less than a quorum; (d) specify that only our Board of Directors may change the size of our Board of Directors; (e) establish an advance notice procedure for shareholder proposals to be brought before an annual meeting of our shareholders, including proposed nominations of persons for election to our Board of Directors; and (f) expressly authorize our Board of Directors to modify, alter or repeal our bylaws. These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management or our Board of Directors.

In addition, because we are incorporated in the State of Arizona, we are governed by the provisions of the Arizona Revised Statutes Section 10-274, which prohibits certain business combinations between us and certain interested shareholders unless specified conditions are met. These provisions may also have the effect of delaying or preventing a change in control of Amtech. Any provision of our amended and restated articles of incorporation or amended and restated bylaws or Arizona law that has the effect of delaying or deterring a change in control could limit the opportunity for our shareholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

**ITEM 1C. CYBERSECURITY**

Not applicable.

## ITEM 2. PROPERTIES

We believe that our properties are adequate for our current needs. In addition, we believe that adequate space can be obtained to meet our foreseeable business needs. The following chart identifies the principal properties which we own or lease.

Location	Use	Own or Lease	Size
<b>Corporate</b>			
Tempe, Arizona	Corporate Headquarters	Own	15,000 sf
<b>Semiconductor Segment</b>			
North Billerica, Massachusetts	Office, Mfg. & Warehouse	Lease	150,000 sf
Ashvale, Surrey, United Kingdom	Office	Lease	1,900 sf
Shanghai, China	Office, Mfg. & Warehouse	Lease	76,530 sf
Penang, Malaysia	Office	Lease	1,570 sf
Westford, Massachusetts	Office, Mfg. & Warehouse	Lease	57,025 sf
<b>Material and Substrate Segment</b>			
Phoenix, Arizona	Office & Mfg.	Lease	37,000 sf
Phoenix, Arizona	Manufacturing	Lease	8,200 sf
Bethel, Connecticut	Office & Mfg.	Lease	18,830 sf
Carlisle, Pennsylvania	Office & Mfg.	Lease	40,500 sf
Spartanburg, South Carolina	Manufacturing	Lease	23,100 sf
Singapore, Asia	Office	Lease	947 sf

## ITEM 3. LEGAL PROCEEDINGS

Amtech and its subsidiaries are defendants from time to time in actions for matters arising out of their business operations. We do not believe that any matters or proceedings presently pending will have a material adverse effect on our consolidated financial position, results of operations or liquidity.

## ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.



## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

#### MARKET INFORMATION

Our common stock, par value \$0.01 per share (Common Stock), is trading on the NASDAQ Global Select Market, under the symbol "ASYS." The stock price details can be obtained from the Nasdaq website at [www.nasdaq.com](http://www.nasdaq.com).

#### ISSUER PURCHASES OF EQUITY SECURITIES

##### *Share Repurchase Programs*

On February 7, 2023, the Board approved a stock repurchase program, pursuant to which we may repurchase up to \$5 million of our outstanding Common Stock over a one-year period, commencing on February 10, 2023. Repurchases under the program will be made in open market transactions at prevailing market prices, in privately negotiated transactions, or by other means in compliance with the rules and regulations of the Securities and Exchange Commission; however, we have no obligation to repurchase shares and the timing, actual number, and value of shares to be repurchased is subject to management's discretion and will depend on our stock price and other market conditions. We may, in the sole discretion of the Board, terminate the repurchase program at any time while it is in effect. Repurchased shares may be retired or kept in treasury for further issuance. During the year ended September 30, 2023, did not repurchase any shares of our common stock.

On February 10, 2022, the Board approved a stock repurchase program, pursuant to which we may repurchase up to \$5 million of our outstanding Common Stock over a one-year period, commencing on February 16, 2022. Repurchases under the program will be made in open market transactions at prevailing market prices, in privately negotiated transactions, or by other means in compliance with the rules and regulations of the SEC; however, we have no obligation to repurchase shares and the timing, actual number, and value of shares to be repurchased is subject to management's discretion and will depend on our stock price and other market conditions. We may, in the sole discretion of the Board, terminate the repurchase program at any time while it is in effect. Repurchased shares may be retired or kept in treasury for further issuance. During the year ended September 30, 2022, we repurchased 143,430 shares of our Common Stock on the open market at a total cost of approximately \$1.4 million (an average price of \$9.78 per share). All repurchased shares have been retired.

During the three months ended September 30, 2023, we did not repurchase any of our equity securities nor did we sell any equity securities that were not registered under the Securities Act of 1933, as amended. As of September 30, 2023, \$5.0 million remains available for repurchases.

#### HOLDERS

As of November 17, 2023, there were 297 shareholders of record of our Common Stock. Based upon a recent survey of brokers, we estimate there were approximately an additional 5,922 beneficial shareholders who held shares in brokerage or other investment accounts as of that date.

#### DIVIDENDS

We have never paid dividends on our Common Stock. Our present policy is to apply cash to investments in product development and upgrades, acquisitions or expansion, and debt repayments; consequently, we do not expect to pay dividends on our Common Stock in the foreseeable future. However, once the above priorities have been met, we will evaluate the returning of capital to shareholders, as we have done in the past.

#### UNREGISTERED SALES OF EQUITY SECURITIES

There were no unregistered sales of equity securities in fiscal 2023.



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

*The following discussion of our financial condition and results of operations should be read together with our Consolidated Financial Statements and the accompanying notes included in "Item 8. Financial Statements and Supplementary Data" in this Annual Report on Form 10-K. This discussion contains forward-looking statements, which involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors including, but not limited to, those described in "Risk Factors" and elsewhere in this Annual Report on Form 10-K. Please refer to page 5 for further information regarding forward-looking statements and "Item 1A. Risk Factors" for a description of our risk factors.*

### Overview

We are a leading, global manufacturer of capital equipment, including thermal processing and wafer polishing and related consumables used in fabricating semiconductor devices, such as silicon carbide ("SiC") and silicon power devices, analog and discrete devices, electronic assemblies, and light-emitting diodes ("LEDs"). We sell these products to semiconductor device and module manufacturers worldwide, particularly in Asia, North America and Europe.

We operate in two reportable segments, based primarily on the industries they serve: (i) Semiconductor and (ii) Material and Substrate. In our Semiconductor segment, we supply thermal processing equipment, including solder reflow ovens, horizontal diffusion furnaces, and custom high-temp belt furnaces for use by semiconductor, electronics and electro/mechanical assembly manufacturers. Our semiconductor customers are primarily manufacturers of integrated circuits and optoelectronic sensors and discrete ("O-S-D") components used in analog, power and radio frequency ("RF"). In our Material and Substrate segment, we produce wafer cleaning equipment as well as substrate consumables and chemicals for lapping (fine abrading) and polishing of materials, such as silicon wafers for semiconductor products, sapphire wafers for LED applications, and compound substrates, like SiC wafers, for power device applications.

The semiconductor industry is cyclical, but not seasonal, and historically has experienced fluctuations. Our revenue is impacted by these broad industry trends.

### Strategy

We continue to focus on our plans to profitably grow our business and have developed a strategic growth plan and a capital allocation plan that we believe will support our growth objectives. Our Power Semiconductor strategic growth plan leverages our experience, products and capabilities in pursuit of growth, profitability and sustainability. Our core focus areas are:

- **Advanced Mobility** - Advanced Mobility encompasses both the development and adoption of electric vehicles and charging infrastructure, including both EV and HEV, as well as advanced automotive electronics including Advanced Driver Assistance Systems (ADAS), infotainment and telematics. Our products intersect these markets in multiple ways: consumables and wafer cleaning systems for the SiC substrates used in the power modules; thermal processing systems for cooling modules and DBC substrate manufacturing; and reflow ovens for ADAS, infotainment and telematics component assemblies.
- **Supply Chain Resiliency** - There is a global trend of creating supply chain resiliency by expanding and/or relocating operations outside of mainland China. These factory openings will create demand for new equipment and services in growing regions like Mexico and Southeast Asia.
- **Artificial Intelligence** - With Artificial Intelligence (AI), our reflow oven systems are the favored choice for Outsourced Semiconductor Assembly and Test Services (OSATS) providers who perform advanced packaging of the AI chips.

We anticipate future investments will be required to meet the expected demand from our growing served markets to achieve our revenue growth targets, including investments in research and development as well as capital expenditures, which also includes further investments in talent and management information systems. In June 2022, we completed the sale of the real property where our manufacturing facility in Massachusetts is located. In connection with this sale,

we entered into a two-year leaseback of the facility. This sale-leaseback transaction resulted in a net cash inflow of approximately \$14.9 million, after repayment of the existing mortgage and settlement of related sale expenses. In September 2023, we signed a lease for a new location more in line with the needs of our Semiconductor product lines. The new location has less square footage as we expand our use of contract manufacturers. We expect to complete the move to this new facility in the third quarter of fiscal 2024. In addition, we are evaluating business continuity and resiliency within our operations, our management information systems, and our needs to allow for greater efficiencies and to ensure our infrastructure can support our future growth plans. As a capital equipment manufacturer, we will continue to invest in our business to drive future growth.

## **COVID-19**

In March 2020, the outbreak of COVID-19 was recognized as a pandemic by the World Health Organization, and the outbreak became increasingly widespread, including in all of the markets in which we operate. We continue to monitor the impact of COVID-19 on all aspects of our business. We are a company operating in a critical infrastructure industry, as defined by the U.S. Department of Homeland Security. Consistent with federal guidelines and with foreign government, state and local orders to date, we have continued to operate across our footprint throughout the COVID-19 pandemic. There remain many unknowns and we continue to monitor the expected trends and related demand for our products and services and have and will continue to adjust our operations accordingly. Please see additional information in “Item 1A. Risk Factors.”

On March 28, 2022, the Chinese government issued a mandatory shutdown in Shanghai, the location of one of our manufacturing facilities. The factory was allowed to partially reopen in May 2022 and fully reopened on June 1, 2022. After the reopening on June 1, 2022, the factory was able to operate near full capacity for the entire month of June and operate at normal capacity levels thereafter. Given the uncertainty surrounding the COVID-19 pandemic, there can be no assurance that our Shanghai facility will be allowed to remain open on a consistent basis.

## **Segment Reporting Changes**

We evaluated our organizational structure and concluded that we have two reportable segments. Our Material and Substrate segment includes Intersurface Dynamics and Entrepix beginning at each respective date of acquisition.

## **Industry Fluctuations**

Our quarterly and annual operating results have been and will continue to be impacted by the timing of large system orders. Further, the semiconductor equipment industry is highly cyclical, and the conditions of this industry remain volatile. Therefore, our order flow fluctuates quarter to quarter. For additional information regarding the risks related to our business and industry, please refer to “Item 1A. Risk Factors” within this Form 10-K.

## **Fiscal Year**

Our fiscal year is from October 1 to September 30. Unless otherwise stated, references to the years 2023, 2022 and 2021 relate to the fiscal years ended September 30, 2023, 2022 and 2021, respectively.

## Results of Operations

The following table sets forth certain financial data as a percentage of net revenue for the periods indicated:

	Years Ended September 30,	
	2023	2022
Net revenue	100 %	100 %
Cost of sales	65 %	63 %
Intangible asset impairment	4 %	— %
Gross margin	31 %	37 %
Selling, general and administrative	37 %	27 %
Research, development and engineering	6 %	6 %
Gain on sale of fixed assets	— %	(12) %
Intangible asset impairment	— %	— %
Severance	1 %	— %
Operating (loss) income	(13) %	16 %
Interest income	— %	— %
Interest expense	— %	— %
Foreign currency (loss) gain	— %	1 %
Other	— %	— %
(Loss) income before income taxes	(13) %	17 %
Income tax (benefit) provision	(2) %	1 %
Net (loss) income	(11) %	16 %

### Fiscal 2023 compared to Fiscal 2022

#### Net Revenue

Net revenue consists of revenue recognized upon shipment or delivery of equipment. Spare parts sales are recognized upon shipment and service revenue is recognized upon completion of the service activity, which is generally ratable over the term of the service contract. Since the majority of our revenue is generated from large system sales, revenue, gross profit and operating income can be significantly impacted by the timing of system shipments.

Our net revenue by reportable segment for the years ended September 30, 2023 and 2022 were as follows, dollars in thousands:

Segment	Years Ended September 30,		Increase (Decrease)	% Change
	2023	2022		
Semiconductor	\$ 77,595	\$ 87,982	\$ (10,387)	(12) %
Material and Substrate	35,720	18,316	17,404	95 %
Total net revenue	\$ 113,315	\$ 106,298	\$ 7,017	7 %

Net revenue for the years ended September 30, 2023 and 2022 were \$113.3 million and \$106.3 million, respectively, an increase of \$7.0 million or 7%. Revenue from the Semiconductor segment decreased \$10.4 million, or 12%, over the prior year period. Our Semiconductor results for 2023 reflect increases in belt furnace shipments more than offset by decreases in shipments of our horizontal diffusion furnaces, SMT and packaging equipment. We continue to experience softness in shipments of our advanced packaging and SMT equipment, primarily related to a slowdown in global demand in the consumer markets. Our Semiconductor results for 2022 reflect the closure of our Shanghai manufacturing facility, which partially reopened in mid-May and fully reopened on June 1, 2022. Revenue from our Material and Substrate segment increased \$17.4 million, or 95%, due to the addition of Entrepix, effective January 17, 2023, partially offset by decreases in shipments of our polishing equipment. Entrepix accounted for approximately \$18.6 million of revenue in the Material and Substrate segment during 2023.

## Orders and Backlog

New orders booked in the years ended September 30, 2023 and 2022 were as follows, dollars in thousands:

Segment	Years Ended September 30,		Increase (Decrease)	% Change
	2023	2022		
Semiconductor	\$ 74,817	\$ 94,268	\$ (19,451)	(21)%
Material and Substrate	29,080	19,685	9,395	48%
Total new orders	<u>\$ 103,897</u>	<u>\$ 113,953</u>	<u>\$ (10,056)</u>	(9)%

Our backlog as of September 30, 2023 and 2022 was as follows, dollars in thousands:

Segment	September 30,		Increase (Decrease)	% Change
	2023	2022		
Semiconductor	\$ 45,233	\$ 48,011	\$ (2,778)	(6)%
Material and Substrate	6,561	2,769	3,792	137%
Total backlog	<u>\$ 51,794</u>	<u>\$ 50,780</u>	<u>\$ 1,014</u>	2%

At the end of 2023, three customers individually accounted for 27%, 21% and 14% of our total backlog. No other customer accounted for more than 10% of our backlog as of September 30, 2023. The orders included in our backlog are generally credit approved customer purchase orders believed to be firm and are generally expected to ship within the next twelve months. Our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize profit from completing these orders.

## Gross Profit and Gross Margin

Gross profit is the difference between net revenue and cost of goods sold. Cost of goods sold consists of purchased material, labor and overhead to manufacture equipment and spare parts and the cost of service and support to customers for installation, warranty and paid service calls. Gross margin is gross profit as a percent of net revenue. Our gross profit and gross margin by reportable segment for the years ended September 30, 2023 and 2022 were as follows, dollars in thousands:

Segment	Years Ended September 30,		Gross Margin	Gross Margin	Increase (Decrease)	% Change
	2023	2022				
Semiconductor	\$ 29,184	\$ 30,880	38%	35%	\$ (1,696)	(5)%
Material and Substrate	6,368	8,631	18%	47%	(2,263)	(26)%
Total gross profit	<u>\$ 35,552</u>	<u>\$ 39,511</u>	<u>31%</u>	<u>37%</u>	<u>\$ (3,959)</u>	(10)%

Gross profit for the years ended September 30, 2023 and 2022 was \$35.6 million and \$39.5 million, respectively, representing a decrease of \$4.0 million, or 10%. Gross margin for 2023 and 2022 was 31% and 37%, respectively. Gross margin for the Semiconductor segment increased to 38% in 2023, compared to 35% in 2022, due primarily to improved utilization at our Massachusetts facility as well as the above-mentioned closure of our Shanghai manufacturing facility in the 2022 period. This closure resulted in decreased utilization during the closure period as we continued to pay our employees while ceasing production entirely for the first eight weeks of the third quarter of fiscal 2022. In the Material and Substrate segment, gross margin decreased to 18% in 2023, compared to 47% in 2022 due primarily to an impairment charge of \$4.6 million for intangible assets and a charge in the amount of \$1.5 million related to the write-off of inventory for our polishing machine products. Additionally, we had higher equipment sales, primarily at Entrepix, which have lower margins than our consumables. We are experiencing increased material costs across all our segments. In response to such increased costs, we continually review our pricing plans and supplier agreements, with the objective of passing these increased costs to our customers where possible; however, we continue to experience pricing pressure from our customers. We are also continuing to explore partnerships with contract manufacturers, who can leverage their buying power on a larger scale. In the first quarter of fiscal 2024, we began

making targeted labor reductions as a result of the shift to contract manufacturing and the continuing slowdown in the broader semiconductor industry.

### ***Selling, General and Administrative Expenses***

Selling, general and administrative expenses (“SG&A”) consists of the cost of employees, consultants and contractors, facility costs, sales commissions, shipping costs, promotional marketing expenses, legal and accounting expenses and bad debt expense.

Total SG&A expenses for the years ended September 30, 2023 and 2022 were \$42.0 million and \$28.3 million, respectively, representing an increase of \$13.7 million or 48.2%. This increase was primarily due to \$5.7 million of added SG&A from our acquisition of Entrepix, \$3.2 million of transaction expenses related to the acquisition of Entrepix and \$3.9 million of additional audit and consulting expenses, primarily related to the addition of Entrepix, the implementation of a new ERP system, and our audit of internal controls. SG&A expense includes \$1.3 million and \$0.5 million of non-cash stock-based compensation expense for 2023 and 2022, respectively.

### ***Research, Development and Engineering***

Research, development and engineering (“RD&E”) expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes as well as materials and supplies used in producing prototypes. RD&E expenses may vary from period to period depending on the engineering projects in process. Expenses related to engineers working on strategic projects or sustaining engineering projects are recorded in RD&E. However, from time to time we add functionality to our products or develop new products during engineering and manufacturing to fulfill specifications in a customer’s order, in which case the cost of development, along with other costs of the order, are charged to cost of goods sold.

RD&E expenses for the years ended September 30, 2023 and 2022 were \$7.3 million and \$6.4 million, respectively, an increase of \$0.9 million. This increase was due primarily to \$0.8 million of added RD&E from our acquisition of Entrepix, as a decrease of \$1.1 million at our Semiconductor segment offset an increase of \$1.0 million at the Material & Substrate segment, exclusive of Entrepix. We expect our RD&E expenses to decrease in fiscal 2024 as we streamline our product offerings.

### ***Gain on Sale of Fixed Assets***

Gain on sale of fixed assets consists primarily of the gain on the sale of BTU’s building in Massachusetts. The sale price was \$20.6 million, of which \$0.7 million was deducted at closing for commission and other closing expenses. In connection with the sale, we recognized a pre-tax gain on sale of \$12.5 million.

### ***Intangible Asset Impairment***

During the year ended September 30, 2023, we recognized impairment of our definite lived intangible assets of \$5.2 million at our Material and Substrate segment. As stated above, \$4.6 million of this impairment was recorded in cost of goods sold, and the remainder was recorded within operating expenses in the Consolidated Statement of Operations.

### ***Severance Expense***

We recorded severance expense of \$0.7 million in 2023. This charge primarily relates to the retirement of our founder, Mr. J.S. Whang. There was no severance expense recorded in 2022.

### ***Income Taxes***

Our effective tax rate was 17.1% and 7.5% in 2023 and 2022, respectively. The effective tax rate is the ratio of total income tax expense to pre-tax income. The effective tax rates for 2023 and 2022 were lower than the U.S. statutory rate of 21%. The 2023 effective tax rate was negatively impacted by non-deductible expenses, includible foreign income and losses for which no tax benefit can be recognized. The 2023 effective tax rate was favorably impacted by the recognition of previously unrecognized tax benefits and the release of a portion of our valuation allowance in

connection with a deferred tax liability related to the Entrepix acquisition. The 2022 effective tax rate was favorably impacted due to a substantial portion of the earnings in the US resulting from the gain on the sale of our Massachusetts property for which no tax expense was recognized due to the utilization of net operating losses and foreign tax credits, which are fully valued.

In 2023 and 2022, we recorded income tax (benefit) and expense of \$(2.6) million and \$1.4 million, respectively. The income tax provisions are based upon estimates of annual income, annual permanent differences, statutory tax rates and credits in the various jurisdictions in which we operate. Significant judgments and estimates are required in the determination of the consolidated income tax expense.

Generally accepted accounting principles of the United States (“GAAP”) require that a valuation allowance be established when it is “more likely than not” that all or a portion of deferred tax assets will not be realized. A review of all available positive and negative evidence needs to be considered, including a company’s performance, the market environment in which the company operates and the length of carryback and carryforward periods. According to those principles, it is difficult to conclude that a valuation allowance is not needed when the objective negative evidence includes cumulative losses in recent years. Such objective negative evidence limits the ability to consider other subjective evidence, such as future projections. Based on the consideration of all available evidence, we have concluded that we will maintain a full valuation allowance for all net deferred tax assets related to the carryforwards of U.S. net operating losses and tax credits. We will continue to monitor our cumulative income and loss positions in the U.S. and foreign jurisdictions to determine whether full valuation allowances on U.S. net deferred tax assets are appropriate.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions across our global operations. ASC 740 states that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, on the basis of the technical merits. In 2023, we recognized \$1.0 million of previously unrecognized tax benefits, and as of September 30, 2023, we have no unrecognized tax benefits recorded within our financial statements. We record unrecognized tax benefits as liabilities in accordance with ASC 740 and adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available.

We expect to pay minimal U.S. federal cash taxes for the foreseeable future as a result of our U.S. net operating losses that are carried forward.

Our future effective income tax rate depends on various factors, such as the amount of income (loss) in each tax jurisdiction, tax regulations governing each region, non-deductible expenses incurred as a percent of pre-tax income and the effectiveness of our tax planning strategies.



### Selected Quarterly Data (Unaudited)

The following table sets forth selected unaudited consolidated quarterly financial information for the years ended September 30, 2023 and 2022, in thousands, except percentages and per share amounts:

	Fiscal Year 2023			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenue, net	\$ 21,558	\$ 33,310	\$ 30,740	\$ 27,707
Cost of sales	13,255	19,840	19,755	20,268
Intangible asset impairment	—	—	—	4,645
Gross profit	8,303	13,470	10,985	2,794
Selling, general and administrative	9,190	11,434	10,300	11,078
Research, development and engineering	1,393	1,517	1,804	2,597
Intangible asset impairment	—	—	—	544
Severance expense	400	—	—	265
Operating (loss) income	(2,680)	519	(1,119)	(11,690)
Interest income	290	49	17	10
Interest expense	(2)	(155)	(185)	(178)
Foreign currency (loss) gain	(347)	(168)	456	(30)
Other	(9)	13	15	12
(Loss) income before income taxes	(2,748)	258	(816)	(11,876)
Income tax (benefit) provision	(4)	(2,946)	211	139
<b>Net (loss) income</b>	<u>\$ (2,744)</u>	<u>\$ 3,204</u>	<u>\$ (1,027)</u>	<u>\$ (12,015)</u>
<b>Gross margin</b>	38.5 %	40.4 %	35.7 %	10.1 %
<b>Operating margin</b>	(12.4)%	1.6 %	(3.6)%	(42.2)%
<b>(Loss) income Per Share:</b>				
Net (loss) income per basic share	\$ (0.20)	\$ 0.23	\$ (0.07)	\$ (0.85)
Weighted average shares outstanding - basic	14,008	14,028	14,058	14,166
Net (loss) income per diluted share	\$ (0.20)	\$ 0.23	\$ (0.07)	\$ (0.85)
Weighted average shares outstanding - diluted	14,008	14,157	14,058	14,166

	Fiscal Year 2022			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenue, net	\$ 26,463	\$ 27,556	\$ 19,964	\$ 32,315
Cost of sales	16,565	16,396	14,064	19,762
Gross profit	9,898	11,160	5,900	12,553
Selling, general and administrative	7,086	6,765	7,157	7,292
Research, development and engineering	1,572	1,800	1,646	1,372
Gain on sale of fixed assets	—	—	(12,465)	—
Operating income	1,240	2,595	9,562	3,889
Interest income	11	5	33	161
Interest expense	(75)	(48)	(43)	2
Foreign currency (loss) gain	(270)	(3)	631	710
Other	251	76	59	(1)
Income before income taxes	1,157	2,625	10,242	4,761
Income tax provision	160	660	20	578
<b>Net income</b>	<u>\$ 997</u>	<u>\$ 1,965</u>	<u>\$ 10,222</u>	<u>\$ 4,183</u>
<b>Gross margin</b>	37.4 %	40.5 %	29.6 %	38.8 %
<b>Operating margin</b>	4.7 %	9.4 %	47.9 %	12.0 %
<b>Income Per Share:</b>				
Net income per basic share	\$ 0.07	\$ 0.14	\$ 0.74	\$ 0.30
Weighted average shares outstanding - basic	14,254	13,979	13,889	13,933
Net income per diluted share	\$ 0.07	\$ 0.14	\$ 0.73	\$ 0.30
Weighted average shares outstanding - diluted	14,485	14,144	14,026	14,080

## Liquidity and Capital Resources

### Liquidity

We maintain a strong focus on liquidity and define our liquidity risk tolerance based on sources and uses to maintain a sufficient liquidity position to meet our obligations through our industry cycles, under both normal and stressed conditions. We manage our liquidity to provide access to sufficient funding to meet our business needs and financial obligations throughout business cycles. We operate in the semiconductor capital equipment industry, which is cyclical, and we must ensure we have sufficient liquidity during the down cycles and varying macroeconomic conditions. Our liquidity plans are established within the context of our financial and strategic planning processes and consider the liquidity necessary to fund our operating commitments, which include debt payments, purchase obligations for inventory and equipment, payroll and general expenses. We also take into consideration our capital allocation and growth objectives, including investing in research and development and capital expenditures (including capacity assessments and IT systems).

The success of our growth strategy is dependent upon the availability of additional capital resources on terms satisfactory to management. Our sources of capital in the past have included our loan and security agreement, the sale of equity securities, which includes common stock sold in private transactions and public offerings, and cash generated from operations. There can be no assurance that we can raise such additional capital resources when needed or on satisfactory terms. We believe that our principal sources of liquidity discussed above are sufficient to support operations for at least the next twelve months.

### Capital Allocation

Our capital allocation strategy focuses on building shareholder value. We do this by first investing in ourselves and growing our capabilities. We then look to supplement and strengthen our capabilities through acquisitions and strategic investments. And finally, we provide the return realized by the investments to our stockholders. These four priorities are detailed as follows:

- Repay long-debt to strengthen our balance sheet. Under the terms of our Loan Agreement, we are required to remit certain funds resulting from specific transactions to pay down the balance of our term loan.
- Invest in R&D and capital expenditures to strengthen our competitive position. Historically, our R&D efforts have focused on upgrades to existing product platforms as well as new product designs. Capital expenditures consist primarily of capacity expansion as well as investments in IT systems.
- Invest in strategic acquisitions that will complement our strong platform of product offerings. In evaluating these opportunities, our objectives include enhancing our earnings and cash flows, adding complementary product offerings, expanding our geographic footprint, improving our production efficiency and expanding our customer base. As a result, we continue to manage our balance sheet to maintain adequate liquidity so that we may react quickly as opportunities arise.
- Once the above priorities have been met, we evaluate the return of capital to shareholders, as we have done in the past. We have never paid dividends on our common stock, and we do not expect to pay dividends on common stock in the foreseeable future. However, our Board has authorized annual stock repurchase plans since 2018.

### Cash and Cash Flow

The following table sets forth for the periods presented certain consolidated cash flow information, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Net cash (used in) provided by operating activities	\$ (7,701 )	\$ 5,204	\$ (5,962 )
Net cash (used in) provided by investing activities	\$ (37,830 )	\$ 18,773	\$ (8,094 )
Net cash provided by (used in) financing activities	\$ 11,738	\$ (8,267 )	\$ 1,166
Effect of exchange rate changes on cash	\$ 52	\$ (1,672 )	\$ 656
Net (decrease) increase in cash, cash equivalents and restricted cash	\$ (33,741 )	\$ 14,038	\$ (12,234 )
Cash, cash equivalents and restricted cash, beginning of year	\$ 46,874	\$ 32,836	\$ 45,070
Cash, cash equivalents and restricted cash, end of year	\$ 13,133	\$ 46,874	\$ 32,836

A summary of our cash position as of September 30, 2023 and 2022, is as follows, in thousands, except working capital ratio:

	September 30,	
	2023	2022
Cash and cash equivalents	\$ 13,133	\$ 46,874
Restricted cash	\$ —	\$ —
Working capital	\$ 51,471	\$ 80,310
Current ratio (current assets to current liabilities)	2.7:1	4.5:1

The decrease in cash and cash equivalents from September 30, 2022 of \$33.7 million was primarily due to the acquisition of Entrepix, which was partially funded with cash on-hand as well as with a new term loan (see Note 2). We maintain a portion of our cash and cash equivalents in Renminbis, a Chinese currency, at our operations in China; therefore, changes in the exchange rates have an impact on our cash balances.

During periods of weakening demand, we typically generate cash from operating activities, which we may decide to reinvest in our business via strategic projects. Conversely, we are more likely to use operating cash flows for working capital requirements during periods of higher growth. Our sources of capital in the past have included the sale of equity securities, which includes common stock sold in private transactions and public offerings, the incurrence of

long-term debt and customer deposits. Additionally, in January 2023, we entered into the Loan Agreement with UMB Bank, which included a revolving line of credit with availability up to \$8.0 million. On December 5, 2023, we amended this credit facility to, among other things, increase the availability under the revolving line of credit to \$14.0 million and extend the maturity date one year to January 17, 2025. Future borrowings, if any, under the Loan Agreement are subject to, among other things, having sufficient unencumbered Eligible Accounts, Eligible Foreign Accounts and Eligible Inventory (as such terms are defined in the Loan Agreement) to meet the borrowing base requirements included in the amended credit facility. There can be no assurance that we can raise such additional capital resources when needed or on satisfactory terms. We believe that our principal sources of liquidity discussed above are sufficient to support operations for at least the next twelve months.

As noted elsewhere in this Annual Report, at September 30, 2023, we were not in compliance with the Debt to EBITDA and Fixed Charge Coverage Ratio financial covenants under our Loan Agreement. On December 5, 2023, we entered into a Forbearance & Modification Agreement (the "Forbearance Agreement") with UMB Bank related to such non-compliance, pursuant to which UMB Bank agreed to forbear through January 17, 2025 from exercising its rights and remedies available to it as a result of such defaults. We will be operating under the terms of such Forbearance Agreement through January 17, 2025 (the "Forbearance Period").

The Forbearance Agreement also amends the Loan Agreement to, among other things, (i) increase the availability under the revolving line of credit from \$8.0 million to \$14.0 million (the "Revolver"), and (ii) reduce the term loan commitment from \$12.0 million to \$4,423,200 (the "Term Loan"). The Revolver maturity date was extended one year to January 17, 2025 and the Term Loan maturity date was extended from January 17, 2028 to January 17, 2029.

Future borrowings, if any, under the Loan Agreement are subject to, among other things, having sufficient unencumbered Eligible Accounts, Eligible Foreign Accounts and Eligible Inventory (as such terms are defined in the Loan Agreement) to meet the borrowing base requirements included in the amended Loan Agreement. See Note 20 for additional information regarding the Forbearance Agreement and related amendments to the Loan Agreement.

#### ***Cash Flows from Operating Activities***

Cash used in operating activities was \$7.7 million in 2023 compared to cash provided by operating activities of \$5.2 million in 2022 and cash used in operating activities of \$6.0 million in 2021. During 2023, we used cash to increase our inventory balances in preparation for shipments scheduled over the next four quarters and to pay the related accounts payable. During 2022, we received several large customer deposits, primarily related to orders of our horizontal diffusion and high temp furnaces, which were expected to ship over the next four quarters. During 2021, we increased our inventory balances in preparation for shipments scheduled for the first half of fiscal 2022. Additionally, our accounts receivable increased during this period as most of our shipments occurred late in the fourth quarter and our customers generally have payment terms of 60-90 days.

#### ***Cash Flows from Investing Activities***

Cash used in investing activities was \$37.8 million in 2023, primarily consisting of \$34.9 million in cash paid for the acquisition of Entrepix. Cash provided by investing activities was \$18.8 million in 2022, primarily consisting of \$19.9 million in proceeds from the sale of our real property in Massachusetts. Cash used in investing activities was \$8.1 million in 2021, primarily consisting of \$5.1 million net cash paid for the acquisition of Intersurface Dynamics and capital expenditures primarily related to the relocation of our Shanghai manufacturing facility. Investing activities in 2023, 2022 and 2021 included capital expenditures of \$2.9 million, \$1.1 million and \$3.0 million, respectively. We expect capital expenditures to remain relatively flat in 2024 as we make targeted investments in our production capacity and IT systems, including the relocation of our Massachusetts production facility and the addition of new capacity in South Carolina.

#### ***Cash Flows from Financing Activities***

In 2023, cash provided by financing activities was \$11.7 million, comprised of \$12.0 million in borrowings on our term loan and \$1.2 million of proceeds received from the exercise of stock options partially offset by \$1.5 million in payments on long-term debt. In 2022, cash used by financing activities was \$8.3 million, comprised of \$4.1 million of cash used for the repurchase of common stock and payments on long-term debt of \$4.9 million, partially offset by

\$0.7 million of proceeds received from the exercise of stock options. Payments in long-term debt include the full repayment of the \$4.5 million mortgage balance on the real property in Massachusetts. In 2021, cash provided by financing activities was \$1.2 million, consisting of approximately \$1.5 million of proceeds received from the exercise of stock options, partially offset by payments on long-term debt of \$0.4 million.

#### Off-Balance Sheet Arrangements

As of September 30, 2023, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K promulgated by the SEC that have or are reasonably likely to have a current or future effect on financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

#### Contractual Obligations and Commercial Commitments

We had the following contractual obligations and commercial commitments as of September 30, 2023, in thousands:

Contractual obligations	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Debt obligations	\$ 10,687	\$ 2,265	\$ 4,893	\$ 3,529	\$ —
Lease obligations:					
Buildings	24,140	3,317	5,478	4,095	11,250
Office equipment	3	3	—	—	—
Vehicles	31	18	13	—	—
Total operating lease obligations	24,174	3,338	5,491	4,095	11,250
Purchase obligations	24,287	24,232	55	—	—
Total	<u>\$ 59,148</u>	<u>\$ 29,835</u>	<u>\$ 10,439</u>	<u>\$ 7,624</u>	<u>\$ 11,250</u>

#### Acquisitions

Our business strategy includes the possible acquisition of or investments in other businesses to expand or complement our operations. The magnitude, timing and nature of any future acquisitions or investments will depend on a number of factors, including the availability of suitable candidates, the negotiation of acceptable terms, our financial capabilities and general economic and business conditions. Financing for future transactions would result in the utilization of cash, incurrence of additional debt, issuance of stock or some combination of the foregoing.

#### Critical Accounting Estimates

See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” for a discussion of our consolidated financial statements that have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the consolidated financial statements, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period.

On an on-going basis, we evaluate our estimates and judgments, including those related to income taxes, inventory valuation, business combinations, goodwill and long-lived assets. We base our estimates and judgments on historical experience, expectations regarding the future and on various other factors that we believe to be reasonable under the circumstances. The results of these estimates and judgments form the basis for making conclusions about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

A critical accounting estimate is one that is both important to the presentation of our financial position and results of operations, and requires management’s most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. These uncertainties are discussed in “Item 1A. Risk Factors.” We believe that the following accounting estimates we have identified as critical involve a greater degree of judgment and complexity than our other accounting policies. Accordingly, these are the estimates we believe

are the most critical to understanding and evaluating our consolidated financial condition and results of operations. Refer to Note 1 to our consolidated financial statements included elsewhere in this report for a summary of each of the related accounting policies.

**Income Taxes.** We file consolidated federal income tax returns in the United States for all subsidiaries except those in China, Singapore and the UK, where separate returns are filed. The calculation of tax liabilities for all jurisdictions involves significant judgment in identifying uncertain tax positions, estimating the amount of deferred tax assets that will be realized in the future and the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our operations and financial condition. For the year ended September 30, 2023, we had no unrecognized tax benefit. For the year ended September 30, 2022, we had unrecognized tax benefits of \$1.0 million.

Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, which will result in taxable or deductible amounts in the future. We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. In evaluating our ability to recover our deferred tax assets in the jurisdiction from which they arise, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies and results of recent operations. It is difficult to conclude that a valuation allowance is not needed when the negative evidence includes cumulative losses in recent years. If we were to determine that it is more likely than not that we would not be able to realize all or part of our net deferred tax assets in the future, an adjustment to the deferred tax assets would be charged to earnings in the period such determination is made. Likewise, if we later determine that it is more likely than not that all or part of the net deferred tax assets would be realized, a tax benefit would be realized when all or part of the previously provided valuation allowance would be reversed. As of September 30, 2023, we have significant U.S. deferred tax assets that have a full valuation allowance and foreign deferred tax assets that have a partial valuation allowance. Any changes to the judgments related to our valuation allowance could have a material impact on our results of operations. For the years ended September 30, 2023 and 2022, we had net deferred tax assets of \$0.1 million.

**Inventory Valuation.** We value our inventory at the lower of cost or net realizable value. Inventory cost includes the purchase price of parts or finished goods and freight and/or other overhead costs incurred to receive the inventory into our manufacturing facilities. We regularly review inventory quantities and record a write-down to net realizable value for excess and obsolete inventory. The write-down is primarily based on purchase history, historical inventory usage adjusted for expected changes in product demand, product offerings and production requirements. Our industry is characterized by customers in highly-cyclical industries, rapid technological changes, frequent new product developments and rapid product obsolescence. Changes in demand for our products or to our product offerings could result in further write-downs, which could have a material impact on our results of operations.

During the year ended September 30, 2023, we recorded provisions to reduce inventories to their lower of cost and net realizable value of approximately \$2.6 million compared to \$0.1 million during the year ended September 30, 2022.

**Business Combination.** We follow the acquisition method of accounting to record identifiable assets acquired and liabilities assumed in connection with acquired businesses at their estimated fair value as of the date of acquisition.

Identifiable intangible assets from business combinations are recognized at their estimated fair values as of the date of acquisition and consist of non-compete agreements, backlog, customer relationships, developed technology and trade names. Determination of the estimated fair value of identifiable intangible assets requires judgment. The fair value of acquired identifiable intangible assets were estimated using various valuation methodologies. The multi-period excess earnings method was used to value the acquired developed technology and the distributor method for the acquired customer relationships. Both approaches are income-based methods, which required judgment in estimating appropriate discount rates, obsolescence, customer attrition, and remaining useful lives. Any adverse change in these factors, among others, could have a significant effect on the valuation of the intangible assets and could have a material effect on our consolidated financial statements. The acquired intangible assets all had finite lives, ranging from one to ten years. The fair value of identifiable intangible assets acquired in connection with our acquisition of Entrepix was \$13.6 million. Goodwill represents the excess of the fair value of the consideration conveyed in an acquisition over the fair value of net assets acquired.

**Goodwill.** We perform an annual impairment test as of September 30, or more frequently if indicators of potential impairment exist, to determine whether the fair value of a reporting unit in which goodwill resides is less than its carrying value. We perform the first step of the goodwill impairment test, which compares the fair value of the reporting unit to its carrying value. If the fair value of the reporting unit exceeds the carrying value of the net assets assigned to that unit, goodwill is not considered impaired, and we are not required to perform additional analysis. If the carrying value of the net assets assigned to the reporting unit exceeds the fair value of the reporting unit, we would recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value (although the loss would not exceed the total amount of goodwill allocated to the reporting unit).

Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. Our goodwill impairment test uses a weighting of the income approach and the market approach to estimate a reporting unit's fair value. The income approach is based on a discounted future cash flow analysis that uses certain assumptions including: projections of revenues and expenses and related cash flows based on assumed long-term growth rates and demand trends; expected future investments and working capital requirements to sustain and grow the business; and estimated discount rates based on the reporting unit's weighted average cost of capital as derived by the Capital Asset Pricing Model and other methods, which includes observable market inputs and other data from identified comparable companies. The same estimates are also used internally for our capital budgeting process, and for long-term and short-term business planning and forecasting. We test the reasonableness of the inputs and outcomes of our discounted cash flow analysis against available comparable market data, and we also perform a reconciliation of our total market capitalization to the estimated fair value of all of our reporting units. The market approach is based on the application of appropriate market-derived multiples selected from (i) comparable publicly-traded companies and/or (ii) the implied transaction multiples derived from identified merger and acquisition activity in the market. Multiples are then selected based on a comparison of the reviewed data to that of the reporting unit and applied to relevant historical and forecasted financial parameters such as levels of revenues, EBITDA, EBIT or other metrics.

If actual results differ significantly from our projections, we may be required to record a material impairment charge. In 2023, the fair value of our Semiconductor segment was in excess of its carrying value by approximately 45%, and the fair value of our Material and Substrate segment was in excess of its carrying value by approximately 1%, resulting in no goodwill impairment during the year ended September 30, 2023. There was no impairment on goodwill recorded during the years ended September 30, 2022 and 2021. See Note 10 for additional information on goodwill by segment.

**Long-Lived Asset Impairment.** Long-lived assets, including tangible and intangible assets with finite lives, are amortized over their respective lives to their estimated residual values and are also reviewed for impairment whenever certain triggering events may indicate impairment. When such events or changes in circumstances occur, a recoverability test is performed comparing projected undiscounted cash flows from the use and eventual disposition of an asset group to its carrying value. If the estimated undiscounted cash flows are not sufficient to recover the carrying value of the asset group, the Company then compares the carrying value of the individual long-lived assets with their estimated fair values. An impairment would be recorded for the excess of the carrying value over the fair value. If actual results differ significantly from our projections, we may be required to record a material impairment charge.

As of September 30, 2023, we identified a triggering event in our Material and Substrate segment primarily related to the prolonged downturn and general economic conditions in the semiconductor market, in addition to delays in the adoption of next-gen polishing tools, which reduced our cash flow projections. As a result, we recorded intangible asset impairment of \$5.2 million. There were no impairments on long-lived assets during the years ended September 30, 2022 and 2021. See Note 9 for additional information on intangible assets.

#### **Impact of Recently Issued Accounting Pronouncements**

For discussion of recently issued accounting pronouncements, see "Recently Issued Accounting Pronouncements" within "Note 1. Summary of Operations and Significant Accounting Policies" in "Item 8. Financial Statements and Supplementary Data."

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

As a smaller reporting company, as defined by Rule 12b-2 of the Exchange Act and in Item 10(f)(1) of Regulation S-K, we are electing scaled disclosure reporting obligations and, therefore, are not required to provide the information requested by this Item.

## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following documents are filed as part of this Annual Report on Form 10-K:

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<a href="#">Report of Independent Registered Public Accounting Firm (PCAOB ID Number 248)</a>	49
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### Notes to Consolidated Financial Statements

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Amtech Systems, Inc.

### Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Amtech Systems, Inc. (an Arizona corporation) and subsidiaries (the “Company”) as of September 30, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), shareholders’ equity, and cash flows for each of the two years in the period ended September 30, 2023, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of September 30, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended September 30, 2023, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of September 30, 2023, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”), and our report dated December 14, 2023 expressed an adverse opinion.

### Basis for opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

### Critical audit matters

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

#### *Developed technology acquired with Entrepix, Inc.*

As described further in Note 2 to the financial statements, on January 17, 2023, the Company acquired 100% of the issued and outstanding shares of capital stock of Entrepix, Inc. The total purchase price consideration was \$39.2 million, which \$13.6 million was allocated to separately identified intangible assets, including developed technology of \$6.7 million. The determination of the fair value of the developed technology requires management to make significant estimates and assumptions related to forecasts of future revenues, operating expenses, and the discount rate applied. We identified the fair value assigned to the developed technology on the acquisition date as a critical audit matter.

The principal considerations for our determination that the acquisition date fair value of the developed technology is a critical audit matter are that management utilized significant judgment when estimating the fair value assigned to the developed technology. In turn, auditing management's judgments regarding the assigned fair value involved a high degree of subjectivity due to the estimation uncertainty of management's significant judgments.

Our audit procedures related to the acquisition date fair value of the developed technology included the following, among others.

- We tested management's process for determining the fair value of the acquired developed technology. This included evaluating the appropriateness of the valuation method.
- We evaluated the reasonableness of management's significant assumptions, which included forecasted revenues and operating expenses. We tested whether these forecasts were reasonable and consistent with historical performance and as applicable, third-party market data.
- We tested the reasonableness of the Company's discount rate applied to the present value of the estimated future cash flows model with the assistance of valuation specialists.

#### *Goodwill impairment analysis*

As described further in Notes 1 and 10 to the financial statements, management evaluates goodwill for impairment on an annual basis as of September 30, or more frequently if impairment indicators exist, at the reporting unit level. Management estimates the fair values of its reporting units using a combination of the income and market approaches. The determination of the fair value of a reporting unit requires management to make significant estimates and assumptions related to forecasts of future revenues and operating expenses, and discount rates. We identified the goodwill impairment assessment of the material and substrate reporting unit as a critical audit matter.

The principal consideration for our determination is that management utilized significant judgment when estimating the fair value of the material and substrate reporting unit. In turn, auditing management's judgments regarding forecasts of future revenues and operating expenses, and the discount rate applied, involved a high degree of subjectivity due to the estimation uncertainty of management's significant judgments.

Our audit procedures related to the goodwill impairment assessment of the material and substrate reporting unit included the following, among others.

- We tested management's process for determining the fair value of the material and substrate reporting unit. This included evaluating the appropriateness of the valuation methods and testing the completeness, accuracy and relevance of data used in the models.
- We evaluated the reasonableness of management's significant assumptions, which included forecasted revenues and operating expenses. We tested whether these forecasts were reasonable and consistent with historical performance and third-party market data, as applicable.
- We tested the Company's discounted cash flow model for the material and substrate reporting unit with the assistance of valuation specialists, including the reasonableness of the utilized discount rates.

#### *Long-lived asset impairment analysis*

As described further in Note 1 and Note 9 to the financial statements, the Company reviews long-lived intangible assets for impairment whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. The Company performed long-lived asset impairment evaluations of its asset groups within the material and substrate reporting unit as of September 30, 2023. When performing the impairment assessments, the Company projects undiscounted cash flows at the asset group level. If the asset group is determined not to be recoverable, the Company performs an analysis of the fair value of the individual long-lived assets and will recognize an impairment loss when the fair value is less than the carrying value of such long-lived assets. We identified the valuation of the Entrepix, Inc. developed technology intangible asset as a critical audit matter.

The principal consideration for our determination that the valuation of the developed technology intangible asset at Entrepix, Inc. is a critical audit matter is due to the uncertainties and significant management judgment when estimating the fair value assigned to the developed technology. In turn, auditing management's judgments regarding the assigned fair value involved a high degree of subjectivity due to the estimation uncertainty of management's significant judgments.

Our audit procedures related to the impairment of the developed technology intangible asset at Entrepix, Inc. included the following, among others.

- We tested management's process for determining the fair value of the developed technology. This included evaluating the appropriateness of the valuation method.
- We evaluated the reasonableness of management's significant assumptions, which included forecasted revenues and operating expenses. We tested whether these forecasts were reasonable and consistent with historical performance and third-party market data, as applicable.
- We tested the reasonableness of the Company's discount rate applied to the present value of the estimated future cash flows model with the assistance of valuation specialists.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2021.

Phoenix, Arizona  
December 14, 2023

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and  
Shareholders of:

### AMTECH SYSTEMS, INC. AND SUBSIDIARIES

#### Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of operations, comprehensive income (loss), shareholders' equity and cash flows for the year ended September 30, 2021 of Amtech Systems, Inc. and Subsidiaries (the "Company") and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the results of its operations and its cash flows for the year ended September 30, 2021, in conformity with accounting principles generally accepted in the United States of America.

#### Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

#### Critical Audit Matters

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

#### *Accounting for Income Taxes in Foreign Jurisdictions*

As described in Note 11 to the consolidated financial statements, the Company is subject to income taxes in the United States, as well as China and a number of other foreign jurisdictions. The application of tax laws to the Company's operations can be complex and subject to different interpretations by the Company and respective governmental taxing authorities. The Company exercises judgment for the interpretation of current tax regulations. We identified the auditing of the accounting for income taxes as a critical audit matter.

The principal consideration for our determination that the auditing of income taxes was a critical audit matter was the complex auditor judgment required when evaluating the foreign income tax provisions and use of specialized knowledge and experience necessary in evaluating the completeness of the foreign tax provisions and uncertain tax positions primarily due to the Company's multinational presence in numerous foreign jurisdictions with varying complexity in tax laws and regulations.

The primary procedures we performed to address these critical audit matters included:

- Testing the income tax provision in each significant foreign taxable jurisdiction, including performing procedures designed to test the completeness and accuracy of the permanent and temporary differences by obtaining an understanding of the tax laws applicable in the respective jurisdiction and evaluating communications with tax advisors, accounting records, and tax returns.
- Evaluating and testing the appropriateness of the methods and assumptions used in the Company's identification of deferred tax assets and liabilities and assessment of the valuation of uncertain tax positions in each of its foreign taxable jurisdictions, including the determination of whether the methods were consistent with the requirements of U.S. GAAP, whether the data was appropriately used, and whether the significant assumptions were reasonable and appropriately applied within the methods.
- Engaging tax professionals with specialized skill and knowledge who assisted in (1) obtaining an understanding of the tax laws in each respective jurisdiction; (2) assessing the Company's tax positions, 3) evaluating the Company's interpretation of tax law and its assessment and measurement of certain tax uncertainties and expected outcomes by interpreting tax laws and evaluating and reading advice obtained from the Company.

/s/ MAYER HOFFMAN MCCANN P.C.

We served as the Company's auditor from 2005 to 2021.

Phoenix, Arizona  
November 17, 2021

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders  
Amtech Systems, Inc.

### Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of Amtech Systems, Inc. (an Arizona corporation) (and subsidiaries) (the “Company”) as of September 30, 2023, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). In our opinion, because of the effect of the material weaknesses described in the following paragraphs on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of September 30, 2023, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by COSO.

A material weakness is a deficiency, or combination of control deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company’s annual or interim financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management’s assessment. Management has identified material weaknesses related to information technology general controls in the areas of user access, segregation of duties, and program change-management over information technology systems that support substantially all of the Company’s financial reporting processes. This resulted in the Company’s inability to segregate user duties within the Company’s business processes. A substantial portion of the Company’s controls are dependent upon the information derived from the information technology systems and therefore the dependent controls were concluded to be ineffective. Management has also identified a material weakness related to non-routine and complex transactions, including the preparation and review of the third-party service provider valuation reports in the areas of goodwill and long-lived intangible assets.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated financial statements of the Company as of and for the year ended September 30, 2023. The material weaknesses identified above were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2023 consolidated financial statements, and this report does not affect our report dated December 14, 2023, which expressed an unqualified opinion on those financial statements.

### Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Our audit of, and opinion on, the Company’s internal control over financial reporting does not include the internal control over financial reporting of Entrepix, Inc., a wholly-owned subsidiary, whose financial statements reflect total assets and revenues constituting 27.4 and 16.4 percent, respectively, of the related consolidated financial statement amounts as of and for the year ended September 30, 2023. As indicated in Management’s Report on Internal Control Over Financial Reporting, Entrepix, Inc. was acquired during 2023. Management’s assertion on the effectiveness of the Company’s internal control over financial reporting excluded internal control over financial reporting of Entrepix, Inc.

**Definition and limitations of internal control over financial reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ GRANT THORNTON LLP

Phoenix, Arizona  
December 14, 2023

**PART I. FINANCIAL INFORMATION**  
**ITEM 1. Consolidated Financial Statements**  
**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Balance Sheets**  
(in thousands, except share and per share data)

	September 30,	
	2023	2022
<b>Assets</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 13,133	\$ 46,874
Accounts receivable - Net	26,474	25,013
Inventories	34,845	25,488
Income taxes receivable	632	—
Other current assets	6,105	5,561
<b>Total current assets</b>	<b>81,189</b>	<b>102,936</b>
Property, Plant and Equipment - Net	9,695	6,552
Right-of-Use Assets - Net	11,217	11,258
Intangible Assets - Net	6,114	758
Goodwill	27,631	11,168
Deferred Income Taxes - Net	101	79
Other Assets	1,074	783
<b>Total Assets</b>	<b>\$ 137,021</b>	<b>\$ 133,534</b>
<b>Liabilities and Shareholders' Equity</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 10,815	\$ 7,301
Accrued compensation and related taxes	3,481	4,109
Accrued warranty expense	965	871
Other accrued liabilities	1,551	900
Current portion of finance lease liabilities and long-term debt	2,265	107
Current portion of long-term operating lease liabilities	2,623	2,101
Contract liabilities	8,018	7,231
Income taxes payable	—	6
<b>Total current liabilities</b>	<b>29,718</b>	<b>22,626</b>
Finance Lease Liabilities and Long-Term Debt	8,422	220
Long-Term Operating Lease Liabilities	8,894	9,395
Income Taxes Payable	1,575	2,849
Other Long-Term Liabilities	47	76
<b>Total Liabilities</b>	<b>48,656</b>	<b>35,166</b>
Commitments and Contingencies (Note 15)		
<b>Shareholders' Equity</b>		
Preferred stock; 100,000,000 shares authorized; none issued	—	—
Common stock; \$0.01 par value; 100,000,000 shares authorized; shares issued and outstanding: 14,185,977 and 13,994,154 in 2023 and 2022, respectively	142	140
Additional paid-in capital	126,963	124,458
Accumulated other comprehensive loss	(1,695)	(1,767)
Retained deficit	(37,045)	(24,463)
<b>Total Shareholders' Equity</b>	<b>88,365</b>	<b>98,368</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>\$ 137,021</b>	<b>\$ 133,534</b>

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



**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Operations**  
(in thousands, except per share data)

	Years Ended September 30,		
	2023	2022	2021
Revenue, net	\$ 113,315	\$ 106,298	\$ 85,205
Cost of sales	73,118	66,787	50,675
Intangible asset impairment	4,645	—	—
Gross profit	35,552	39,511	34,530
Selling, general and administrative	42,002	28,300	24,740
Research, development and engineering	7,311	6,390	5,979
Gain on sale of fixed assets	—	(12,465)	—
Intangible asset impairment	544	—	—
Severance expense	665	—	86
Operating (loss) income	(14,970)	17,286	3,725
Interest income	366	210	53
Interest expense	(520)	(164)	(239)
Foreign currency (loss) gain	(89)	1,066	(389)
Other	31	387	284
(Loss) income before income taxes	(15,182)	18,785	3,434
Income tax (benefit) provision	(2,600)	1,418	1,926
<b>Net (loss) income</b>	<u>\$ (12,582)</u>	<u>\$ 17,367</u>	<u>\$ 1,508</u>
<b>(Loss) Income Per Share:</b>			
Net (loss) income per basic share	<u>\$ (0.89)</u>	<u>\$ 1.24</u>	<u>\$ 0.11</u>
Net (loss) income per diluted share	<u>\$ (0.89)</u>	<u>\$ 1.22</u>	<u>\$ 0.11</u>
<b>Weighted average shares outstanding:</b>			
Basic	14,065	14,014	14,189
Diluted	14,065	14,184	14,340

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

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Comprehensive Income (Loss)**  
**(in thousands)**

	Years Ended September 30,		
	2023	2022	2021
Net (loss) income	\$ (12,582 )	\$ 17,367	\$ 1,508
Foreign currency translation adjustment	72	(1,781 )	660
Comprehensive (loss) income	<u>\$ (12,510 )</u>	<u>\$ 15,586</u>	<u>\$ 2,168</u>

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

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Shareholders' Equity**  
(in thousands)

	Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Deficit	Total Shareholders' Equity
	Shares	Par Value	Shares	Cost				
<b>Balances at September 30, 2020</b>	<u>14,063</u>	<u>\$ 141</u>	<u>—</u>	<u>\$ —</u>	<u>\$ 124,435</u>	<u>\$ (646)</u>	<u>\$ (42,411)</u>	<u>\$ 81,519</u>
Net income	—	—	—	—	—	—	1,508	1,508
Translation adjustment	—	—	—	—	—	660	—	660
Stock compensation expense	—	—	—	—	401	—	—	401
Stock options exercised	241	2	—	—	1,544	—	—	1,546
<b>Balances at September 30, 2021</b>	<u>14,304</u>	<u>\$ 143</u>	<u>—</u>	<u>\$ —</u>	<u>\$ 126,380</u>	<u>\$ 14</u>	<u>\$ (40,903)</u>	<u>\$ 85,634</u>
Net income	—	—	—	—	—	—	17,367	17,367
Translation adjustment	—	—	—	—	—	(1,781)	—	(1,781)
Stock compensation expense	—	—	—	—	543	—	—	543
Repurchase of treasury stock	—	—	(434)	(4,115)	—	—	—	(4,115)
Retirement of treasury stock	(434)	(4)	434	4,115	(3,184)	—	(927)	—
Stock options exercised	124	1	—	—	719	—	—	720
<b>Balances at September 30, 2022</b>	<u>13,994</u>	<u>\$ 140</u>	<u>—</u>	<u>\$ —</u>	<u>\$ 124,458</u>	<u>\$ (1,767)</u>	<u>\$ (24,463)</u>	<u>\$ 98,368</u>
Net loss	—	—	—	—	—	—	(12,582)	(12,582)
Translation adjustment	—	—	—	—	—	72	—	72
Stock compensation expense	—	—	—	—	1,272	—	—	1,272
Stock options exercised	192	2	—	—	1,233	—	—	1,235
<b>Balances at September 30, 2023</b>	<u>14,186</u>	<u>\$ 142</u>	<u>—</u>	<u>\$ —</u>	<u>\$ 126,963</u>	<u>\$ (1,695)</u>	<u>\$ (37,045)</u>	<u>\$ 88,365</u>

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

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Cash Flows**  
(in thousands)

	Years Ended September 30,		
	2023	2022	2021
<b>Operating Activities</b>			
Net (loss) income	\$ (12,582)	\$ 17,367	\$ 1,508
Adjustments to reconcile net (loss) income to net cash (used in) provided by operating activities:			
Depreciation and amortization	5,012	1,729	1,398
Write-down of inventory	2,620	102	544
Non-cash intangible asset impairment	5,189	—	—
Provision for allowance for doubtful accounts	14	(32)	44
Deferred income taxes	(2,513)	592	(65)
Non-cash stock-based compensation expense	1,272	543	401
Gain on sale of fixed assets	—	(12,465)	—
Other, net	196	—	43
Changes in operating assets and liabilities:			
Accounts receivable	4,410	(2,479)	(11,023)
Inventories	(6,294)	(3,684)	(5,180)
Contract and other assets	(529)	(2,203)	(686)
Accounts payable	1,459	(1,080)	5,472
Accrued income taxes	(2,897)	623	353
Accrued and other liabilities	(1,895)	584	829
Contract liabilities	(1,163)	5,607	400
Net cash (used in) provided by operating activities	(7,701)	5,204	(5,962)
<b>Investing Activities</b>			
Purchases of property, plant and equipment	(2,898)	(1,135)	(3,012)
Acquisitions, net of cash and cash equivalents acquired	(34,938)	—	(5,082)
Proceeds from sale of property, plant and equipment	6	19,908	—
Net cash (used in) provided by investing activities	(37,830)	18,773	(8,094)
<b>Financing Activities</b>			
Proceeds from the exercise of stock options	1,235	720	1,546
Repurchase of common stock	—	(4,115)	—
Payments on long-term debt	(1,497)	(4,872)	(380)
Borrowings on long-term debt	12,000	—	—
Net cash provided by (used in) financing activities	11,738	(8,267)	1,166
<b>Effect of Exchange Rate Changes on Cash, Cash Equivalents and Restricted Cash</b>	52	(1,672)	656
<b>Net (Decrease) Increase in Cash, Cash Equivalents and Restricted Cash</b>	(33,741)	14,038	(12,234)
<b>Cash, Cash Equivalents and Restricted Cash, Beginning of Year</b>	46,874	32,836	45,070
<b>Cash, Cash Equivalents and Restricted Cash, End of Year</b>	<u>\$ 13,133</u>	<u>\$ 46,874</u>	<u>\$ 32,836</u>
<b>Supplemental Cash Flow Information:</b>			
Income tax payments, net	\$ 2,818	\$ 386	\$ 1,868
Interest paid	\$ 461	\$ 164	\$ 241
<b>Supplemental Non-cash Operating, Financing and Investing Activities:</b>			
Transfer of inventory to property, plant, and equipment	\$ —	\$ 169	\$ 39
Payables due for fixed asset additions	\$ 633	\$ 152	\$ —
Return of fixed assets resulting in loan payoff	\$ 184	\$ —	\$ —
Modification of leased assets resulting in a reduction of lease liabilities	\$ 2,254	\$ —	\$ —
Leased assets obtained in exchange for new operating lease liabilities	\$ 57	\$ 3,686	\$ 3,680
Leased assets obtained in exchange for new finance lease liabilities	\$ 46	\$ 42	\$ 160
Accrued for asset retirement obligation	\$ —	\$ —	\$ 36

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

**Notes to Consolidated Financial Statements**  
**For the Years Ended September 30, 2023, 2022 and 2021**

**1. Summary of Operations and Significant Accounting Policies**

**Description of Business** – Amtech is a leading, global manufacturer of capital equipment, including thermal processing, wafer polishing and cleaning, and related consumables used in fabricating semiconductor devices, such as silicon carbide ("SiC") and silicon power devices, analog and discrete devices, electronic assemblies and light-emitting diodes ("LEDs"). We sell these products to semiconductor device and module manufacturers worldwide, particularly in Asia, North America and Europe.

We serve niche markets in industries that are experiencing technological advances, and which historically have been very cyclical. Therefore, future profitability and growth depend on our ability to develop or acquire and market profitable new products and on our ability to adapt to cyclical trends.

Our fiscal year is from October 1 to September 30. Unless otherwise stated, references to the years 2023, 2022 and 2021 relate to the fiscal years ended September 30, 2023, 2022 and 2021, respectively.

**Principles of Consolidation** – The consolidated financial statements include the accounts of the Company and our wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

**Use of Estimates** – The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

**Reclassifications** – Certain reclassifications have been made to prior year financial statement footnotes to conform to the current year presentation. These reclassifications, which include breakout of non-operating income and expenses in the statements of operations, had no effect on the previously reported consolidated financial statements for any period.

**Cash and Cash Equivalents** – We consider all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Our cash and cash equivalents consist of amounts invested in U.S. money market funds and various U.S. and foreign bank operating and time deposit accounts.

We maintain our cash, cash equivalents and restricted cash in multiple financial institutions. Balances in the United States, which account for approximately 56% and 84% of total cash balances as of September 30, 2023 and 2022, respectively, are primarily invested in financial institutions insured by the FDIC as well as a money market account. The remainder of our cash is maintained with financial institutions with reputable credit in China, Singapore, the United Kingdom and Malaysia. We maintain cash in bank accounts in amounts which at times may exceed federally insured limits. We have not experienced any losses on such accounts.

**Accounts Receivable and Allowance for Doubtful Accounts** – Accounts receivable are recorded at the sales price of products sold to customers on trade credit terms. Accounts receivable are considered past due when payment has not been received from the customer within the normal credit terms extended to that customer. A valuation allowance is established for accounts when collection is no longer probable. Accounts are written off against the allowance when the probability of collection is remote. Historically, these write-offs have been immaterial.

The following is a summary of the activity in our allowance for doubtful accounts, in thousands:

	Years Ended September 30,					
	2023		2022		2021	
Balance at beginning of year	\$	114	\$	188	\$	159
Acquired allowance		125		—		—
Provision		14		(34)		44
Write offs		(114)		6		(2)
Adjustment <sup>(1)</sup>		7		(46)		(13)
Balance at end of year	\$	<u>146</u>	\$	<u>114</u>	\$	<u>188</u>

(1) Primarily foreign currency translation adjustments.

Our net accounts receivable as of September 30, 2023, 2022 and 2021 was \$26.5 million, \$25.0 million and \$22.5 million, respectively.

**Inventories** – We value our inventory at the lower of cost (first-in, first-out method) or net realizable value. Inventory cost includes the purchase price of parts or finished goods, labor, overhead and any freight cost incurred to receive the inventory into our manufacturing facilities. We regularly review inventory quantities and record a write-down to net realizable value for excess and obsolete inventory. The write-down is primarily based on historical inventory usage adjusted for expected changes in product demand and production requirements. Our industry is characterized by customers in highly-cyclical industries, rapid technological changes, frequent new product developments and rapid product obsolescence. Changes in demand for our products could result in further write-downs.

**Other Current Assets** – Other current assets consist of vendor deposits and prepaid expenses. No item included in other current assets makes up more than 5% of total current assets.

**Property, Plant and Equipment** – Property, plant and equipment are recorded at cost upon acquisition. We begin depreciation and amortization when an asset is both in the location and condition for its intended use. Maintenance and repairs are charged to expense as incurred. The cost of property retired or sold and the related accumulated depreciation and amortization are removed from the applicable accounts when disposition occurs and any gain or loss is recognized. Depreciation and amortization are computed using the straight-line method over the estimated useful life of the asset. Useful lives for equipment and machinery range from three to seven years; for leasehold improvements from three to fifteen years; for furniture and fixtures from five to ten years; and for buildings from 20 to 30 years.

Reviews are regularly performed to determine whether facts and circumstances exist which indicate that the useful life is shorter than originally estimated or the carrying amount of assets may not be recoverable. Impairment, if any, is based on the excess of the carrying amount over the estimated fair value of those assets.

**Leases** – We determine if a contract or arrangement is, or contains, a lease at inception. Balances related to operating leases are included in right-of-use ("ROU") assets in our Consolidated Balance Sheets. Balances related to financing leases are immaterial and are included in property, plant and equipment and finance lease liabilities and long-term debt in our Consolidated Balance Sheets. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease.

ROU assets and lease liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As none of our leases provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The ROU asset includes any prepaid lease payments and additional direct costs and excludes lease incentives. Our lease terms may include options to extend or terminate the lease, which we include in the recognition of the ROU asset and lease liability, when it is reasonably certain that we will exercise that option.

We lease office space, buildings, land, vehicles and equipment. We made an accounting policy election not to separate non-lease components from lease components for all existing classes of underlying assets with the exception of land and buildings. Lease agreements with an initial term of 12 months or less with no renewal options are not recorded on the balance sheet. Instead, we recognize the lease expense as incurred over the lease term. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants. We have one lease that requires the underlying asset to be returned to its original condition at the end of the lease term. The related asset retirement obligation, which is immaterial, is reflected within other long-term liabilities in our Consolidated Balance Sheets.

Certain lease agreements include one or more options to renew, with individual option terms that can extend the lease term from one to five years. The exercise of lease renewal options is at our sole discretion. Some equipment leases also include options to purchase the leased property. The estimated life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise.

In June 2022, we entered into a sale-leaseback transaction to facilitate a future move of our Massachusetts operations, pursuant to which we sold the property to a third party and agreed to lease the property back for two years. To determine whether the transfer of the property should be accounted for as a sale, we evaluated whether we transferred control to the third party in accordance with the revenue recognition guidance set forth in ASC 606. The transfer was deemed to be a sale at market terms. Therefore, we recognized the transaction price for the sale based on the cash proceeds received, derecognized the carrying amount of the underlying assets and recognized a gain in the Consolidated Statements of Operations for the difference between the carrying value of the asset and the transaction price. We then accounted for the leaseback in accordance with our lease accounting policy.

**Intangible Assets** – Intangible assets acquired in business combinations are capitalized and subsequently amortized on a straight-line basis over their estimated useful life. We regularly perform reviews to determine if facts and circumstances exist which indicate that the useful lives of our intangible assets are shorter than originally estimated or the carrying amount of these assets may not be recoverable. When indicators exist, recoverability of assets is measured by a comparison of the carrying value of the asset group to the estimated undiscounted future net cash flows expected to be generated by the asset group. If the asset group is determined not to be recoverable, the Company performs an analysis of the fair value of the individual long-lived assets and will recognize an impairment loss when the fair value is less than the carrying value of such long-lived assets. Patent costs consist primarily of legal and filing fees incurred to file patents on proprietary methods and technology we developed. Patent costs are expensed when incurred, as they are insignificant.

In the fourth quarter of the year ended September 30, 2023, we recorded an impairment of definite lived intangible assets in our Material and Substrate segment. See Note 9 for a description of the facts and circumstances leading to the intangible asset impairment.

**Goodwill** – Goodwill is recorded when the purchase price paid for an acquisition exceeds the estimated fair value of net identified tangible and intangible assets acquired. Goodwill is not subject to amortization but is tested for impairment annually or when it is determined that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If it is concluded that there is impairment, we would recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value (although the loss would not exceed the total amount of goodwill allocated to the reporting unit).

**Revenue Recognition** – We recognize revenue when a customer obtains control of promised goods or services in an amount that reflects the consideration expected to be received in exchange for those goods or services. A performance obligation is a promise in a contract to transfer a product or service to the customer. The transaction price of a contract is allocated to each distinct performance obligation based upon the relative standalone selling price ("SSP") for each performance obligation and is recognized as revenue upon satisfaction of the performance obligation. We have elected the practical expedient in ASC 606 whereby an entity need not adjust the promised amount of consideration for the effects of a significant financing component if the entity expects, at contract inception, that the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less. We have also elected the practical expedient in ASC 606 whereby an entity may recognize revenue on an as-invoiced basis in certain cases where performance obligations are satisfied over time and the invoiced amount corresponds directly with the value the provided to the customer. To record revenue properly, we apply the following five steps:

1) *Identify the contract with the customer*

A contract with a customer exists when (i) we enter into an enforceable contract with a customer that defines each party's rights regarding the goods or services to be transferred and identifies the related payment terms, (ii) the contract has commercial substance, and (iii) we determine that collection of substantially all consideration for goods and services that will be transferred is probable based on the customer's intent and ability to pay the promised consideration.

2) *Identify the performance obligations in the contract*

Performance obligations are identified based on the goods and services that will be transferred to the customer that are both (i) capable of being distinct, whereby the customer can benefit from the good or service either on its own or together with other available resources, and (ii) are distinct in the context of the contract, whereby the transfer of the good or service is separately identifiable from other promises to the customer in the contract. To the extent a contract includes multiple promised goods and services, we must apply judgment to determine whether promised goods and services are capable of being distinct and distinct in the context of the contract. If these criteria are not met, the promised goods and services are accounted for as a combined performance obligation.

Our equipment sales consist of multiple promises, including the delivery of the system itself and obligations that are not delivered simultaneously with the system, such as installation services and training. In most cases, these services require minimal effort and are immaterial in the context of the contract. Therefore, equipment and related services are treated as one performance obligation. Customers who purchase new systems are provided an assurance-type warranty, generally for periods of 12 to 36 months. Assurance-type warranties are not considered a performance obligation.

We account for shipping and handling activities that occur after control of the related good transfers as fulfillment activities instead of assessing such activities as performance obligations.

Our obligations for returns and/or refunds are immaterial in all periods presented.

3) *Determine the transaction price*

The transaction price is determined based on the consideration to which we will be entitled in exchange for transferring goods and services to the customer.

The transaction price is based on the price reflected in the individual customer's purchase order.

Occasionally, our customers earn a commission on the purchase and/or resale of our products. These payments to customers are recorded as a reduction of revenue and are less than 5% of our total revenues.

In substantially all of our sales transactions, we incur incremental costs to obtain contracts with customers, in the form of sales commissions. We maintain a commission program which rewards our sales representatives for system sales and our employees for system sales and other individual goals. We have elected a practical expedient to allow for the recognition of commission expense when incurred if the amortization period of the asset that the entity otherwise would have recognized is one year or less. Based on the nature of our contracts with customers, we expense all commissions as incurred based upon the expectation that the amortization period would be one year or less.

4) *Allocate the transaction price to performance obligations in the contract*

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each distinct performance obligation.

When required, the SSP for each performance obligation is based on observable data from standalone sales. To determine the SSP for labor-related performance obligations, we use directly observable inputs based on the standalone sale prices for these services.



5) *Recognize revenue when, or as, we satisfy a performance obligation*

We satisfy performance obligations either over time or at a point in time. Revenue is recognized over time if either (i) the customer simultaneously receives and consumes the benefits provided by our performance, (ii) our performance creates or enhances an asset that the customer controls as the asset is created or enhanced, or (iii) our performance does not create an asset with an alternative use to the entity and we have an enforceable right to payment for performance completed to date. If we do not satisfy a performance obligation over time, the related performance obligation is satisfied at a point in time by transferring the control of a promised good or service to a customer. For over time recognition, we are required to select a single revenue recognition method for the performance obligation that faithfully depicts our performance in transferring control of the goods and services.

Equipment and related product revenues (e.g., furnace systems, system add-ons, machinery, consumables and spare parts) are recognized at a point in time, when they are shipped or delivered, depending on contractual terms.

Revenue for services, including maintenance services, is recognized over time based on hours incurred, as the hours incurred align to the maintenance activities performed. We also utilize the as-invoiced practical expedient in certain cases where performance obligations are satisfied over time and the invoiced amount corresponds directly with the value provided to the customer.

We exclude from the transaction price all sales taxes that are assessed by a governmental authority and that are imposed on and concurrent with a specific revenue-producing transaction and collected from a customer (for example, sales, use, value added, and certain excise taxes). Sales taxes are presented on a net basis (excluded from revenues) in our Consolidated Statements of Operations. Our remaining performance obligations as of September 30, 2023, have an original duration of one year or less. Our customers generally have payment terms of 60-90 days. We do not have any payment terms that exceed one year from the point we have satisfied the related performance obligations.

Management reviews disaggregated revenue at the reportable segment level. Revenue-generating transactions vary between our reportable segments due to several factors. For example, lead times vary among our reportable segments and among our products. Most of the revenue for our Material and Substrate segment results from the sale of consumables, rather than equipment sales. These consumables have a much shorter production period than equipment produced by our other reportable segment. Due to these variations between reportable segments, management determined that disaggregated revenue by reportable segment sufficiently depicts how economic factors affect the nature, amount, timing and uncertainty of our revenue and cash flows. See Note 16 for additional information on our reportable segments.

**Contract Assets** – Contract assets consist of amounts we are not legally able to invoice but have completed the related performance obligation. These amounts generally arise from variances between the contractual payment terms and the transaction price assigned to the open performance obligations (e.g., we have recognized revenue in an amount greater than the amount that is billable under the contract). There were no contract assets at September 30, 2023 and 2022.

**Contract Liabilities** – Contract liabilities are reflected in current liabilities on the Consolidated Balance Sheets as all performance obligations are expected to be satisfied within the next 12 months. Contract liabilities include customer deposits and deferred revenue. Contract liabilities relate to payments invoiced or received in advance of completion of performance obligations under a contract. Contract liabilities are recognized as revenue upon the fulfillment of performance obligations.

The following is a summary of activity for contract liabilities, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Beginning balance	\$ 7,231	\$ 1,624	\$ 1,224
New deposits	4,058	7,231	1,624
Deferred revenue	169	—	—
Revenue recognized	(3,005)	(1,624)	(1,224)
Adjustment	(435)	—	—
Ending balance	<u>\$ 8,018</u>	<u>\$ 7,231</u>	<u>\$ 1,624</u>

As of September 30, 2023, we had approximately \$51.8 million of remaining performance obligations, which included recognized contract liabilities as well as amounts to be invoiced and recognized in future periods. As of September 30, 2022, we had approximately \$50.8 million of remaining performance obligations. The orders included in our remaining performance obligations are expected to ship within the next twelve months.

**Warranty** – A limited warranty is provided free of charge, generally for periods of 12 to 36 months to all purchasers of our new products and systems. Accruals are recorded for estimated warranty costs at the time revenue is recognized. While our warranty costs have historically been within our expectations and we believe that the amounts accrued for warranty expenditures are sufficient for all systems sold through September 30, 2023, we cannot guarantee that we will continue to experience a similar level of predictability with regard to warranty costs. In addition, technological changes or previously unknown defects in raw materials or components may result in more extensive and frequent warranty service than anticipated, which could result in an increase in our warranty expense.

The following is a summary of activity in accrued warranty expense, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Beginning balance	\$ 871	\$ 545	\$ 380
Additions for warranties issued during the period	590	821	250
Costs incurred during the period	(64)	(36)	(9)
Changes related to pre-existing warranties	(432)	(459)	(76)
Ending balance	<u>\$ 965</u>	<u>\$ 871</u>	<u>\$ 545</u>

**Shipping Expense** – Shipping expenses were \$2.6 million, \$2.4 million and \$0.8 million for 2023, 2022 and 2021, respectively, and are included in selling, general and administrative expenses.

**Advertising Expense** – Advertising costs are expensed as incurred. Advertising expenses were \$0.6 million, \$0.4 million and \$0.2 million for 2023, 2022 and 2021, respectively, and are included in selling, general and administrative expenses.

**Stock-Based Compensation** – We measure compensation costs relating to share-based payment transactions based upon the grant-date fair value of the award. Those costs are recognized as expense over the requisite service period, which is generally the vesting period, with forfeitures recognized as they occur. We estimate the fair value of stock option awards on the date of grant using the Black-Scholes option-pricing model. The Black-Scholes model requires us to apply estimates, including expected stock price volatility, expected life of the option and the risk-free interest rate. We issue new shares under our existing equity plans upon the exercise of stock options.

We recognize compensation expense associated with the issuance of RSUs over the requisite service period for each respective grant. The total compensation expense associated with RSUs represents the value based upon the number of RSUs awarded multiplied by the closing price of our common stock on the date of grant. Recipients of RSUs do not have voting or dividend rights until the vesting conditions are satisfied and shares are released. We issue new shares under our existing equity plans upon the vesting of RSUs.

**Research, Development and Engineering Expenses** – RD&E expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes as well as materials and supplies used in producing prototypes. RD&E expenses may vary from period to period depending on the engineering projects in process. Expenses related to engineers working on strategic projects or sustaining engineering projects are recorded in RD&E. However, from time to time we add functionality to our products or develop new products during engineering and manufacturing to fulfill specifications in a customer's order, in which case the cost of development, along with other costs of the order, are charged to cost of goods sold.

**Foreign Currency Transactions and Translation** – We use the U.S. dollar as our reporting currency. Our operations in the UK, China and other countries are primarily conducted in their functional currencies, the Euro, Renminbi, or the local country currency, respectively. Accordingly, assets and liabilities of the subsidiaries are translated into U.S. dollars at the exchange rate in effect at the balance sheet dates. Income and expense items are translated at the average

exchange rate for each month within the year. The resulting translation adjustments are recorded directly in accumulated other comprehensive income (loss), net of tax - foreign currency translation adjustments as a separate component of shareholders' equity. Net foreign currency transaction gains/losses, including transaction gains/losses on intercompany balances that are not of a long-term investment nature and non-functional currency cash balances, are reported as a separate component of non-operating (income) expense in our Consolidated Statements of Operations.

**Income Taxes** – We file consolidated federal income tax returns in the United States for all subsidiaries except those in China, Singapore and the UK, where separate returns are filed. We account for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and deferred tax liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, we determine deferred tax assets and deferred tax liabilities on the basis of the differences between the financial statement and tax bases of assets and liabilities by using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and deferred tax liabilities is recognized in income in the period that includes the enactment date.

We recognize deferred tax assets to the extent that we believe that these assets are more likely than not to be realized. In making such a determination, we consider all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, carryback potential if permitted under the tax law and results of recent operations. If we determine that we are not be able to realize our deferred tax assets, we make an adjustment to the deferred tax asset to recognize only the portion of the asset that is more likely than not to be realized by recording a valuation allowance.

We record uncertain tax positions in accordance with ASC 740 on the basis of a two-step process in which (1) we determine whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (2) for those tax positions that meet the more-likely-than-not recognition threshold, we recognize the largest amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement with the related tax authority. We recognize interest and penalties related to uncertain tax benefits on the income tax expense line in the accompanying consolidated statement of operations. Accrued interest and penalties, if applicable, are included on the income taxes payable long-term line in the Consolidated Balance Sheets.

**Concentrations of Credit Risk** – Our customers are primarily manufacturers of semiconductor substrates and devices and electronic assemblies. Financial instruments that potentially subject us to significant concentrations of credit risk consist principally of cash and trade accounts receivable. Credit risk is managed by performing credit evaluations of the customers' financial condition, by requiring significant deposits where appropriate, and by actively monitoring collections. Letters of credit are required of certain customers depending on the size of the order, type of customer or its creditworthiness, and country of domicile.

As of September 30, 2023, two Semiconductor customers individually represented 17% and 17% of accounts receivable. As of September 30, 2022, one Semiconductor customer individually represented 12% of accounts receivable.

Refer to Note 18 for information regarding revenue and assets in other countries subject to fluctuation in foreign currency exchange rates.

**Fair Value of Financial Instruments** – We group our financial assets and liabilities measured at fair value on a recurring basis into three levels, based on the markets in which the assets and liabilities are traded and the reliability of the assumptions used to determine fair value. These levels are:

Level 1 – Valuation is based upon quoted market price for identical instruments traded in active markets.

Level 2 – Valuation is based on quoted market prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market.

Level 3 – Valuation is generated from model-based techniques that use significant assumptions not observable in the market. Valuation techniques include use of discounted cash flow models and similar techniques.

It is our policy to use observable inputs whenever reasonably practicable in order to minimize the use of unobservable inputs when developing fair value measurements. When available, we use quoted market prices to measure fair value. If market prices are not available, the fair value measurement is based on models that use primarily market-based parameters including interest rate yield curves, option volatilities and currency rates. In certain cases, where market rate assumptions are not available, we are required to make judgments about assumptions market participants would use to estimate the fair value of a financial instrument. Changes in the underlying assumptions used, including discount rates and estimates of future cash flows, could significantly affect current or future valuations.

*Cash, Cash Equivalents and Restricted Cash* – Included in cash and cash equivalents and restricted cash in the Consolidated Balance Sheets are money market funds and time deposit accounts. Cash equivalents are classified as Level 1 in the fair value hierarchy.

*Receivables and Payables* – The recorded amounts of these financial instruments, including accounts receivable and accounts payable, approximate their fair value because of the short maturities of these instruments.

*Debt* – The carrying value of debt under our Loan Agreement is based on fixed interest rates. At September 30, 2023, the carrying value of the Company's total debt was \$10.6 million, which approximates fair value. The fair value for the Loan Agreement was estimated by discounting the future cash flows using the current rates at which similar loans would be made to borrowers with similar credit ratings and is therefore classified as Level 2 in the fair value hierarchy.

## Recently Issued Accounting Pronouncements

In October 2021, the Financial Accounting Standards Board issued Accounting Standards Update 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers (“ASU 2021-08”), which requires an acquirer in a business combination to recognize and measure contract assets and contract liabilities in accordance with ASC Topic 606. ASU 2021-08 is effective for fiscal years beginning after December 15, 2022 and early adoption is permitted. We adopted the amendments in ASU 2021-08 as of October 1, 2022, without a material impact on our consolidated financial statements.

There were no other new accounting pronouncements issued or effective as of September 30, 2023 that had or are expected to have a material impact on our consolidated financial statements.

## 2. Acquisitions

### *Entrepix*

On January 17, 2023 (the “Closing Date”), the Company acquired through a reverse triangular merger 100% of the issued and outstanding shares of capital stock of Entrepix, Inc., an Arizona corporation (“Entrepix”), which primarily manufactures chemical mechanical polishing (“CMP”) technology. Entrepix’s CMP technology portfolio and water cleaning equipment complements our existing substrate polishing and wet process chemical offerings. Under the terms of the Agreement and Plan of Merger dated January 17, 2023 (the “Merger Agreement”), Emerald Merger Sub, Inc., a wholly-owned subsidiary of the Company (“Merger Sub”), merged with and into Entrepix (the “Merger”), resulting in Entrepix surviving the Merger and becoming a wholly-owned subsidiary of the Company (the “Acquisition”).

On the Closing Date, in contemplation of the Acquisition, the Company entered into a Loan and Security Agreement with UMB Bank, N.A. (the “Lender”), under which the Lender provided the Company with (i) a \$12.0 million term loan maturing January 17, 2028 (“Term Loan”), and (ii) an \$8.0 million revolving loan facility maturing January 17, 2024 (see Note 12). The proceeds of the Term Loan were used to partially fund the Acquisition.

The Acquisition is accounted for using the acquisition method of accounting for business combinations under FASB ASC Topic No. 805, Business Combinations (“ASC 805”), with Amtech representing the accounting acquirer under this guidance. The Company elected to apply pushdown accounting per ASC 805-50-50-5.

*Summary of Consideration Transferred* – The total consideration for the Acquisition was \$39.2 million, consisting of \$35.2 million cash consideration to the sellers and \$4.0 million cash paid for debt and Entrepix transaction costs.

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the estimated future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Such assets include synergies the Company expects to achieve, such as deeper penetration into an overlapping customer base, complementary product offerings, and cost redundancy reductions. In accordance with the measurement principles in ASC 820, Fair Value Measurement, the purchase consideration for the Acquisition has been allocated under the acquisition method of accounting to the estimated fair market value of the net assets acquired, including a residual amount of goodwill, none of which is deductible for tax purposes. The recorded amounts of acquired accounts receivable and accounts payable approximate their fair value because of the short maturities of these assets and liabilities. The fair value of acquired property, plant and equipment was based on quoted market prices for similar assets in active markets. The fair value of acquired identifiable intangible assets were estimated using various valuation methodologies, including the multi-period excess earnings method, the relief from royalty method and the distributor method. Amtech's acquisition costs incurred were \$2.5 million as of year ended September 30, 2023, and were recorded as selling, general and administrative expenses in the accompanying Consolidated Statements of Operations. The following table summarizes the provisional fair values assigned to identifiable assets acquired and liabilities assumed, in thousands:

	January 17, 2023	Measurement Period Adjustments	September 30, 2023
<b>Fair value of total cash consideration transferred</b>	\$ 39,787	\$ (560 )	\$ 39,227
<b>Estimated fair value of identifiable assets acquired and liabilities assumed:</b>			
Cash and cash equivalents	\$ 4,289	\$ —	\$ 4,289
Accounts receivable, net	5,681	203	5,884
Inventories	5,683	—	5,683
Other current assets	179	—	179
Property, plant, and equipment	2,051	(11 )	2,040
Right-of-use assets	2,246	—	2,246
Intangible assets	12,800	800	13,600
Goodwill	18,089	(1,626 )	16,463
Other assets	31	49	80
Total assets acquired	51,049	(585 )	50,464
Accounts payable	1,574	—	1,574
Other accrued liabilities	1,170	824	1,994
Contract liabilities	1,662	287	1,949
Income taxes payable	1,447	(462 )	985
Current portion of long-term operating lease liabilities	515	—	515
Long-term operating lease liabilities	1,730	—	1,730
Deferred tax liability	3,164	(674 )	2,490
Total liabilities assumed	11,262	(25 )	11,237
Net assets acquired	<u>\$ 39,787</u>	<u>\$ (560 )</u>	<u>\$ 39,227</u>

The establishment of the allocation to goodwill requires the extensive use of accounting estimates and management judgment. In accordance with ASC 805, the Company has up to one year from the acquisition date (referred to as the measurement period) to account for changes in the fair values of the identifiable assets acquired and the liabilities assumed in the acquired entity. As of the issuance of the consolidated financial statements for the year ended September 30, 2023, the Company has not finalized its calculation of deferred tax assets or liabilities, income taxes payable, and the resulting adjustments to goodwill. The tax-related items will be finalized pending a consolidated analysis of the combined tax attributes of the Acquisition. If a change in any of these items is identified during the measurement period, the Company will record the cumulative impact of measurement period adjustments in the period the adjustment is identified. Certain measurement period adjustments were recorded during the year ended September 30, 2023, primarily arising from the Company's finalization of the valuation of acquired assets and updated assumptions underlying the tax provision. These adjustments were all offset against goodwill.

The fair value associated with acquired intangible assets and their associated weighted-average amortization periods consist of the following, in thousands:

	Classification of Amortization	Amount	Weighted-Average Amortization Period
Developed technology	Cost of sales	\$ 6,700	5.0 years
Customer relationships	Selling, general and administrative	2,800	10.0 years
Backlog	Selling, general and administrative	2,100	1.0 year
Trade names	Selling, general and administrative	1,800	10.0 years
Noncompetition agreements	Selling, general and administrative	200	5.0 years
Total intangible assets		<u>\$ 13,600</u>	6.1 years

*Unaudited Pro Forma Financial Information* – Entrepix is included in the Company’s consolidated results beginning January 17, 2023. Total revenues and net loss attributable to Entrepix for the period from January 17, 2023 to September 30, 2023 were \$18.6 million and \$(3.7) million, respectively.

The following unaudited pro forma financial information presents the combined results of operations of Amtech and Entrepix, in thousands, as if the acquisition occurred on October 1, 2021. The unaudited pro forma financial information is presented for informational purposes only and is not indicative of the results of operations that would have been achieved if the acquisition had taken place on the date indicated or of results that may occur in the future.

	Year Ended September 30			
	2023		2022	
Revenues, Net	\$	121,020	\$	129,781
Net (Loss) Income	\$	(13,099 )	\$	13,946

The unaudited pro forma financial information presented above include the following adjustments:

Year ended September 30, 2023 and September 30, 2022

- incremental of amortization expense on intangible assets acquired of \$1.0 million and \$3.9 million for the year ended September 30, 2023 and September 30, 2022, respectively;
- reversal of depreciation expense for property, plant, and equipment of \$0.2 million and \$0.2 million for the year ended September 30, 2023 and September 30, 2022, respectively;
- incremental interest expense on the Term Loan of \$0.6 million and \$0.7 million for the year ended September 30, 2023 and September 30, 2022, respectively; and
- non-recurring adjustments directly attributable to the business combination, including acquisition related costs of \$2.5 million for the year ended September 30, 2022.

The unaudited pro forma financial information includes adjustments to align accounting policies, which were materially similar to the Company’s accounting policies. Any differences in accounting policies were adjusted to reflect the accounting policies of the Company in the unaudited pro forma financial information presented.

#### *Intersurface Dynamics*

On March 3, 2021, we acquired 100% of the issued and outstanding capital stock of Intersurface Dynamics, a Connecticut-based manufacturer of substrate process chemicals used in various manufacturing processes, including semiconductors, silicon and compound semiconductor wafers, and optics, for a cash purchase price of \$5.3 million. The total fair value of net assets acquired was approximately \$0.7 million, including \$0.4 million of identifiable intangible assets consisting of customer relationships and trade name, which are amortized using the straight-line method over their estimated useful lives of ten and three years, respectively. Goodwill acquired approximated \$4.5 million, which was recorded in our Material and Substrate segment. Intersurface Dynamics's results of operations are included in our Material and Substrate segment from the date of acquisition. Our historical results would not have been materially affected by the acquisition of Intersurface Dynamics.

### 3. Earnings Per Share & Diluted Earnings Per Share

Basic EPS is computed by dividing net income (loss) available to common shareholders by the weighted average number of common shares outstanding for the period. Diluted EPS is computed similarly to basic EPS except that the denominator is increased to include the number of additional common shares that would have been outstanding if potentially dilutive common shares had been issued. Dilutive potential common shares include outstanding RSUs and stock options. In the case of a net loss, diluted EPS is calculated in the same manner as basic EPS.

For the years 2023, 2022 and 2021, options for 327,000, 189,000 and 101,000 weighted average shares, respectively, were excluded from the diluted EPS calculations because they were anti-dilutive. These shares could become dilutive in the future.

A reconciliation of the denominators of the basic and diluted EPS calculations follows, in thousands, except per share amounts:

	Years Ended September 30,		
	2023	2022	2021
<b>Numerator:</b>			
Net (loss) income	\$ (12,582)	\$ 17,367	\$ 1,508
<b>Denominator:</b>			
Weighted-average shares used to compute basic EPS	14,065	14,014	14,189
Dilutive potential common shares due to stock options (1)	—	170	151
Dilutive potential common shares due to RSUs (1)	—	—	—
Weighted-average shares used to compute diluted EPS	14,065	14,184	14,340
<b>(Loss) Income per share:</b>			
Net (loss) income per basic share	\$ (0.89)	\$ 1.24	\$ 0.11
Net (loss) income per diluted share	\$ (0.89)	\$ 1.22	\$ 0.11

(1) The number of common stock equivalents is calculated using the treasury stock method and the average market price during the period.

### 4. Severance

We recorded severance expense of \$0.7 million in 2023. This charge primarily relates to the retirement of our founder, Mr. J.S. Whang. The activity during 2021 is the result of staff reductions in our Semiconductor and Material and Substrate operations. The outstanding obligations as of and for the years ended September 30, 2023, 2022 and 2021 are as follows, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Balance at beginning of the year	\$ —	\$ 17	\$ 102
Severance expense, net of adjustments	665	—	86
Cash payments	(511)	(17)	(171)
Balance at the end of the year	\$ 154	\$ —	\$ 17

### 5. Inventories

The components of inventories are as follows, in thousands:

	September 30,	
	2023	2022
Purchased parts and raw materials	\$ 22,627	\$ 15,377
Work-in-process	7,774	6,146

Finished goods	4,444	3,965
	<u>\$ 34,845</u>	<u>\$ 25,488</u>

In the Material and Substrate segment, we recorded \$1.5 million related to the write-off of inventory for our polishing machine products in the year ended September 30, 2023.

## 6. Property, Plant and Equipment

The following is a summary of property, plant and equipment, in thousands:

	September 30,	
	2023	2022
Land	\$ 189	\$ 189
Buildings	717	717
Building and leasehold improvements	2,881	2,694
Equipment and machinery	9,200	7,238
Furniture and fixtures	3,160	2,307
Software	1,970	—
	18,117	13,145
Accumulated depreciation and amortization	(8,422)	(6,593)
	<u>\$ 9,695</u>	<u>\$ 6,552</u>

Depreciation was \$1.9 million, \$1.6 million and \$1.2 million in 2023, 2022 and 2021, respectively.

## 7. Sale and Leaseback of Real Estate

On June 23, 2022, BTU completed the sale and leaseback of its building in Massachusetts (the “Property”). The sale price was \$20.6 million, of which \$0.7 million was deducted at closing for commission and other closing expenses. Simultaneously with the closing, BTU entered into a two-year leaseback of the Property. The lease terms include annual base rent of \$1.5 million in an absolute triple net lease. In connection with the sale, BTU recognized a pre-tax gain on sale of \$12.5 million, which is recorded within operating expenses on the Consolidated Statement of Operations. This sale-leaseback transaction resulted in a net cash inflow of approximately \$14.9 million, after repayment of the existing mortgage and settlement of related sale expenses.

## 8. Leases

The following table provides information about the financial statement classification of our lease balances reported within the Consolidated Balance Sheets as of September 30, 2023 and 2022, in thousands:

	September 30,	
	2023	2022
<u>Assets</u>		
Right-of-use assets - operating	\$ 11,217	\$ 11,258
Right-of-use assets - finance	123	149
Total right-of-use assets	<u>\$ 11,340</u>	<u>\$ 11,407</u>
<u>Liabilities</u>		
Current		
Operating lease liabilities	\$ 2,623	\$ 2,101
Finance lease liabilities	64	71
Total current portion of long-term lease liabilities	2,687	2,172
Long-term		
Operating lease liabilities	8,894	9,395
Finance lease liabilities	50	76
Total long-term lease liabilities	8,944	9,471
Total lease liabilities	<u>\$ 11,631</u>	<u>\$ 11,643</u>



The following table provides information about the financial statement classification of our lease expenses reported in the Consolidated Statements of Operations for the years ended September 30, 2023, 2022 and 2021, in thousands:

Lease cost	Classification	Years Ended September 30,		
		2023	2022	2021
Operating lease cost	Cost of sales	\$ 2,318	\$ 822	\$ 536
Operating lease cost	Selling, general and administrative expenses	781	359	256
Operating lease cost	Research, development and engineering	13	14	—
Finance lease cost	Cost of sales	4	4	5
Finance lease cost	Selling, general and administrative expenses	76	71	17
Short-term lease cost	Cost of sales	25	—	191
Total lease cost		<u>\$ 3,217</u>	<u>\$ 1,270</u>	<u>\$ 1,005</u>

Future minimum lease payments under non-cancelable leases as of September 30, 2023 are as follows, in thousands:

Years Ending September 30,	Operating Leases	Finance Leases	Total
2024	\$ 3,131	\$ 68	\$ 3,199
2025	2,040	20	2,060
2026	1,707	20	1,727
2027	1,100	12	1,112
2028	1,108	2	1,110
Thereafter	5,160	—	5,160
Total lease payments	14,246	122	14,368
Less: Interest	2,729	8	2,737
Present value of lease liabilities	<u>\$ 11,517</u>	<u>\$ 114</u>	<u>\$ 11,631</u>

Operating lease payments include \$2.3 million related to options to extend lease terms that are reasonably certain of being exercised. During 2023, we reassessed the options to extend the term of the lease on our manufacturing facility in Carlisle, Pennsylvania, and determined it was not reasonably certain that Amtech would exercise those options. As a result, we reduced our ROU Asset and the related ROU Operating Lease liability by \$2.7 million.

The following table provides information about the remaining lease terms and discount rates applied as of September 30, 2023 and 2022:

	September 30,	
	2023	2022
Weighted average remaining lease term		
Operating leases	7.31 years	12.65 years
Finance leases	2.54 years	2.45 years
Weighted average discount rate		
Operating leases	5.50 %	4.17 %
Finance leases	4.91 %	4.17 %

As of September 30, 2023, we have entered into a lease that has not yet commenced. We expect to record \$7.1 million of ROU asset and lease liability upon the commencement of this new lease in the third quarter of fiscal 2024.

## 9. Intangible Assets

Intangible assets consist of the following, in thousands:

	Amortization Period	September 30,	
		2023	2022
Backlog	1 year	\$ 2,100	\$ —
Customer relationships	6-10 years	4,409	1,609
Developed technology	5 years	6,700	—
Noncompetition agreements	5 years	200	—
Trade names	3-15 years	2,679	879
		16,088	2,488
Accumulated amortization		(4,785 )	(1,730 )
Less asset impairments:			
Backlog		(425 )	—
Customer relationships		(119 )	—
Developed technology		(4,645 )	—
Intangible assets, net		<u>\$ 6,114</u>	<u>\$ 758</u>

Intangible assets are amortized over a weighted-average amortization period of 6.6 years. Our customer relationship and trade name intangible assets are amortized over weighted-average amortization periods of 2.4 and 1.9 years, respectively.

During each fiscal year, we periodically assessed whether any indicators of impairment existed related to our intangible assets. As of each interim period end during each fiscal year, we concluded that a triggering event had not occurred that would more likely than not reduce the fair value of intangible assets below their carrying value. We identified a triggering event at the end of September 2023, primarily related to the prolonged downturn and general economic conditions in the semiconductor market, in addition to delays in the adoption of next-gen polishing tools, which reduced our cash flow projections. This triggering event indicated we should test the related long-lived assets for impairment in our Material and Substrate segment. We tested each identified asset group within our Material and Substrate segment by first performing a recoverability test, comparing projected undiscounted cash flows from the use and eventual disposition of each asset group to its carrying value. This test indicated that the undiscounted cash flows were not sufficient to recover the carrying value of certain asset groups. We then compared the carrying value of the individual long-lived assets within those asset groups against their fair value in order to determine if impairment existed. Determining the fair value of those asset groups involves the use of significant estimates and assumptions, including projections of revenues and expenses and related cash flows based on assumed long-term growth rates and demand trends, and estimated discount rates based on the asset group's weighted average return on assets, as derived from various methods. The fair value of the intangible assets were estimated using various valuation methodologies, including the multi-period excess earnings method, the relief from royalty method and the distributor method. These fair value measurements fall under Level 3 of the fair value hierarchy. As a result, we recorded a total impairment charge for intangible assets in our Materials and Substrate segment of \$5.2 million during the year ended September 30, 2023. This impairment charge relates to developed technology and backlog at Entrepix and customer relationships at Intersurface Dynamics.

Amortization expense related to intangible assets was \$3.1 million, \$0.1 million and \$0.2 million in 2023, 2022 and 2021, respectively. Future amortization expense for the remaining unamortized balance as of September 30, 2023 is estimated as follows, in thousands:

Years Ending September 30,	Amortization Expense	
2024	\$	929
2025		828
2026		828
2027		828
2028		613
Thereafter		2,088
Total	\$	<u>6,114</u>

## 10. Goodwill

The changes in the carrying amount of goodwill, by reportable segment, for the year ended September 30, 2023 are as follows, in thousands:

	Semiconductor	Material and Substrate	Total Goodwill
Goodwill	\$ 5,905	\$ 5,263	\$ 11,168
Accumulated impairment losses	—	—	—
Balance at September 30, 2022	5,905	5,263	11,168
Goodwill acquired	—	16,463	16,463
Impairment of goodwill	—	—	—
Balance at September 30, 2023	<u>\$ 5,905</u>	<u>\$ 21,726</u>	<u>\$ 27,631</u>
Goodwill	\$ 5,905	\$ 21,726	\$ 27,631
Accumulated impairment losses	—	—	—
Balance at September 30, 2023	<u>\$ 5,905</u>	<u>\$ 21,726</u>	<u>\$ 27,631</u>

On January 17, 2023, we acquired Entrepix, which has been integrated into our Material and Substrate segment. Under the purchase method of accounting, the purchase price for the acquisition was allocated to the tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values. The excess purchase price over fair value of net assets acquired of approximately \$16.5 million was recorded as goodwill in the Material and Substrate segment. The primary driver for this acquisition was to add CMP and wafer cleaning equipment to our existing substrate polishing and wet process chemical offerings.

During each fiscal year, we periodically assess whether any indicators of impairment existed which would require us to perform an interim impairment review. As of each interim period end during each fiscal year, we concluded that a triggering event had not occurred that would more likely than not reduce the fair value of our reporting units below their carrying values. We performed our annual test of goodwill for impairment as of September 30. We also identified a triggering event at the end of September 2023. The triggering event coincided with our annual goodwill impairment testing date. The results of the goodwill impairment test indicated that the fair value of both our Semiconductor and Material and Substrate reporting units were in excess of the carrying value, and, thus, were not impaired.

Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. Our goodwill impairment test uses a weighting of the income approach and the market approach to estimate a reporting unit's fair value. The income approach is based on a discounted future cash flow analysis that uses certain assumptions including: projections of revenues and expenses and related cash flows based on assumed long-term growth rates and demand trends; expected future investments and working capital requirements to sustain and grow the business; and estimated discount rates based on the reporting unit's weighted average cost of capital as derived by the Capital Asset Pricing Model and other methods, which includes observable market inputs and other data from identified comparable companies. The same estimates are also used internally for our capital budgeting process, and for long-term and short-term business planning and forecasting. We test the reasonableness of the inputs and outcomes of our discounted cash flow analysis against available comparable market data, and we also perform a reconciliation of our total market

capitalization to the estimated fair value of all of our reporting units. The market approach is based on the application of appropriate market-derived multiples selected from (i) comparable publicly-traded companies and/or (ii) the implied transaction multiples derived from identified merger and acquisition activity in the market. Multiples are then selected based on a comparison of the reviewed data to that of the reporting unit and applied to relevant historical and forecasted financial parameters such as levels of revenues, EBITDA, EBIT or other metrics. The calculation of fair value falls under Level 3 of the fair value hierarchy.

While the quantitative analysis indicated no impairment of Semiconductor and Material and Substrate segments as of September 30, 2023, if the future performance of these reporting units fall short of our expectations or if there are significant changes in operations due to changes in market conditions, we could be required to recognize material impairment charges in future periods.

## 11. Income Taxes

### Income Tax (Benefit) Provision

The components of (loss) income before (benefit) provision for income taxes are as follows, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Domestic	\$ (17,271)	\$ 15,275	\$ (3,320)
Foreign	2,089	3,510	6,754
	<u>\$ (15,182)</u>	<u>\$ 18,785</u>	<u>\$ 3,434</u>

The components of the (benefit) provision for income taxes are as follows, in thousands:

	Years Ended September 30,		
	2023	2022	2021
<b>Current:</b>			
Domestic federal	\$ —	\$ —	\$ —
Foreign	(327)	711	1,999
Foreign withholding taxes	159	255	292
Domestic state	81	77	(300)
Total current	(87)	1,043	1,991
<b>Deferred:</b>			
Domestic federal	(2,207)	(39)	—
State	(284)	—	—
Foreign	(22)	414	(65)
Total deferred	(2,513)	375	(65)
Total (benefit) provision	<u>\$ (2,600)</u>	<u>\$ 1,418</u>	<u>\$ 1,926</u>

A reconciliation of actual income taxes to income taxes at the expected U.S. federal corporate income tax rate is as follows, in thousands, except percentages:

	Years Ended September 30,					
	2023		2022		2021	
Tax (benefit) expense at the federal statutory rate	\$ (3,188)	21.0 %	\$ 3,945	21.0 %	\$ 722	21.0 %
Effect of permanent book-tax differences	757	-5.0 %	11	0.1 %	54	1.6 %
State tax provision	(395)	2.6 %	554	2.9 %	24	0.7 %
Valuation allowance for net deferred tax assets	1,594	-10.5 %	(3,138)	-16.7 %	842	24.5 %
Uncertain tax items	(1,004)	6.6 %	55	0.3 %	(276)	-8.0 %
Tax rate differential	358	-2.4 %	535	2.8 %	267	7.8 %
Other items	(722)	4.8 %	(544)	-2.9 %	293	8.4 %
	<u>\$ (2,600)</u>	<u>17.1 %</u>	<u>\$ 1,418</u>	<u>7.5 %</u>	<u>\$ 1,926</u>	<u>56.0 %</u>

*Deferred Income Taxes and Valuation Allowance*

Deferred income taxes reflect the tax effects of temporary differences between the financial statement and tax bases of assets and liabilities by using enacted tax rates in effect for the year in which the differences are expected to be realized. The components of deferred tax assets and deferred tax liabilities are as follows, in thousands:

	September 30,	
	2023	2022
<b>Deferred tax assets:</b>		
Net operating loss carryforwards	\$ 17,112	\$ 17,180
Accruals and reserves	2,865	1,441
Foreign tax credit	1,618	811
Operating lease liabilities	2,719	2,492
Research and development costs	1,011	—
Foreign service fee	1,579	1,579
Other assets	731	467
<b>Total deferred tax assets</b>	<b>27,635</b>	<b>23,970</b>
Valuation allowance	(21,506)	(20,000)
<b>Deferred tax assets, net of valuation allowance</b>	<b>6,129</b>	<b>3,970</b>
<b>Deferred tax liabilities:</b>		
Goodwill and identifiable intangible assets	(1,616)	(321)
Property and equipment, net	(1,356)	(758)
Operating lease, right-of-use assets	(2,720)	(2,494)
Prepaid assets	(336)	(318)
<b>Total deferred tax liabilities</b>	<b>(6,028)</b>	<b>(3,891)</b>
<b>Total deferred tax assets, net</b>	<b>\$ 101</b>	<b>\$ 79</b>

Changes in the deferred tax valuation allowance are as follows, in thousands:

	Years Ended September 30,	
	2023	2022
Balance at the beginning of the year	\$ 20,000	\$ 23,292
Additions (reductions) to valuation allowance	1,506	(3,292)
<b>Balance at the end of the year</b>	<b>\$ 21,506</b>	<b>\$ 20,000</b>

The deferred tax valuation allowance increased by \$1.5 million and decreased by \$3.3 million for the years ended September 30, 2023 and 2022, respectively. During the year ended September 30, 2023, we released a portion of our valuation allowance in connection with a deferred tax liability related to the Entrepix acquisition.

In assessing the realizability of deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. We consider the scheduled reversal of deferred tax liabilities, projected future income and tax planning strategies in making this assessment. We have established valuation allowances on all net U.S. deferred tax assets, after considering all of the available objective evidence, both positive and negative, historical and prospective, with greater weight given to historical objective evidence, and determined it is not more likely than not that these assets will be realized. We have established a partial valuation allowance on certain foreign deferred tax assets that we consider it is more likely than not will not be realized.

We intend to permanently reinvest undistributed earnings of our foreign subsidiaries. It is not practicable to estimate the amount of tax that might be payable on the undistributed amounts.

### Net Operating Losses

As of September 30, 2023, we have federal net operating loss carryforwards of approximately \$9.8 million that expire at various times between 2032 and 2035. The utilization of those federal net operating losses is limited to approximately \$0.8 million per year. Additionally, we have federal net operating loss carryforwards of approximately \$67.2 million that have an indefinite carryforward period. The utilization of those federal net operating losses is limited to 80% of taxable income after 2021. We have no foreign net operating loss carryforwards as of September 30, 2023. We have approximately \$16.1 million of state net operating loss carryforwards, with various expiration dates and limitations on utilization, depending on the state. As of September 30, 2023, we have approximately \$1.3 million of Foreign Tax Credit carryforwards that expire at various times between 2030 and 2033 and approximately \$0.3 million of Federal and State Research and Development credits that expire at various times between 2029 and 2043.

### Uncertain Tax Positions

We have included all of our liabilities for uncertain tax positions with income taxes payable long-term. A reconciliation of the beginning and ending amount of our unrecognized tax benefits is summarized as follows, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Balance at beginning of the year	\$ 1,004	\$ 949	\$ 1,225
Additions related to tax positions taken in prior years	—	55	—
Reductions due to resolution of uncertain tax position	(1,004)	—	(276)
Balance at the end of the year	<u>\$ —</u>	<u>\$ 1,004</u>	<u>\$ 949</u>

During fiscal 2023, we reversed our previous accrual of uncertain tax positions in the amount of \$1.0 million. This reversal was reflected in the income tax (benefit) provision line of the Consolidated Statements of Operations. The reversal resulted from the expiration of the applicable statute of limitations.

### Tax Return Matters

We file income tax returns in China and other foreign jurisdictions, as well as the U.S. and various states in the U.S. We have not signed any agreements with the Internal Revenue Service, any state or foreign jurisdiction to extend the statute of limitations for any fiscal year. As such, the number of open years is the number of years dictated by statute in each of the respective taxing jurisdictions. U.S. Federal tax returns generally have a 3-year statute of limitations. Therefore, U.S. federal returns for tax years ending on or after September 30, 2020 remain open for examination. In addition, the IRS may adjust attribute carryforwards utilized in an open year even though the year the attributes originated may be closed. State and foreign statutes are generally 3 to 5 years but vary by jurisdiction. These open years contain certain matters that could be subject to differing interpretations of applicable tax laws and regulations as they relate to the amount, timing, or inclusion of revenues and expenses, or the sustainability of income tax positions of Amtech and our subsidiaries.

## 12. Long-Term Debt

Our finance lease liabilities and long-term debt consists of the following, in thousands:

	September 30,	
	2023	2022
Revolving credit facility	\$ —	\$ —
Term loan	10,573	—
Finance leases	114	147
Equipment finance	—	180
Total	10,687	327
Less: current portion of finance lease liabilities and long-term debt	(2,265 )	(107 )
Finance Lease Liabilities and Long-Term Debt	<u>\$ 8,422</u>	<u>\$ 220</u>

Interest expense on finance lease liabilities and long-term debt was \$0.5 million, \$0.1 million and \$0.2 million in 2023, 2022 and 2021, respectively.

Annual maturities relating to our long-term debt as of September 30, 2023 are as follows, in thousands:

	Annual Maturities
2024	\$ 2,265
2025	2,368
2026	2,525
2027	2,685
2028	844
Thereafter	—
Total long-term debt	<u>\$ 10,687</u>

### Loan and Security Agreement

On January 17, 2023, we entered into a Loan and Security Agreement (the “Loan Agreement”) by and among Amtech, its U.S. based wholly owned subsidiaries Bruce Technologies, Inc., a Massachusetts corporation, BTU International, Inc., a Delaware corporation, Intersurface Dynamics, Incorporated, a Connecticut corporation, P.R. Hoffman Machine Products, Inc., an Arizona corporation, and Entrepix, Inc., an Arizona corporation (collectively the “Borrowers”) and UMB Bank, N.A., national banking association (the “Lender”). The Loan Agreement provides for (i) a term loan (the “Term Loan”) in the amount of \$12.0 million maturing January 17, 2028, and (ii) a revolving loan facility (the “Revolver”) with an availability of \$8.0 million maturing January 17, 2024. The recorded amount of the Term Loan has a fixed interest rate of 6.38%. The Revolver has a floating per annum rate of interest equal to the Prime Rate, adjusted daily. Under the Loan Agreement, we are required to pay a non-utilization fee equal to 0.125% of any unused portion of the Revolver in excess of any letter of credit obligations. As of September 30, 2023, no amounts were borrowed against the Revolver and there were no letters of credit outstanding.

The Term Loan and Revolver are secured by a first priority lien on substantially all of the Borrowers’ assets (other than certain customary excluded assets) and the Loan Agreement contains customary events of default, representations and warranties, and covenants that restrict the Borrowers’ ability to, among other things, incur additional indebtedness, other than permitted indebtedness, enter into mergers or acquisitions, sell or otherwise dispose of assets, or pay dividends, subject to customary exceptions.

The Loan Agreement additionally contains financial covenants such that, as of the end of each of their fiscal quarters, beginning March 31, 2023, the Borrowers must maintain (i) a ratio of consolidated debt owed to Lender to consolidated EBITDA (as defined in the Loan Agreement) for such fiscal quarter, of not greater than 1.50 to 1.00, through December 31, 2024, based on a building four quarters (as described in the Loan Agreement), and then 1.00 to 1.00 each fiscal quarter thereafter, (ii) a ratio of (a) the total for such fiscal quarter of EBITDAR (as defined in the Loan Agreement) minus the sum of all income taxes paid in cash plus cash dividends/distributions plus maintenance

Capital Expenditures (as defined in the Loan Agreement) plus management fees paid in cash, to (b) the sum for such fiscal quarter of (1) Interest Charges (as defined in the Loan Agreement) plus (2) required payments of principal on Debt (as defined in the Loan Agreement) (including the Term Loan, but excluding the Revolver) plus (3) operating lease/rent expense, of not less than 1.30 to 1.00 based on a building four quarters (as described in the Loan Agreement), and (iii) a consolidated working capital of current assets (excluding related party receivables and prepaid expenses) minus current liabilities of at least \$35.0 million.

The Loan Agreement was modified in December 2023. Please see Note 20 for additional details.

#### *Finance Lease Obligations*

Our finance lease obligations totaled \$0.1 million as of September 30, 2023 and September 30, 2022.

The current and long-term portions of our finance leases are included in the current and long-term portions of finance lease liabilities and long-term debt in the table above and in our Consolidated Balance Sheets as of September 30, 2023 and 2022.

#### *Mortgage*

We had a mortgage note secured by BTU's real property in Massachusetts, which was paid in full upon the closing of the sale of this facility in June 2022 (see Note 7).

### **13. Equity and Stock-Based Compensation**

#### *Stock Repurchase Plans*

The following table summarizes information related to our stock repurchase plans, in thousands, except share and per share amounts:

Name of Stock Repurchase Plan	Date Approved by Board	Plan Term	Amount Authorized (\$)	Amount Used for Repurchases (\$)	Average Price Paid per Share (\$)	Shares Repurchased (#)	Amount Available for Repurchases (\$)	Plan Status	Fiscal Year of Repurchases
2023 Stock Repurchase Plan	2/7/2023	1 year	5,000	—	—	—	5,000	Open	NA
2022 Stock Repurchase Plan	2/10/2022	1 year	5,000	1,400	9.78	143,430	—	Expired	2022
2021 Stock Repurchase Plan	2/9/2021	1 year	4,000	2,700	9.31	291,383	—	Expired	2022

All repurchased shares have been retired.

#### *Stock-Based Compensation Expense*

Stock-based compensation expenses of \$1.3 million, \$0.5 million and \$0.4 million for 2023, 2022 and 2021, respectively, are included in selling, general and administrative expenses. As of September 30, 2023, total compensation cost related to non-vested stock options not yet recognized is \$1.0 million, which is expected to be recognized over the next 1.52 years on a weighted-average basis. As of September 30, 2023, total compensation cost related to nonvested RSUs not yet recognized is \$0.5 million, which is expected to be recognized over the next year.

#### *Amtech Equity Compensation Plans*

The 2022 Plan, under which 1,000,000 shares could be granted, was adopted by the Board of Directors in November 2021, and approved by the shareholders in March 2022.

The 2007 Plan, under which 500,000 shares could be granted, was adopted by the Board in April 2007, and approved by the shareholders in May 2007. The 2007 Plan was amended in 2009, 2014 and 2015 to add 2,500,000 shares. The plan was also amended in 2019 to extend the term of the plan and allow for the grant of restricted stock units. Upon



the adoption of the 2022 Plan, no further awards will be granted from the 2007 Plan. Previously issued awards will remain outstanding in accordance with their terms.

The Non-Employee Directors Stock Option Plan was approved by the shareholders in 1996 for issuance of up to 100,000 shares of common stock to directors. The Non-Employee Directors Stock Option Plan was amended in 2005, 2009 and 2014 to add 400,000 shares. The plan was also amended in 2020 to extend the term of the plan. Upon the adoption of the 2022 Plan as stated above, no further awards will be granted from the Non-Employee Directors Stock Option Plan. Previously issued awards will remain outstanding in accordance with their terms.

Equity compensation plans as of September 30, 2023 are summarized in the table below:

Name of Plan	Shares Authorized	Shares Available for Grant	Options Outstanding	Unvested RSUs Outstanding	Plan Expiration
2022 Plan	1,000,000	558,268	340,750	75,977	Mar. 2032
2007 Plan	3,000,000	—	248,174	—	Mar. 2024
Non-Employee Directors Stock Option Plan	500,000	—	84,000	—	Mar. 2024
		<u>558,268</u>	<u>672,924</u>	<u>75,977</u>	

#### Stock Options

Stock options issued under the terms of our equity compensation plans have, or will have, an exercise price equal to or greater than the fair market value of the common stock at the date of the option grant and expire no later than 10 years from the date of grant. Options issued under the plans vest over 1 to 3 years. We estimated the fair value of stock option awards on the date of grant using the Black-Scholes option pricing model using the following assumptions:

	Years Ended September 30,		
	2023	2022	2021
Risk free interest rate	4%	2%	1%
Expected life	5 Years	5 years	6 years
Dividend rate	0%	0%	0%
Volatility	56%	57%	58%

The following table summarizes our stock option activity during 2023, 2022 and 2021:

	2023		Years Ended September 30, 2022		2021	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of period	589,341	\$ 8.06	608,269	\$ 6.48	696,665	\$ 7.00
Granted	322,500	\$ 9.04	135,500	\$ 12.80	204,000	\$ 6.25
Exercised	(168,318)	\$ 6.01	(124,475)	\$ 5.78	(241,320)	\$ 6.40
Forfeited/expired	(70,599)	\$ 10.73	(29,953)	\$ 6.92	(51,076)	\$ 13.01
Outstanding at end of period	<u>672,924</u>	\$ 8.76	<u>589,341</u>	\$ 8.06	<u>608,269</u>	\$ 6.48
Exercisable at end of period	<u>374,728</u>	\$ 8.25	<u>358,343</u>	\$ 6.92	<u>403,853</u>	\$ 6.87
Weighted average grant-date fair value of options granted during the period	\$ 4.73		\$ 6.39		\$ 3.33	

The following table summarizes information for stock options outstanding and exercisable as of September 30, 2023:

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number Outstanding	Remaining Contractual Life (in years)	Weighted Average Exercise Price Per Share	Number Exercisable	Weighted Average Exercise Price Per Share	
\$4.77-\$5.26	71,183	5.07	\$ 4.98	69,517	\$ 4.97	
\$5.40-\$5.52	17,550	4.18	\$ 5.48	17,550	\$ 5.48	
\$5.67-\$5.67	71,791	7.13	\$ 5.67	55,958	\$ 5.67	
\$5.75-\$8.82	111,250	7.54	\$ 7.92	43,959	\$ 7.01	
\$8.93-\$8.93	5,000	9.66	\$ 8.93	—	\$ —	
\$9.00-\$9.00	150,000	9.87	\$ 9.00	50,000	\$ 9.00	
\$9.27-\$9.27	90,500	9.17	\$ 9.27	12,000	\$ 9.27	
\$9.98-\$10.22	80,000	3.28	\$ 10.03	80,000	\$ 10.03	
\$11.51-\$11.51	12,000	7.48	\$ 11.51	12,000	\$ 11.51	
\$15.43-\$15.43	63,650	8.07	\$ 15.43	33,744	\$ 15.43	
\$4.77-\$15.43	<u>672,924</u>	7.44	\$ 8.76	<u>374,728</u>	\$ 8.25	

The aggregate intrinsic values of options outstanding and options exercisable as of September 30, 2023 were approximately \$0.4 million and \$0.4 million, respectively, which represents the total pre-tax intrinsic value, based on our closing stock price of \$7.62 per share as of September 29, 2023, the last business day of our fiscal year, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of stock options exercised were \$0.6 million, \$0.8 million and \$0.8 million in 2023, 2022 and 2021, respectively.

The following table summarizes our RSU activity during the year ended September 30, 2023:

	Number		Weighted Average Grant Date Fair Value		Fair Value	
Nonvested at beginning of year	—	\$	—	\$	—	
Granted	78,977		9.17		723,856	
Vested	(3,000)		9.61		28,830	(1)
Forfeited	—		—		—	
Nonvested at end of period	<u>75,977</u>	\$	9.15	\$	578,945	(2)

(1) The aggregate fair value of vested RSU's represent the total pre-tax fair value, based on the closing stock price on the day of vesting, which would have been received by holders of RSU's had all such holders sold their underlying shares on that date.

(2) The aggregate fair value of the nonvested RSU's and represents the total pre-tax fair value, based on our closing stock price of \$7.62 as of September 29, 2023, the last trading day of our fiscal year, which would have been received by holders of RSU's had all such holders sold their underlying shares on that date.

#### 14. Benefit Plans

We have retirement plans covering substantially all our employees. The principal plans are our defined contribution plan that covers substantially all of our employees in the United States and the multi-employer pension plan for hourly union employees in Pennsylvania.

**Defined Contribution Plan** – Domestic employees of Amtech and its subsidiaries who meet certain eligibility requirements may participate, at the employee's option, in the 401(k) Plan. The 401(k) Plan is a defined contribution plan subject to the provisions of ERISA. We match employee contributions to the 401(k) Plan equal to 60% of the participants' elective deferrals, up to 3.6% of the participants' eligible compensation each payroll period. Employees are auto-enrolled upon eligibility at a 6% contribution rate; however, an employee may opt out at their election. The match expense was \$0.5 million, \$0.4 million and \$0.3 million in 2023, 2022 and 2021, respectively.

**Pension Plan** – Our hourly union employees in Pennsylvania participate in a multi-employer pension plan, the NIGPP, in accordance with the union agreement between PR Hoffman and the United Automobile, Aerospace and Agriculture Implement Workers of America. The agreement was renewed in 2022 for a three-year term that expires September 30, 2025. Every company participating in the plan pays a contribution per hour worked for each employee of the company that is eligible to participate in the NIGPP. Our contributions to the NIGPP were \$36,000, \$38,000 and \$39,000 in 2023, 2022 and 2021, respectively.

## 15. Commitments and Contingencies

**Purchase Obligations** – As of September 30, 2023, we had unrecorded purchase obligations in the amount of \$24.3 million. These purchase obligations consist of outstanding purchase orders for goods and services. While the amount represents purchase agreements, the actual amounts to be paid may be less in the event that any agreements are renegotiated, canceled or terminated.

**Legal Proceedings and Other Claims** – From time to time, we are a party to claims and actions for matters arising out of our business operations. We regularly evaluate the status of the legal proceedings and other claims in which we are involved to assess whether a loss is probable or there is a reasonable possibility that a loss, or an additional loss, may have been incurred and determine if accruals are appropriate. If accruals are not appropriate, we further evaluate each legal proceeding to assess whether an estimate of possible loss or range of possible loss can be made for disclosure. Although the outcome of claims and litigation is inherently unpredictable, we believe that we have adequate provisions for any probable and estimable losses. It is possible, nevertheless, that our consolidated financial position, results of operations or liquidity could be materially and adversely affected in any particular period by the resolution of a claim or legal proceeding. Legal expenses related to defense, negotiations, settlements, rulings and advice of outside legal counsel are expensed as incurred.

**Employment Contracts** – We have employment contracts and change in control agreements with, and severance plans covering, certain officers and management employees under which severance payments would become payable in the event of specified terminations without cause or terminations under certain circumstances after a change in control. If severance payments under the current employment contracts or severance plans were to become payable, the severance payments would generally range from six to twelve months of salary.

## 16. Reportable Segments

Amtech has two operating segments that are structured around the types of product offerings provided to our customers. In addition, the operating segments may be further distinguished by the Company's respective brands. These two operating segments comprise our two reportable segments discussed below. Our two reportable segments are as follows:

**Semiconductor** – We design, manufacture, sell and service thermal processing equipment and related controls for use by leading semiconductor manufacturers, and in electronics, automotive and other industries.

**Material and Substrate** – We produce consumables and machinery for lapping (fine abrading), polishing and cleaning of materials, such as sapphire substrates, optical components, silicon wafers, numerous types of crystal materials, ceramics and metal components.

Information concerning our reportable segments is as follows, in thousands:

	Years Ended September 30,		
	2023	2022	2021
<b>Net revenue:</b>			
Semiconductor	\$ 77,595	\$ 87,982	\$ 72,086
Material and Substrate	35,720	18,316	13,119
	<u>\$ 113,315</u>	<u>\$ 106,298</u>	<u>\$ 85,205</u>
<b>Operating income (loss):</b>			
Semiconductor	\$ 6,907	\$ 20,672	\$ 8,585
Material and Substrate	(8,765)	3,728	278
Non-segment related	(13,112)	(7,114)	(5,138)
	<u>\$ (14,970)</u>	<u>\$ 17,286</u>	<u>\$ 3,725</u>

	Years Ended September 30,		
	2023	2022	2021
<b>Capital expenditures:</b>			
Semiconductor	\$ 345	\$ 452	\$ 2,264
Material and Substrate	1,092	411	695
Non-segment related	1,461	272	53
	<u>\$ 2,898</u>	<u>\$ 1,135</u>	<u>\$ 3,012</u>
<b>Depreciation and amortization expense:</b>			
Semiconductor	\$ 886	\$ 1,101	\$ 905
Material and Substrate	4,045	565	438
Non-segment related	81	63	55
	<u>\$ 5,012</u>	<u>\$ 1,729</u>	<u>\$ 1,398</u>

	September 30,	
	2023	2022
<b>Identifiable assets:</b>		
Semiconductor	\$ 72,466	\$ 75,622
Material and Substrate	61,576	22,032
Non-segment related*	2,979	35,880
	<u>\$ 137,021</u>	<u>\$ 133,534</u>

\* Non-segment related assets include cash, property and other assets.

#### 17. Major Customers and Sales by Country

In 2023, one Semiconductor customer accounted for 11% of net revenues. In 2022, two Semiconductor customers accounted for 14% and 12% of net revenues. In 2021, two Semiconductor customers accounted for 14% and 13% of net revenues.

The percentages of our net revenues for 2023, 2022 and 2021 were to customers in the following geographic regions:

	Years Ended September 30,		
	2023	2022	2021
United States	39 %	27 %	22 %
Other	9 %	9 %	5 %
<b>Total Americas</b>	<b>48 %</b>	<b>36 %</b>	<b>27 %</b>
China	14 %	17 %	29 %
Malaysia	6 %	7 %	3 %
Taiwan	5 %	14 %	15 %
Other	6 %	6 %	11 %
<b>Total Asia</b>	<b>31 %</b>	<b>44 %</b>	<b>58 %</b>
Czech Republic	5 %	— %	— %
Austria	4 %	10 %	3 %
Germany	2 %	4 %	5 %
Other	10 %	6 %	7 %
<b>Total Europe</b>	<b>21 %</b>	<b>20 %</b>	<b>15 %</b>
	<b>100 %</b>	<b>100 %</b>	<b>100 %</b>

## 18. Geographic Regions

We have operations in the United States and China, as well as satellite offices in Europe and Asia. Revenues, operating income (loss) and identifiable assets by geographic region are as follows, in thousands:

	Years Ended September 30,		
	2023	2022	2021
Net revenue:			
United States*	\$ 84,549	\$ 89,197	\$ 58,937
China	24,969	13,854	22,828
Other	3,797	3,247	3,440
	<u>\$ 113,315</u>	<u>\$ 106,298</u>	<u>\$ 85,205</u>
Operating income (loss):			
United States*	\$ (17,874)	\$ 14,163	\$ (4,174)
China	714	2,003	6,958
Other	2,190	1,120	941
	<u>\$ (14,970)</u>	<u>\$ 17,286</u>	<u>\$ 3,725</u>

\* United States revenue includes \$17.0 million, \$22.7 million and \$19.7 million in 2023, 2022 and 2021, respectively, related to the products manufactured in our China facility but sold through our Massachusetts facility.

	September 30,	
	2023	2022
Net property, plant and equipment:		
United States	\$ 8,396	\$ 4,981
China	1,262	1,571
Other	37	—
	<u>\$ 9,695</u>	<u>\$ 6,552</u>

## 19. Cybersecurity Incident

On April 12, 2021, we detected a data incident in which attackers acquired data and disabled some of the technology systems used by one of our subsidiaries. Upon learning of the incident, we immediately engaged external counsel and retained a team of third-party forensic, incident response, and security professionals to investigate and determine the full scope of this incident. We also notified law enforcement officials and confirmed that the incident is covered by our insurance. We completed the investigation of the data incident with assistance from our outside professionals, and indications were that the unauthorized third-party gained access to certain personal information relating to

employees and their beneficiaries for some of our operations. There was no indication of any misuse of this information.

Despite this disruption, production continued in our facilities. Our previously disabled subsidiary network is now back up and running securely. Working alongside our security professionals, we were able to bring our subsidiary's systems online with enhanced security controls. We have deployed an advanced next generation anti-virus and endpoint detection and response tool, as well as Managed Detection & Response services. We remain committed to protecting the security of the personal information entrusted to us and providing high-quality products and service to our customers.

We recorded approximately \$1.1 million of expense related to this incident, which was included in selling, general and administrative expenses, during 2021. The expense was primarily related to third-party service providers, including security professionals as well as legal and response teams. We may make additional investments in the future to further strengthen our cybersecurity. We filed an insurance claim during 2021 related to the incident. During 2022, we signed a final settlement agreement with our insurer resulting in total reimbursement of approximately \$0.6 million, which included \$0.4 million received during the quarter ended December 31, 2021 and \$0.2 million received during the quarter ended March 31, 2022. No portion of the reimbursement remained outstanding as of September 30, 2022.

## 20. Subsequent Events

At September 30, 2023, we were not in compliance with the Debt to EBITDA and Fixed Charge Coverage Ratio financial covenants under our Loan Agreement. On December 5, 2023, we entered into a Forbearance & Modification Agreement (the "Forbearance Agreement") with UMB Bank related to such non-compliance, pursuant to which UMB Bank agreed to forbear from exercising its rights and remedies available to it as a result of such defaults. We will be operating under the terms of such Forbearance Agreement through January 17, 2025 (the "Forbearance Period").

The Forbearance Agreement also amends the Loan Agreement to, among other things, (i) increase the availability under the revolving line of credit from \$8.0 million to \$14.0 million (the "Revolver"), and (ii) reduce the term loan commitment from \$12.0 million to \$4,423,200 (the "Term Loan"). The Revolver maturity date was extended one year to January 17, 2025 and the Term Loan maturity date was extended from January 17, 2028 to January 17, 2029. Both the Revolver and the Term Loan have a floating per annum rate of interest equal to the Prime Rate, adjusted daily, plus the Applicable Margin (as such terms are defined in the Loan Agreement). We are required to pay a non-utilization fee equal to 0.125% of any unused portion of the Revolver in excess of any letter of credit obligations. As of September 30, 2023, no amounts were borrowed against the Revolver and there were no letters of credit outstanding. As of the effective date of the Forbearance Agreement, \$10.0 million will be drawn under the Loan Agreement, which includes \$4.4 million under the Term Loan and \$5.6 million under the Revolver.

Future borrowings, if any, under the Loan Agreement are subject to, among other things, having sufficient unencumbered Eligible Accounts, Eligible Foreign Accounts and Eligible Inventory (as such terms are defined in the Loan Agreement) to meet the borrowing base requirements included in the amended Loan Agreement.

Under the amended Loan Agreement, the Company is required to comply with the following financial covenants: (i) maintaining, on a consolidated basis, a minimum consolidated EBITDA (as defined in the Loan Agreement) for the fiscal quarter ending December 31, 2023 through the twelve-month period ending September 30, 2024, based on a building four quarters (as described in the Loan Agreement) (the "Minimum EBITDA Covenant"); (ii) commencing for the fiscal year ending September 30, 2024, a ratio of (a) the total for such fiscal year of EBITDAR (as defined in the Loan Agreement) minus the sum of all income taxes paid in cash plus cash dividends/distributions plus maintenance Capital Expenditures (as defined in the Loan Agreement) plus management fees paid in cash, to (b) the sum for such fiscal quarter of (1) Interest Charges (as defined in the Loan Agreement) plus (2) required payments of principal on Debt (as defined in the Loan Agreement) (including the Term Loan, but excluding the Revolver) plus (3) operating lease/rent expense, of not less than 1.30 to 1.00 based on a trailing four (4) quarter basis (the "Fixed Charge Coverage Ratio Covenant"); and (iii) a consolidated working capital of current assets (excluding related party receivables and prepaid expenses) minus current liabilities of at least \$35.0 million. The Minimum EBITDA Covenant replaced the Senior Debt to EBITDA covenant set forth in the original Loan Agreement.

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

None.

### ITEM 9A. CONTROLS AND PROCEDURES

#### Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Our management, including our Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), has carried out an evaluation of the effectiveness of our disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15(d)-15(e). Based upon that evaluation, our CEO and CFO have concluded that our disclosure controls and procedures in place were not effective as of September 30, 2023 as described further below. We completed the acquisition of Entrepix on January 17, 2023. As permitted under U.S. Securities and Exchange Commission guidance, management’s assessment as of September 30, 2023 did not include an assessment of controls and procedures of Entrepix, which is included in the consolidated financial statements as of September 30, 2023.

#### Management’s Report on Internal Control Over Financial Reporting

To the Shareholders of Amtech Systems, Inc.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements prepared for external purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company’s annual or interim financial statements will not be prevented or detected on a timely basis.

Management conducted an assessment of the effectiveness of internal control over financial reporting based on the framework in Internal Control – Integrated Framework (2013) as issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management determined that as of September 30, 2023, the Company identified two material weaknesses in internal control.

The first material weakness in internal control related to ineffective information technology general controls in the areas of user access, segregation of duties, and program change-management over information technology systems that support substantially all of the Company’s financial reporting processes. This resulted in our inability to segregate user duties within the Company’s business processes. A substantial portion of the Company’s controls are dependent upon the information derived from the information technology systems and therefore the dependent controls were concluded to be ineffective. We believe that these deficiencies were a result of control processes lacking sufficient documentation and risk-assessment procedures to assess user access, segregation of duties, and program change

management that could impact internal controls over financial reporting. The material weakness did not result in any identified misstatements.

Related to the second material weakness in internal control, we did not design and maintain adequate internal controls over non-routine and complex transactions, including the preparation and review of the third-party service provider valuation reports in the areas of goodwill and long-lived intangible assets.

In January 2023, we completed the Entrepix acquisition. For further discussion of the Entrepix acquisition, refer to Note 2 in Part II, Item 8. We are in the process of evaluating the existing controls and procedures of Entrepix and integrating Entrepix in our disclosure controls and procedures and internal control over financial reporting. SEC guidance permits companies to exclude acquisitions from their assessment of internal control over financial reporting for the fiscal year in which the acquisition occurred, and our management has elected to exclude Entrepix from its assessment. Entrepix constituted 27.4% and 16.3% of our consolidated total assets and consolidated revenues, respectively, as of and for the year ended September 30, 2023.

Our independent registered public accounting firm, Grant Thornton LLP, has issued a Report of Independent Registered Public Accounting Firm related to our internal control over financial reporting, which can be found in Item 8 of this Annual Report on Form 10-K.

#### **Plan for Remediation of Material Weaknesses**

Our management, under the oversight of our Audit Committee, has begun evaluating and implementing measures designed to remediate these control deficiencies contributing to this material weaknesses. Related to the first material weakness, these remediation measures have included or will include assessing and formalizing the design of certain information technology policies, implementing controls and procedures relating to program change management, user access, and segregations of duties for systems supporting substantially all of the Company's internal control processes and developing monitoring controls and protocols that will allow us to timely assess the design and the operating effectiveness of the new and redesigned controls. Relating to the second material weakness, we are in the process of implementing a plan to enhance our internal controls over financial reporting relating to the preparation and review of goodwill and indefinite-lived intangible asset impairment assessments.

We believe the above actions will be effective in remediating the material weaknesses described above and we will continue to devote time and attention to these remedial efforts. However, as we continue to evaluate and take actions to improve our internal control over financial reporting, we may take additional actions to address control deficiencies or modify certain of the remediation measures described above. Our remediation efforts will not be considered complete until the applicable controls operate for a sufficient period of time and our management has concluded, through testing, that these controls are operating effectively.

#### **Changes in Internal Control Over Financial Reporting**

Except with respect to the remediation actions described above, there have not been any changes in the Company's internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended September 30, 2023 that materially affected, or are reasonably likely to materially affect, the internal control over financial reporting of the Company.

As noted above, on January 17, 2023 we completed the acquisition of Entrepix. We are currently integrating Entrepix into our control environment. In executing this integration, we are analyzing, evaluating, and where necessary, making changes in controls and procedures related to the Entrepix business, which is expected to be completed in the year ended September 30, 2024.

#### **ITEM 9B. OTHER INFORMATION**

None.



**ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS**

Not applicable.

### **PART III**

Pursuant to Paragraph G(3) of the General Instructions to Form 10-K, the information required by Part III of Form 10-K is incorporated by reference to the Proxy Statement to be filed within 120 days of September 30, 2023, our fiscal year end. In the event the Proxy Statement is not filed within 120 days, the information required by Part III of this Form 10-K will be filed pursuant to an amendment to this Annual Report on Form 10-K within the 120-day period.

#### **ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND GOVERNANCE**

The information required by this item (i) is incorporated herein by reference to the Proxy Statement or (ii) will be filed pursuant to an amendment to this Annual Report on Form 10-K, in each case, within 120 days of September 30, 2023, our fiscal year end.

#### **ITEM 11. EXECUTIVE COMPENSATION**

The information required by this item (i) is incorporated herein by reference to the Proxy Statement or (ii) will be filed pursuant to an amendment to this Annual Report on Form 10-K, in each case, within 120 days of September 30, 2023, our fiscal year end.

#### **ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The information required by this item (i) is incorporated herein by reference to the Proxy Statement or (ii) will be filed pursuant to an amendment to this Annual Report on Form 10-K, in each case, within 120 days of September 30, 2023, our fiscal year end.

#### **ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

The information required by this item (i) is incorporated herein by reference to the Proxy Statement or (ii) will be filed pursuant to an amendment to this Annual Report on Form 10-K, in each case, within 120 days of September 30, 2023, our fiscal year end.

#### **ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES**

The information required by this item (i) is incorporated herein by reference to the Proxy Statement or (ii) will be filed pursuant to an amendment to this Annual Report on Form 10-K, in each case, within 120 days of September 30, 2023, our fiscal year end.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements and Schedules

The consolidated financial statements required by this item are set forth on the pages indicated in Item 8.

All financial statement schedules are omitted because they are either not applicable or because the required information is shown in the consolidated financial statements or notes thereto.

(b) Exhibits

The exhibits filed as part of this Annual Report on Form 10-K are listed on the Exhibit Index immediately preceding the signature page hereto, which is incorporated herein by reference.

ITEM 16. FORM 10-K SUMMARY

None.

EXHIBIT INDEX

EXHIBIT NO.	EXHIBIT DESCRIPTION	FORM	INCORPORATED BY REFERENCE			FILED HEREWITH
			FILE NO.	EXHIBIT NO.	FILING DATE	
3.1	<a href="#">Amended and Restated Articles of Incorporation, as amended through February 6, 2012</a>	10-Q	000-11412	3.1	February 9, 2012	
3.2	<a href="#">Amended and Restated Bylaws of Amtech Systems, Inc., dated as of September 23, 2020</a>	8-K	000-11412	3.1	September 25, 2020	
3.3	<a href="#">First Amendment to Amended and Restated and Restated Bylaws (effective as of November 16, 2021)</a>	8-K	000-11412	3.1	November 19, 2021	
4.1	<a href="#">Description of Capital Stock</a>					X
10.1	<a href="#">Non-Employee Directors Stock Option Plan, effective July 8, 2005 as amended through May 8, 2014*</a>	8-K	000-11412	10.1	May 14, 2014	
10.1a	<a href="#">Amendment to the Non-Employee Directors Stock Option Plan, effective March 4, 2020*</a>	DEF14A	000-11412	Appendix A	January 24, 2020	
10.2	<a href="#">2007 Employee Stock Incentive Plan of Amtech Systems, Inc., as amended, effective April 9, 2015*</a>	8-K	000-11412	10.4	April 10, 2015	
10.2a	<a href="#">Amendment to 2007 Employee Stock Incentive Plan of Amtech Systems, Inc., effective March 6, 2019*</a>	DEF14A	000-11412	Appendix A	January 25, 2019	

10.3	<a href="#">Amtech Systems, Inc. 2022 Equity Incentive Plan*</a>	S-8	333-263875	99.1	March 25, 2022	
10.4	<a href="#">Employment Agreement between Amtech Systems, Inc. and Robert C. Daigle, dated August 14, 2023*</a>					X
10.5	<a href="#">Agreement and Plan of Merger, dated January 17, 2023, by and among the Registrant, Emerald Merger Sub, Inc., an Arizona corporation and wholly owned subsidiary of the Registrant, Entrepix, Inc., an Arizona corporation, Timothy P. Tobin, solely in his capacity as the shareholders' representative, and the Key Shareholders (as defined in the Agreement and Plan of Merger).</a>	10-Q	000-11412	10.1	February 8, 2023	
10.6	<a href="#">Loan and Security Agreement, dated as of January 17, 2023, by and among the Registrant, its U.S. based wholly owned subsidiaries Bruce Technologies, Inc., a Massachusetts corporation, BTU International, Inc., a Delaware corporation, Intersurface Dynamics, Incorporated, a Connecticut corporation, P.R. Hoffman Machine Products, Inc., an Arizona corporation, and Entrepix, Inc., an Arizona corporation, as borrowers, and UMB Bank, N.A., national banking association, as lender.</a>	10-Q	000-11412	10.2	February 8, 2023	
10.7**	<a href="#">Forbearance &amp; Modification Agreement entered into effective as of December 5, 2023 by and between the Registrant, its U.S. based wholly owned subsidiaries Bruce Technologies, Inc., a Massachusetts corporation, BTU International, Inc., a Delaware corporation, Intersurface Dynamics, Incorporated, a Connecticut corporation, P.R. Hoffman Machine Products, Inc., an Arizona corporation, Entrepix, Inc., an Arizona corporation, and Advanced Compound Materials, Inc., a Delaware corporation, as borrowers, and UMB Bank, N.A., national banking association, as lender.</a>					X

10.8**	<a href="#"><u>Loan and Security Agreement, dated as of January 17, 2023, by and among the Registrant, its U.S. based wholly owned subsidiaries Bruce Technologies, Inc., a Massachusetts corporation, BTU International, Inc., a Delaware corporation, Intersurface Dynamics, Incorporated, a Connecticut corporation, P.R. Hoffman Machine Products, Inc., an Arizona corporation, Entrepix, Inc., an Arizona corporation, and Advanced Compound Materials, Inc., a Delaware corporation, as borrowers, and UMB Bank, N.A., national banking association, as lender.</u></a>	X
21.1	<a href="#"><u>Subsidiaries of the Registrant</u></a>	X
23.1	<a href="#"><u>Consent of Independent Registered Public Accounting Firm - Grant Thornton LLP</u></a>	X
23.2	<a href="#"><u>Consent of Independent Registered Public Accounting Firm - Mayer Hoffman McCann P.C.</u></a>	X
24	<a href="#"><u>Powers of Attorney</u></a>	X
31.1	<a href="#"><u>Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended</u></a>	X
31.2	<a href="#"><u>Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended</u></a>	X
32.1	<a href="#"><u>Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u></a>	X
32.2	<a href="#"><u>Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u></a>	X
97	<a href="#"><u>Clawback Policy</u></a>	X

101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document	X
101.SCH	Inline XBRL Taxonomy Extension Schema Document	X
101.PRE	Inline Taxonomy Presentation Linkbase Document	X
101.CAL	Inline XBRL Taxonomy Calculation Linkbase Document	X
101.LAB	Inline XBRL Taxonomy Label Linkbase Document	X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	X
104	The cover page for the Company’s Annual Report on Form 10-K for the year ended September 30, 2023, has been formatted in Inline XBRL	X

\* Indicates management contract or compensatory plan.

\*\* Schedules have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to furnish copies of any of the omitted schedules upon request by the Securities and Exchange Commission.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMTECH SYSTEMS, INC.

December 14, 2023

By: /s/ Lisa D. Gibbs  
Lisa D. Gibbs, Vice President, Chief Financial Officer and Director  
(Principal Financial Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

SIGNATURE	TITLE	DATE
Robert C. Daigle	Chairman and Chief Executive Officer (Principal Executive Officer)	December 14, 2023
/s/ Lisa D. Gibbs Lisa D. Gibbs	Vice President, Chief Financial Officer and Director (Principal Financial Officer and Principal Accounting Officer)	December 14, 2023
Robert M. Averick	Director	December 14, 2023
Michael Garnreiter	Director	December 14, 2023
Michael M. Ludwig	Director	December 14, 2023

\*By: /s/ Lisa D. Gibbs  
Lisa D. Gibbs, Attorney-In-Fact\*\*

\*\* By authority of the power of attorney filed as Exhibit 24 hereto.





**DESCRIPTION OF THE REGISTRANT'S SECURITIES  
REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES  
EXCHANGE ACT OF 1934**

Amtech Systems, Inc. ("Amtech," "we," "our" or "us") has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common stock.

**DESCRIPTION OF CAPITAL STOCK**

*The following summary of the terms of our capital stock is based upon our Amended and Restated Articles of Incorporation, as amended through February 6, 2012 (the "Articles of Incorporation") and our Amended and Restated Bylaws, as amended (the "Bylaws"). The summary is not complete and is qualified by reference to our Articles of Incorporation and our Bylaws, which are filed as exhibits to this Annual Report on Form 10-K and are incorporated by reference herein. We encourage you to read our Articles of Incorporation, our Bylaws and the applicable provisions of the Arizona Revised Statutes for additional information.*

**Authorized Shares of Capital Stock**

Our authorized capital stock consists of 100,000,000 shares of common stock, \$0.01 par value, and 100,000,000 shares of preferred stock. As of December 1, 2023, there were 14,190,977 shares of common stock issued and outstanding and no shares of preferred stock issued and outstanding. The outstanding shares of our common stock are duly authorized, validly issued, fully paid, and nonassessable.

**Listing**

Our common stock trades on the Nasdaq Global Select Market, under the symbol "ASYS."

**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, the NASDAQ 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.

**Dividend Rights**

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.

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## **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.

## **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.

## **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 the 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.

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**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 shareholder meetings can only be called by the Chairman of the Board, the Chief Executive Officer or the Secretary at the request of a majority of the board of directors. Shareholders are specifically denied the right to call special meetings. 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 the 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.
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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
  - o the Business Combination; or
  - o 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 the Companies' 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

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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.

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**EMPLOYMENT AGREEMENT**

**THIS EMPLOYMENT AGREEMENT** (this “Agreement”), by and between Amtech Systems, Inc., an Arizona corporation (the “Company”), and Robert C. Daigle (“Executive”) is entered into and effective as of the 14th day of August, 2023 (the “Effective Date”).

**WHEREAS**, the Company and Executive wish to provide for terms and conditions of Executive’s employment with the Company, pursuant to the terms and conditions set forth in this Agreement.

**NOW, THEREFORE**, in consideration of the premises and of the mutual covenants set forth in this Agreement, the parties hereto agree as follows:

**1. Employment and Duties.**

(a) **Employment and Term.** The Company hereby agrees to employ Executive, and Executive hereby agrees to serve the Company, in accordance with the terms and conditions set forth herein, for a period of three (3) years, commencing as of the Effective Date (such year (3) year period, including as it may be extended pursuant to this Section 1(a), the “Term”), unless sooner terminated pursuant to Section 3 hereof.

(b) **Duties of Executive.** Executive shall serve as the President and Chief Executive Officer (collectively, “CEO”) of the Company, shall have the duties, responsibilities, and authority customary for such a position in an organization of the size and nature of the Company, shall diligently perform all services as may be reasonably assigned to Executive by the Company’s Board of Directors (the “Board”), and shall exercise such power and authority as may from time to time be delegated to Executive by the Board. During Executive’s employment, Executive shall devote Executive’s substantially all of his business time (except for permitted vacation periods and reasonable periods of illness or other incapacity), energy, and ability to the business and interests of the Company and shall not, without the Company’s prior written consent, be engaged in any other business activity pursued for gain, profit, or other pecuniary advantage if such activity interferes in any material respect with Executive’s duties and responsibilities hereunder; provided, however that Executive shall be allowed to engage in the following activities while employed by the Company: (i) provide services for one day a month under Executive’s existing consulting arrangement with Rogers Corporation through December 31, 2023, and (ii) join one (1) additional board of directors, subject to a conflict review and the consent of the Board, which shall not be unreasonably withheld. In Executive’s capacity as the CEO, Executive shall do and perform all services, acts, or things necessary or advisable to manage and conduct the business of the Company, subject to the policies and procedures set by the Company, including, but not limited to, designing and implementing business strategies, plans, and procedures; under the direction of the Board, implementing business strategies and plans aligned with short-term and long-term goals and objectives; establishing policies that promote company culture and vision; overseeing all operations and business activities to ensure they produce the desired results and are consistent with the overall strategy and mission of the Company; participating in business development activities (investments, acquisitions, corporate alliances, etc.); providing or supporting solutions to

problematic situations to ensure company survival and growth; building alliances and partnerships with third-party organizations; and managing key relationships with partners and vendors. Except as otherwise agreed in writing by the Company, it shall not be a violation of this Agreement for Executive, and Executive shall be permitted, to (i) serve on any civic or charitable boards; (ii) deliver lectures, fulfill speaking engagements, or teach at educational institutions and other institutions; (iii) subject to any applicable Company policies, make personal investments in such form or manner as will neither require Executive's services in the operation or affairs of the companies or enterprises in which such investments are made nor subject Executive to any conflict of interest with respect to Executive's duties to the Company.

(c) **Service as Chairman of the Board.** Executive shall continue to serve as Chairman of the Board until the earlier of Executive's resignation, removal from the Board for Good Cause or death, or Executive's successor as Chairman of the Board is duly appointed by the Board; provided, however, nothing contained herein shall adversely affect Executive's rights to be elected to the Board by the stockholders of the Company pursuant to the Company's bylaws and applicable law. The termination of the Term Without Good Cause (as defined below) will not affect Executive's service as Chairman of the Board or otherwise as a member of the Board unless the Board otherwise requests Executive's resignation as a Board member and Chairmanship. For the avoidance of doubt, all references in this Agreement to Executive's "service with the Company" or "employment with the Company", shall include Executive's employment or other Service (as such term is defined in the Company's 2022 Equity Incentive Plan (the "EIP"), which includes services with the Board).

(d) **Policies.** Executive shall faithfully adhere to, execute, and fulfill all lawful written policies established by the Company as are communicated to Executive by the Company.

(e) **Place of Performance.** In connection with Executive's employment by the Company, Executive shall be based at the Company's principal executive offices, which are currently in Tempe, Arizona. Executive shall generally be physically present at the Company's offices in Tempe, Arizona during normal business hours each week (other than periods of working remotely that do not materially interfere with performing his duties, paid time off ("PTO") and on appropriate business travel for the benefit of the Company).

2. **Compensation.** For all services rendered by Executive, the Company shall compensate Executive as follows:

(a) **Base Salary.** Effective on the Effective Date, the base salary ("Base Salary") payable to Executive shall be four hundred fifty thousand dollars (\$450,000) per year, payable on a regular basis in accordance with the Company's standard payroll procedures. The Board or a committee of the Board shall review Executive's performance on at least an annual basis and may increase, but not decrease, such Base Salary if, in its sole discretion, any such adjustment is warranted, provided, however, Executive's Base Salary may be decreased in connection with salary reductions implemented by the Board or a Committee of the Board applicable to all executives of the Company.

(b) **Annual Short-Term Incentive.** Executive shall be eligible to participate in the Company's annual executive bonus program established by the Compensation Committee and



approved by the Board (the "Executive Bonus Plan"), as such program may exist from time to time. Executive's bonus for achieving target performance shall be not less than 100% of Base Salary.

(c) **Cessation of Director Compensation During Term.** During the Term, Executive will not be compensated for Executive's service as Chairman of the Board in accordance with the Company's policy for non-employee members of the Board (the "Director Compensation Policy"), including the cash compensation and equity awards to be provided thereunder. Notwithstanding the foregoing, Executive's service under this Agreement shall be covered service towards vesting and continuing to hold any outstanding equity awards for services on the Company's Board of Directors, as further described in Section 3(c) below. Following the termination of the Term, for so long as Executive remains on the Board, Executive will again be compensated under the Director Compensation Policy in accordance with its terms in effect at such time, and Executive's services on the Board shall be covered service towards vesting and continuing to hold any then outstanding awards granted to Executive during his performance of services as Chief Executive Officer under this Agreement. Executive and the Company acknowledge and agree that the compensation payable to Executive under Section 2 of this Agreement and any equity awards granted to Executive during the Term are solely for Executive's services as an employee and not for Executive's service as a member of the Board.

(d) **Executive Perquisites, Benefits, and Other Compensation.** Executive shall be entitled to receive additional benefits and compensation from the Company in such form and to such extent as specified below:

(i) **Insurance Coverage.** During the Term, and as otherwise provided within the provisions of each of the respective plans, the Company shall make available to Executive all employee benefits to which other executives of the Company are entitled to receive, subject to the eligibility requirements and other provisions of such arrangements as applicable to executives of the Company generally. Such benefits shall include, but shall not be limited to, comprehensive health and major medical insurance, dental and life insurance, and short-term and long-term disability. During the Term, the Company will maintain customary director and officer insurance.

(ii) **Reimbursement for Expenses.** Reimbursement for business travel and other out-of-pocket expenses reasonably incurred by Executive in the performance of Executive's services under this Agreement, including, but not limited to, industry appropriate seminars and subscriptions and applicable licensing and continuing education expenses. All reimbursable expenses shall be appropriately documented in reasonable detail by Executive upon submission of any request for reimbursement and shall be in a format and manner consistent with the Company's expense reporting policy.

(iii) **Paid Time Off.** Executive shall be eligible for up to twenty (20) days of paid time off ("PTO") per year, which shall not carryover from year to year, consistent with the Company's policies and procedures in effect from time to time for officers of Executive's level.

(iv) **Other Executive Perquisites.** The Company shall provide Executive with other executive perquisites as may be made available to or deemed appropriate for Executive

by the Board or a committee of the Board and participation in all other Company-wide employee benefits as are available to the Company's executives from time to time, including any plans, programs, or arrangements relating to retirement, deferred compensation, profit sharing, 401(k), and employee stock ownership.

### 3. Equity.

(a) **Equity Awards During Term.** During the Term, Executive may be awarded, from time to time, one or more equity awards for Executive's employment service under this Agreement to be determined and granted to Executive by the Board or a committee of the Board. Any equity awards will be subject to the terms and conditions of the EIP, or any successor equity compensation plan as may be in place from time to time, and the corresponding award agreements between the Company and the Executive.

(b) **Existing Equity.** As of the Effective Date, Executive holds options to purchase shares of Company common stock ("Common Stock") as well as restricted stock units each representing a contingent right to receive one (1) share of Common Stock ("RSUs") (collectively, the "Existing Equity"), originally issued pursuant to certain award agreements (the "Award Agreements"). As of the Effective Date, a portion of the Existing Equity remains unvested and unexercisable.

(c) **Continued Vesting; No Break in Service.** There will be no break in Service under the Option Agreements as a result of the transition to an employee occurring on the Effective Date, and Executive will retain all right, title and interest Executive has in any Existing Equity granted to Executive by the Company prior to the Effective Date. All equity awards previously granted to Executive in connection with Executive's Service as a member of the Board, and any future equity awards granted to Executive during the Term, will continue to vest based on Executive's employment and/or Executive's service on the Board (including any such Board service after any termination of Executive's employment). Executive and the Company hereby agree that, notwithstanding any provisions in the Option Agreements or any other agreement between Executive and the Company to the contrary, all of Executive's Existing Equity shall continue to vest, and the exercisability of such Existing Equity shall continue, in accordance with the vesting schedules provided in the Option Agreements, subject to and based on Executive's continued Service as an employee or a member of the Board.

(d) **Stock Option Grant.** Subject to approval by the Board, the Company will grant to Executive an option to purchase 150,000 shares of Common Stock (the "Option Grant") on the Effective Date. The exercise price of the Option Grant will be determined by the Board when the Option Grant is granted and will be equal to Fair Market Value (as defined in the EIP) of a share of Common Stock on the date of grant. The Option Grant will be subject to the terms and conditions applicable to stock options granted under the EIP and the applicable award agreement to be signed by the Executive and the Company, which shall be in substantially the form attached to this Agreement. One-third of the Option Grant (50,000 shares) will be vested and exercisable on the date of grant and the remainder (100,000 shares) will vest ratably on each of the subsequent annual anniversaries over the Term, subject to Executive's continued Service with the Company, as described in the applicable award agreement.

(e) **Restricted Stock Units.** Subject to approval by the Board, the Company will grant to Executive RSUs with an aggregate Fair Market Value as of the grant date equal to five hundred thousand dollars (\$500,000). In addition, on each one year anniversary of the Effective Date the Company shall make an additional grant to Executive of RSUs with an aggregate Fair Market Value as of the grant date equal to five hundred thousand dollars (\$500,000) (such grants, the “RSU Grants”). The RSU Grants will be subject to the terms and conditions applicable to restricted stock units granted under the EIP and the applicable award agreement to be signed by the Executive and the Company, which shall be in substantially the form attached to this Agreement. Each RSU Grant will vest in full on the one-year anniversary of the grant date, subject to Executive’s continued Service with the Company, as described in the applicable award agreement. For the avoidance of doubt, no RSU Grant shall be subject to performance based vesting conditions that are tied, directly or indirectly, to the Company’s financial statements, including the Company’s stock price.

(f) **Stock Ownership Requirements.** All shares of Common Stock currently beneficially owned by the Executive, acquired after the Effective Date, or distributed to the Executive by the Company under this Agreement or otherwise shall be subject to the stock ownership guidelines in effect for executives from time to time, as determined by the Board. Unless the Board approves otherwise, no shares of Common Stock can be transferred or sold during the Executive’s employment by the Company; provided, however, that this sentence shall no longer apply following Executive’s termination of employment and the Term.

(g) **Acquisition of Shares.** Executive has agreed to use best efforts to acquire in the open market \$500,000 worth of shares of Common Stock.

(h) **Vesting Upon a Change of Control.** Notwithstanding anything in this Agreement or any award agreement to the contrary, if a Change of Control occurs during the Term and irrespective of whether Executive’s equity grants are assumed, substituted, exchanged or terminated in connection with the Change of Control, then the vesting of any and all of such equity awards shall become vested as to 100% of the portion of any such award then unvested, effective immediately prior to and contingent upon the consummation of the Change of Control. For purpose of this Agreement, the term “Change of Control” shall have the meaning set forth in the Amtech Systems, Inc. 2022 Equity Incentive Plan.

### 3. Term of Employment.

#### (a) Termination Under Certain Circumstances.

(i) **Death.** Executive’s employment and the Term shall be automatically terminated, without notice, effective upon the date of Executive’s death.

(ii) **Disability.** If, as a result of incapacity due to physical or mental illness or injury, Executive shall have been absent from Executive’s full-time duties hereunder for six (6) consecutive months, then thirty (30) days after giving written notice to Executive (which notice may occur before or after the end of such six (6) month period, but which shall not be effective earlier than the last day of such six (6) month period), the Company may terminate Executive’s

employment and the Term, provided Executive is unable to resume Executive's full-time duties at the conclusion of such notice period.

(iii) **Termination by the Company for Good Cause.** The Company may terminate Executive's employment and the Term upon ten (10) days prior written notice to Executive for "Good Cause," which shall mean any one or more of the following: (A) Executive's material breach of this Agreement (continuing for thirty (30) days after receipt of written notice of need to cure, if, in the Company's determination, such breach is curable); (B) Executive's intentional nonperformance of lawful instructions of the Board (continuing for thirty (30) days after receipt of written notice of need to cure, if, in the Company's determination, such breach is curable) of any of Executive's material duties and responsibilities; (C) Executive's willful dishonesty, fraud, or misconduct with respect to the business or affairs of the Company; (D) Executive's conviction of, or guilty or *nolo contendere* plea to a felony crime involving dishonesty or moral turpitude whether or not relating to the Company (not including traffic offenses unless such traffic offense resulted in death); (E) a confirmed positive drug test result for an illegal drug while performing services for the Company; or (F) a material sanction is imposed on Executive by any applicable professional organization or professional governing body.

(iv) **Termination by the Company Without Good Cause.** The Company may terminate Executive's employment and the Term at any time without Good Cause.

**(b) Result of Termination.**

(i) Except as otherwise set forth in this Agreement, in the event of the termination of Executive's employment and the Term pursuant to Sections 3(a)(iii) ("Termination by the Company for Good Cause") hereof, Executive shall receive no further compensation under this Agreement other than the payment of Accrued Benefits. For purposes of this Agreement, "Accrued Benefits" means (i) all unpaid Base Salary for the time period ending through the date of employment termination; (ii) accrued but unused PTO consistent with the Company's policies and procedures therefor in effect at the time of such termination for officers of Executive's level; (iii) any and all other cash earned through employment termination and deferred at the election of Executive or pursuant to any deferred compensation plan then in effect; (iv) any amounts or benefits owing to Executive or to Executive's beneficiaries under the then-applicable benefit plans of the Company, including benefits under the Company's 401(k) plan; and (v) reimbursement for any and all monies advanced in connection with Executive's employment for expenses incurred by Executive on behalf of the Company for the time period ending with the date of employment termination. (ii) In the event of the termination of Executive's employment and the Term pursuant to Sections 3(a)(iv) ("Termination by the Company Without Good Cause") hereof, (a) Executive shall, for a period of six (6) months following the effective date of such termination, continue to receive Executive's then current annual Base Salary, as provided in Section 2(a), (b) Executive shall receive payment for any cash bonus earned pursuant to the Executive Bonus Plan described in Section 2(b) hereof for the calendar year immediately preceding the calendar year in which the termination of Executive's employment occurs which is unpaid on the effective date of Executive's termination, which shall be paid to Executive when paid to other similarly situated executives of the Company ("Accrued Bonus").

(iii) In the event of the termination of Executive's employment and the Term pursuant to Sections 3(a)(i) ("Death") or 3(a)(ii) ("Disability") hereof, Executive shall receive payment for the Accrued Benefits, including any life insurance proceeds under applicable Company policies and the Accrued Bonus.

(iv) Executive shall receive no additional compensation following any termination other than Accrued Benefits and Accrued Bonus. In the event of any termination other than termination by the Company without Good Cause, Executive shall resign all positions with the Company and its subsidiaries and, if requested by the Board, shall resign from the Board and all Committees thereof.

(c) **Release.** Notwithstanding any other provision in this Agreement to the contrary, as a condition precedent to receiving any post-termination payments or benefits identified in Sections 3(b)(ii) and 3(b)(iii) hereof, Executive agrees to execute (and not revoke) a full and complete release of all claims against the Company and its affiliates, in a form acceptable to the Company (the "Release"). If Executive fails to execute and deliver to the Company the Release within twenty-one (21) days following the date of termination, or revokes the Release, within seven (7) days following the date Executive executes and delivers the Release, or materially breaches any term of this Agreement or any other agreement between Executive and the Company while receiving such post-termination payments or benefits, Executive agrees that Executive shall not be entitled to receive any such post-termination payments. For purposes of this Agreement, the Release shall be deemed to have been executed by Executive if it is signed by Executive's legal representative in the case of legal incompetence or on behalf of Executive's estate in the case of Executive's death. Payment of any post-termination payments or benefits identified in Sections 3(b)(ii), and 3(b)(iii) hereof (other than Accrued Benefits) shall be delayed until the first payroll date occurring on or after the thirtieth (30<sup>th</sup>) day following the effective date of the termination of Executive's employment under this Agreement, and any payments that are so delayed shall be paid on the first payroll date occurring on or after the thirtieth (30<sup>th</sup>) day following the effective date of the termination of Executive's employment under this Agreement.

(d) **Section 409A.** Any payments made by the Company pursuant to Sections 3(b)(ii) and 3(b)(iii) hereof (except for Accrued Bonus ) shall be paid or commence on the first payroll date occurring on or after the thirtieth (30<sup>th</sup>) day following the effective date of Executive's "separation from service" within the meaning of Section 409A ("Section 409A") of the Internal Revenue Code of 1986, as amended (the "Code"). For purposes of applying the provisions of Section 409A to this Agreement, each separately identified amount to which Executive is entitled under this Agreement shall be treated as a separate payment. In addition, to the extent permissible under Section 409A, any series of installment payments under this Agreement shall be treated as a right to a series of separate payments, in being understood that payments shall be applied against available exemptions for short-term deferrals and involuntary separation pay under Section 409A final regulations. If Executive is a "specified employee" within the meaning of Section 409A, then payments identified in Section 3(b) of this Agreement shall not commence until six (6) months following "separation from service" within the meaning of Section 409A to the extent necessary to avoid the imposition of the additional twenty percent (20%) tax under Section 409A (and in the case of installment payments, the first payment shall include all installment payments required by this subsection that otherwise would have been made during such six-month period). If the payments described in Section 3(b) are "deferred compensation" within the meaning of Section

409A and must be delayed for six (6) months pursuant to the preceding sentence, Executive shall not be entitled to additional compensation to compensate for such delay period. Upon the date such payment would otherwise commence, the Company shall reimburse Executive for such payments, to the extent that such payments otherwise would have been paid by the Company had such payments commenced upon Executive's "separation from service" within the meaning of Section 409A. Any remaining payments shall be provided by the Company in accordance with the schedule and procedures specified herein. This Agreement is intended to satisfy the requirements of Section 409A with respect to amounts subject thereto, and shall be interpreted and construed consistent with such intent. Any reimbursements by the Company to Executive of any eligible expenses under this Agreement that are not excludable from Executive's income for Federal income tax purposes (the "Taxable Reimbursements") shall be made by no later than the last day of the taxable year of Executive following the year in which the expense was incurred. The amount of any Taxable Reimbursements, and the value of any in-kind benefits to be provided to Executive, during any taxable year of Executive shall not affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other taxable year of Executive. The right to Taxable Reimbursement, or in-kind benefits, shall not be subject to liquidation or exchange for another benefit. Notwithstanding the foregoing, the Company does not make any representation to Executive that the payments or benefits provided under this Agreement are exempt from, or satisfy, the requirements of Section 409A, and the Company shall have no liability or other obligation to indemnify or hold harmless Executive or any beneficiary for any tax, additional tax, interest or penalties that Executive or any beneficiary may incur in the event that any provision of this Agreement, or any amendment or modification thereof, or any other action taken with respect thereto, is deemed to violate any of the requirements of Section 409A.

**(e) Section 280G.**

(i) **Certain Reductions in Agreement Payments.** Anything in this Agreement to the contrary notwithstanding, in the event a nationally recognized independent accounting firm designated by the Company prior to a Change in Control and reasonably acceptable to Executive (the "Accounting Firm") shall determine that receipt of all payments or distributions by the Company and its affiliates in the nature of compensation to or for Executive's benefit, whether paid or payable pursuant to this Agreement or otherwise (a "Payment"), would subject Executive to the excise tax under Section 4999 of the Code, the Accounting Firm shall determine as required below in this Section 3(e) whether to reduce any of the Payments paid or payable pursuant to this Agreement (the "Agreement Payments") to the Reduced Amount (as defined below). The Agreement Payments shall be reduced to the Reduced Amount only if the Accounting Firm determines that Executive would have a greater Net After-Tax Receipt (as defined below) of aggregate Payments if Executive's Agreement Payments were so reduced. If the Accounting Firm determines that Executive would not have a greater Net After-Tax Receipt of aggregate Payments if Executive's Agreement Payments were so reduced, then Executive shall receive all Agreement Payments to which Executive is entitled. In determining whether a reduction of payments under this Agreement is required under this Section 3(e), the Accounting Firm shall fully assess the extent to which exemptions under Section 280G final regulations (such as for compensation paid before or after a change in control, including on account of a non-competition covenant) are available and, if so, the maximum amount of the exemption.

(ii) Accounting Firm Determinations. If the Accounting Firm determines that aggregate Agreement Payments should be reduced to the Reduced Amount, then the Company shall promptly give Executive notice to that effect and a copy of the detailed calculation thereof. All determinations made by the Accounting Firm under this Section 3(e) shall be binding upon the Company and Executive absent manifest error and shall be made as soon as reasonably practicable and in no event later than twenty (20) days following the effective date of the termination of Executive's employment with the Company. For purposes of reducing the Agreement Payments to the Reduced Amount, only amounts payable under this Agreement (and no other Payments) shall be reduced. The reduction of the amounts payable hereunder, if applicable, shall be made (A) only from Payments that the Accounting Firm determines reasonably may be characterized as "parachute payments" under Section 280G of the Code; (B) only from Payments that are required to be made in cash, (C) only with respect to any amounts that are not payable pursuant to a "nonqualified deferred compensation plan" subject to Section 409A of the Code, until those payments have been reduced to zero, and (D) in reverse chronological order, to the extent that any Payments subject to reduction are made over time (e.g., in installments). In no event, however, shall any Payments be reduced if and to the extent such reduction would cause a violation of Section 409A of the Code or other applicable law. All fees and expenses of the Accounting Firm shall be borne solely by the Company.

(iii) Overpayments; Underpayments. As a result of the uncertainty in the application of Section 4999 of the Code at the time of the initial determination by the Accounting Firm hereunder, it is possible that amounts will have been paid or distributed by the Company to or for the benefit of Executive pursuant to this Agreement which should not have been so paid or distributed (an "Overpayment") or that additional amounts which will have not been paid or distributed by the Company to or for the benefit of Executive pursuant to this Agreement which should have been so paid or distributed (an "Underpayment"), in each case consistent with the calculation of the Reduced Amount hereunder. In the event that the Accounting Firm, based upon the assertion of a deficiency by the Internal Revenue Service against either the Company or Executive which the Accounting Firm believes has a high probability of success determines that an Overpayment has been made, Executive shall pay any such Overpayment to the Company ; provided, however, that no amount shall be payable by Executive to the Company if and to the extent such payment would not either reduce the amount on which Executive is subject to tax under Section 1 and Section 4999 of the Code or generate a refund of such taxes. In the event that the Accounting Firm, based upon controlling precedent or other substantial authority, determines that an Underpayment has occurred, any such Underpayment shall be paid promptly (and in no event later than 60 days following the date on which the Underpayment is determined) by the Company to or for the benefit of Executive .

(iv) Definitions. The following terms shall have the following meanings for purposes of this Section 3:

(A) "Net After-Tax Receipt" shall mean the present value (as determined in accordance with Sections 280G(b)(2)(A)(ii) and 280G(d)(4) of the Code) of a Payment net of all taxes imposed on Executive with respect thereto under Sections 1 and 4999 of the Code and under applicable state and local laws, determined by applying the highest marginal rate under Section 1 of the Code and under state and local laws which applied to Executive's

taxable income for the immediately preceding taxable year, or such other rate(s) as the Accounting Firm determined to be likely to apply to Executive in the relevant taxable year(s).

(B) “Reduced Amount” shall mean the greatest amount of Agreement Payments that can be paid that would not result in the imposition of the excise tax under Section 4999 of the Code if the Accounting Firm determines to reduce Agreement Payments pursuant to Section 3(e)(i) hereof.

#### 4. Competition and Non-Solicitation.

(a) **Interests to be Protected.** The parties acknowledge that Executive will perform essential services for the Company, its employees, and its stockholders during the term of Executive’s employment with the Company. Executive will be exposed to, have access to, and work with, a considerable amount of confidential information. The parties also expressly recognize and acknowledge that the personnel of the Company have been trained by, and are valuable to, the Company and that the Company will incur substantial recruiting and training expenses if the Company must hire new personnel or retrain existing personnel to fill vacancies. The parties expressly recognize that it could seriously impair the goodwill and diminish the value of the Company’s business should Executive compete with the Company in any manner whatsoever. The parties acknowledge that this covenant has an extended duration; however, they agree that this covenant is reasonable and it is necessary for the protection of the Company, its stockholders, and employees. For these and other reasons, and the fact that there are many other employment opportunities available to Executive if Executive’s employment is terminated, the parties are in full and complete agreement that the following restrictive covenants are fair and reasonable and are entered into freely, voluntarily, and knowingly. Furthermore, each party was given the opportunity to consult with independent legal counsel before entering into this Agreement.

(b) **Non-Competition.** During the term of Executive’s employment with the Company and for twelve (12) months after the termination of Executive’s employment with the Company, regardless of the reason therefor, Executive shall not (whether directly or indirectly, as owner, principal, agent, stockholder, director, officer, manager, employee, partner, participant, or in any other capacity) engage or become substantially and directly financially interested in any Competitive Business Activities conducted within the Restricted Territory (as defined below). As used herein, the term “Competitive Business Activities” shall mean business activities that are competitive with the business of the Company, including but not limited to, business activities in the semiconductor industry related to the manufacture of capital equipment and related consumables used in fabricating semiconductor devices that compete with the Company’s products, and the term “Restricted Territory” shall mean any state or other geographical area in which the Company has demonstrated an intent to develop, commercialize, and/or distribute products during Executive’s employment with the Company. Executive hereby agrees that, as of the date hereof, during Executive’s employment with the Company, the Company has demonstrated an intent to develop, commercialize, and/or distribute products throughout the United States of America, Canada, Mexico, Europe, and Asia.

(c) **Non-Solicitation of Employees.** During the term of Executive’s employment and for a period of twenty-four (24) months after the termination of Executive’s employment with the Company, regardless of the reason therefor, Executive shall not directly or indirectly, for the



Company, or on behalf of or in conjunction with any other person, company, partnership, corporation, or governmental or other entity, solicit for employment, seek to hire, or hire any person who is employed by the Company, is a consultant of the Company, or is an independent contractor of the Company, within twenty-four (24) months of the termination of Executive's employment, and, as related solely to consultants, for the purpose of having any such consultant engage in services that are the same as, similar to, or related to the services that such consultant provided for the Company and that are competitive with the services provided by the consultant for the Company.

(d) **Non-Solicitation of Customers.** During the term of Executive's employment and for a period of twenty-four (24) months after the termination of Executive's employment with the Company, regardless of the reason therefor, Executive shall not directly or indirectly, for the Company, or on behalf of, or in conjunction with, any other person, company, partnership, corporation, or governmental entity, call on, solicit, or engage in business with, any of the actual or targeted prospective customers or clients of the Company on behalf of any person or entity in connection with any Competitive Business, nor shall Executive make known the names and addresses of such actual or targeted prospective customers or clients, or any information relating in any manner to the trade or business relationships of the Company with such customers or clients, other than in connection with the performance of Executive's duties under this Agreement, and/or persuade or encourage or attempt to persuade or encourage any persons or entities with whom the Company does business or has some business relationship to cease doing business or to terminate its business relationship with the Company or to engage in any Competitive Business Activities on its own or with any competitor of the Company. As used herein, the term "Competitive Business" shall mean business that is directly competitive with the business of the Company, including but not limited to, business in the semiconductor device and module manufacturer industry related to products that directly compete with the Company's products.

(f) **Equitable Relief.** In the event a violation of any of the restrictions contained in this Section 4 occurs, the Company shall be entitled to preliminary and permanent injunctive relief (without being required to post bond), damages and an equitable accounting of all earnings, profits, and other benefits arising from such violation, which right shall be cumulative and in addition to any other rights or remedies to which the Company may be entitled. In the event of a violation of any provision of Section 4(b), Section 4(c), or Section 4(d) hereof, the period for which those provisions would remain in effect shall be extended for a period of time equal to that period beginning when such violation commenced and ending when the activities constituting such violation shall have been finally terminated in good faith.

(g) **Restrictions Separable.** If the scope of any provision of this Agreement (whether in this Section 4 or otherwise) is found by a court of competent jurisdiction to be too broad to permit enforcement to its full extent, then such provision shall be enforced to the maximum extent permitted by law. The parties agree that the scope of any provision of this Agreement may be modified by a judge in any proceeding to enforce this Agreement, so that such provision can be enforced to the maximum extent permitted by law. Each and every restriction set forth in this Section 4 is independent and severable from the others, and no such restriction shall be rendered unenforceable by virtue of the fact that, for any reason, any other or others of them may be unenforceable in whole or in part.

**5. Return of Company Property.** At any time as requested by the Company, or upon the termination of Executive's Services with the Company as an employee and director for any reason, Executive shall deliver promptly to the Company all files, lists, books, records, manuals, memoranda, drawings, and specifications; all other written or printed materials and computers, cell phones, and other equipment that are the property of the Company (and any copies of them); and all other materials that may contain confidential information relating to the business of the Company, which Executive may then have in Executive's possession or control, whether prepared by Executive or not.

**6. Cooperation.** Following the Term, Executive shall give assistance and cooperation willingly, upon reasonable advance notice with due consideration for Executive's other business or personal commitments, in any matter relating to Executive's position with the Company, or Executive's expertise or experience as the Company may reasonably request, including Executive's attendance and truthful testimony where deemed appropriate by the Company, with respect to any investigation or the Company's defense or prosecution of any existing or future claims or litigations or other proceedings relating to matters in which Executive was involved or potentially had knowledge by virtue of Executive's employment with the Company. The Company agrees that (a) it shall promptly reimburse Executive for Executive's reasonable and documented expenses in connection with rendering assistance and/or cooperation under this Section 6 upon Executive's presentation of documentation for such expenses and (b) Executive shall be reasonably compensated for Executive's continued material services as required under this Section 6 at an hourly rate to be mutually agreed upon by the parties.

**7. No Prior Agreements.** Executive hereby represents and warrants to the Company that the execution of this Agreement by Executive and Executive's employment by the Company and the performance of Executive's duties hereunder will not violate or be a breach of any agreement with a former employer, client, or any other person or entity.

**8. Miscellaneous.**

(a) **Notice.** All notices, requests, demands, and other communications required or permitted under this Agreement shall be in writing and shall be deemed to have been duly given, made, and received (i) if personally delivered, on the date of delivery, (ii) if by e-mail transmission, upon receipt, (iii) if mailed United States mail, registered or certified, return receipt requested, postage prepaid, and addressed as provided below, upon receipt or refusal of delivery, or (iv) if by a courier delivery service providing overnight or "next-day" delivery, upon receipt or refusal of delivery, in each case addressed as follows:

To the Company:

Amtech Systems, Inc.  
131 South Clark Drive  
Tempe, Arizona 85281  
Attention: Chief Financial Officer  
Phone: 480-967-5146

With a copy, which shall not constitute notice, to:

Gregory R. Hall

DLA Piper LLP (US)  
2525 E. Camelback Road, Suite 1000  
Phoenix, Arizona 85016

To Executive:

Robert C. Daigle

The address of Executive's principal residence most recently on file with the Company.

Either party may alter the address to which communications or copies are to be sent by giving notice of such change of address in conformity with the provisions of this Section 8 for the giving of notice.

(b) **Indulgences; Waivers.** Neither any failure nor any delay on the part of either party to exercise any right, remedy, power, or privilege under this Agreement shall operate as a waiver thereof, nor shall any single or partial exercise of any right, remedy, power, or privilege preclude any other or further exercise of the same or of any other right, remedy, power, or privilege, nor shall any waiver of any right, remedy, power, or privilege with respect to any occurrence be construed as a waiver of such right, remedy, power, or privilege with respect to any other occurrence. No waiver shall be binding unless executed in writing by the party making the waiver.

(c) **Controlling Law.** This Agreement and all questions relating to its validity, interpretation, performance and enforcement, shall be governed by and construed in accordance with the laws of the State of Arizona, notwithstanding any Arizona or other conflict-of-interest provisions to the contrary. Venue for any action arising out of this Agreement or the employment relationship shall be brought only in courts of competent jurisdiction in or for Maricopa County, Arizona and each party hereby irrevocably waives, to the fullest extent permitted by law, any objection which they may now or hereafter have to the laying of venue in such courts and submits to the jurisdiction of such courts. **THE PARTIES (BY THEIR ACCEPTANCE HEREOF) HEREBY KNOWINGLY, IRREVOCABLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT EACH MAY HAVE TO A TRIAL BY JURY WITH RESPECT TO ANY DISPUTES BASED UPON OR ARISING OUT OF THIS AGREEMENT.**

(d) **Execution in Counterpart.** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original as against any party whose signature appears thereon, and all of which shall together constitute one and the same instrument. This Agreement shall become binding when one or more counterparts hereof, individually or taken together, shall bear the signatures of the parties reflected hereon as the signatories.

(e) **Entire Agreement.** Except as herein contained, this Agreement contains the entire understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior and contemporaneous agreements and understandings, inducements, and conditions, express or implied, oral or written, which shall no longer have any force or effect. The express terms hereof control and supersede any course of performance and/or usage of the trade inconsistent with any of the terms hereof. This Agreement may not be modified or amended other

than by an agreement in writing signed by Executive and an authorized representative with actual authority to bind Company.

(f) **Controlling Document.** If any provision of any agreement, plan, program, policy, arrangement or other written document between or relating to the Company and Executive conflicts with any provision of this Agreement, the provision of this Agreement shall control and prevail.

(g) **Section Headings.** The section headings in this Agreement are for convenience only; they form no part of this Agreement and shall not affect its interpretation.

(h) **Number of Days.** In computing the number of days for purposes of this Agreement, all days shall be counted, including Saturdays, Sundays, and holidays; provided, however, that if the final day of any time period falls on a Saturday, Sunday, or holiday, then the final day shall be deemed to be the next day that is not a Saturday, Sunday, or holiday.

(i) **Successors and Assigns.** This Agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto; provided that because the obligations of Executive hereunder involve the performance of personal services, such obligations shall not be delegated by Executive. For purposes of this Agreement, successors and assigns shall include, but not be limited to, any individual, corporation, trust, partnership, or other entity that acquires a majority of the stock or assets of the Company by sale, merger, consolidation, liquidation, or other form of transfer. The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business and/or assets of the Company to expressly assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place.

(j) **Tax Withholding.** The Company may withhold from any benefits payable under this Agreement all federal, state, city, or other taxes as may be required pursuant to any law or governmental regulation or ruling.

(k) **Survival.** The respective rights and obligations of the parties hereunder shall survive any termination of Executive's employment hereunder, including without limitation, the Company's obligations under Section 3 hereof and Executive's obligations under Section 4 hereof, and the expiration of the Term, to the extent necessary to the intended preservation of such rights and obligations.

(l) **Right to Consult with Counsel; No Drafting Party.** Executive acknowledges having read and considered all of the provisions of this Agreement carefully, and having had the opportunity to consult with counsel of Executive's own choosing, and, given this, Executive agrees that the obligations created hereby are not unreasonable. Executive acknowledges that Executive has had an opportunity to negotiate any and all of these provisions and no rule of construction shall be used that would interpret any provision in favor of or against a party on the basis of who drafted the Agreement.

**[Signature Page Follows]**

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement as of the date first above written.

**AMTECH SYSTEMS, INC.**

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: CFO

**EXECUTIVE:**

/s/ Robert C. Daigle  
Robert C. Daigle

[Signature Page to Employment Agreement]

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**FORBEARANCE & MODIFICATION AGREEMENT**

**THIS FORBEARANCE & MODIFICATION AGREEMENT (“Agreement”)** is entered into effective as of December 5, 2023 (“**Forbearance Effective Date**”) by and between Amtech Systems, Inc., an Arizona corporation (“**Amtech**”), Bruce Technologies, Inc., a Massachusetts corporation (“**Bruce**”), BTU International, Inc., a Delaware corporation (“**BTU**”), Intersurface Dynamics, Inc., a Connecticut corporation (“**Intersurface**”), P.R. Hoffman Machine Products, Inc., an Arizona corporation (“**Hoffman**”) and Entrepix, Inc., an Arizona corporation (“**Entrepix**”, and together with Amtech, BTU, Bruce, Intersurface and Hoffman, the “**Existing Borrowers**” and each an “**Existing Borrower**”), Advanced Compound Materials, Inc., a Delaware corporation (“**ACM**” and together with the Existing Borrowers, the “**Borrowers**” and each a “**Borrower**”) and UMB Bank, N.A. (“**Lender**”). The Borrowers and Lender are parties to a Loan and Security Agreement dated January 17, 2023 (as amended, modified and/or restated from time to time, the “**Loan Agreement**”). Pursuant to the Loan Agreement, the Existing Borrowers have executed and delivered to Lender a Revolving Note dated January 17, 2023 in the original principal amount of \$8,000,000 (as amended, modified and/or restated from time to time, the “**RLOC Note**”) evidencing a revolving line of credit (the “**RLOC**”), a Term Note dated January 17, 2023 in the principal amount of \$12,000,000 (as amended, modified and/or restated from time to time, the “**Term Note**” and together with the RLOC Note, the “**Notes**”) evidencing a fully funded term loan (the “**Term Loan**” and together with the RLOC, the “**Loans**”), and a Negative Pledge Agreement dated January 17, 2023 (as amended, modified and/or restated from time to time, the “**Negative Pledge Agreement**”). The Loan Agreement, Notes, Negative Pledge Agreement and all other documents and agreements related to the foregoing are hereinafter the “**Loan Documents**”. Capitalized terms not otherwise defined herein will have the meaning given to them in the applicable Loan Documents.

**WHEREAS**, as of December 4, 2023, (a) the outstanding principal balance of the RLOC Note is \$0.00, (b) the accrued and unpaid interest in respect of the RLOC Note is \$0.00; (c) the outstanding principal balance of the Term Note is \$10,035,739.78 and (d) the accrued and unpaid interest in respect of the Term Note is \$5,335.67; and

**WHEREAS**, Lender has become aware that one or more Existing Borrower has (a) failed to maintain the required Senior Debt to EBITDA ratio at September 30, 2023 in accordance with Section 10.1 of the Loan Agreement, (b) failed to maintain the required Fixed Charge Coverage ratio at September 30, 2023 in accordance with Section 10.2 of the Loan Agreement, each of which constitutes an Event of Default under the Loan Documents, and (c) become a party to a transaction wherein it acquired the Capital Securities of ACM in violation of Section 9.4 of the Loan Agreement (collectively, the “**Specific Defaults**”); and

**WHEREAS**, ACM was formed on May 19, 2023 as a Wholly-Owned Subsidiary of Amtech, and Borrowers have requested that ACM be added to the credit facility evidenced by the Loan Documents as a “Borrower” for all purposes; and

**WHEREAS**, the Borrowers have requested that Lender forbear from exercising the rights and remedies available to it as a result of the Specific Defaults and to provide certain other new financial accommodations to the Borrowers.

**NOW, THEREFORE**, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and of the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. **Recitals, Incorporation, Time.** The recitals to this Agreement are a part of this Agreement for all purposes and are true and accurate in all respects. All times specified in this Agreement will be measured by Phoenix, Arizona local time.

2. **Specific Defaults.** Each Borrower expressly acknowledges the occurrence and existence of the Specific Defaults.

3. **Forbearance Period.** Subject to each Borrower's continuing compliance with the terms and conditions of this Agreement, Lender will forbear from exercising the remedies available to it based on the Specific Defaults from the date hereof through the earlier of (a) in Lender's sole discretion, at any time after a breach or default by a Borrower under this Agreement or any Event of Default under any other Loan Document (other than the Specific Defaults) or (b) 11:00 AM on January 17, 2025 (hereinafter, such period is the "**Forbearance Period**").

4. **Joinder Agreement.** As a condition to the effectiveness of this Agreement, ACM will execute and deliver to Lender, a Joinder Agreement in form and substance acceptable to Lender, which Joinder Agreement will have the effect of adding ACM to the credit facility evidenced by the Loan Document for all purposes.

5. **Modifications to Loan Agreement.** As of the Forbearance Effective Date, each Borrower and Lender agree that the Loan Agreement is amended to (a) delete the stricken text (indicated textually in the same manner as the following example: ~~stricken text~~) and (b) to add the double-underlined text (indicated textually in the same manner as the following example: double-underlined text) as set forth in the pages of the conformed copy of the Loan Agreement attached hereto as Exhibit A.

6. **13-Week Cash Flow.** On or before December 8, 2023, Borrower will prepare and deliver to Lender a thirteen-week budget of cash flows for the thirteen-week period commencing Saturday, December 2, 2023 (the "**Cash Flow Projections**"). Thereafter, each Tuesday at or before 11:00AM, Borrower will deliver to Lender in form and substance acceptable to Lender (a) a "Budget to Actual" comparison for the calendar week ended the immediately preceding Friday (the "**Friday Close**") on a line item and aggregate basis, and (b) an additional week of budgeted cash flows for the one-week period commencing immediately after the then last-budgeted Friday Close, such that the Cash Flow Projections shall always include thirteen weeks of projections and analysis (each such additional week being a "**Cash Flow Projection Add-On**"). Each weekly "Budget to Actual" comparison will be certified as true and correct in all material respects by the Chief Financial Officer of each Borrower, and each Cash Flow Projection Add-On will be certified as Borrower's good faith projection of cash flows for such add-on period by the Chief Financial Officer of each Borrower.

7. **Field Exam.** Lender will conduct an internal field exam of Borrowers contemplated to be commenced on or about February 1, 2024. Each Borrower will fully cooperate with Lender's field examiners and other professionals and will promptly provide Lender (or its nominees) such information, access and verifications it reasonably requests in connection with each such exam. The Borrowers will be responsible for reimbursement of Lender's actual out-of-pocket costs and expenses in connection with such exam, including without limitation, Lender's standard per diem charge for internal audit personnel.

8. **Office Building Sale.** Borrower is contemplating the sale of the office building located at 131 S. Clark Drive, Tempe, Arizona 85288 (the "**Arizona Office Building**"). In the event of a sale of the Arizona Office Building, at closing, Borrowers will cause not less than fifty percent (50%) of the net sales proceeds of such transaction to be funded directly to Lender for application against the outstanding principal balance of the RLOC.



9. **A/R Insurance.** Without limiting any provisions in the Loan Agreement relating to foreign credit insurance, on or before December 31, 2023, Borrower will obtain and provide to Lender, detailed terms of and one or more pricing quotes by a reputable insurer acceptable to Lender, for insurance of substantially all of Borrowers' accounts receivable, foreign and domestic (all to the extent of the availability of such coverage).

10. **Forbearance & Modification Fee.** The Borrowers will pay Lender a forbearance and modification fee equal to \$5,000, which is fully earned, due and payable as of the Forbearance Effective Date (the "**Forbearance Fee**").

11. **Defaults.** The continuation, occurrence or discovery of any default or event of default (whether now or hereafter existing) in respect of the any Loan Document (other than the Specific Defaults) will constitute a default under this Agreement, will constitute a default under the Loan Agreement and Notes and will constitute a default, breach and event of default under each and every Loan Document without exception. The failure of a Borrower to perform any and all obligations under this Agreement as and when due and without notice will constitute a default under this Agreement. Any default hereunder by a Borrower will constitute an Event of Default under each and every Loan Document without exception.

12. **Expenses.** Without limiting any of the other expense reimbursement provisions contained in the Loan Documents, each Borrower will, within one Business Day of request therefor by Lender, pay all actual expenses and costs of Lender (including, without limitation, the attorney fees, costs and expenses for Lender's outside counsel) in connection with the credit facility generally and the continuing analysis and administration of the credit facility and Loan Documents and in connection with the preparation, negotiation, execution, approval and administration of this Agreement and any and all other documents, instruments and other things now or hereafter deemed necessary or desirable by Lender in connection with or related to this Agreement and/or the other Loan Documents and in connection with the exercise of any and all remedies it has in connection therewith and in connection with any realization on its collateral. This provision shall expressly survive the conclusion of the Forbearance Period.

13. **Modification of Loan Documents.** Lender and each Borrower agree that the Loan Documents are hereby modified as the context may require by the terms of this Agreement.

14. **No Impairment.** Except as expressly set forth herein, the terms and provisions set forth in the Loan Documents, all of which are incorporated herein, are unmodified and shall remain in full force and effect and each Borrower hereby ratifies and confirms such terms and provisions. Nothing in this Agreement shall be deemed to or shall in any manner prejudice or impair, or act as a release or relinquishment of, any of the Loan Documents or any rights of Lender under the Loan Documents, or any lien, security interest or assignment granted to and/or held by Lender in connection with the Loans. The execution of this Agreement by Lender does not constitute a waiver, limitation or modification of any of Lender rights or remedies under the Loan Documents or applicable law, all of which Lender hereby expressly reserves, nor shall the same constitute a waiver of any default which may have heretofore occurred or which may hereafter occur with respect to the Loan Documents.

15. **Release.** Each Borrower does hereby release, remise, acquit and forever discharge Lender and Lender's employees, agents, representatives, consultants, attorneys, fiduciaries, servants, officers, directors, partners, predecessors, successors and assigns, subsidiary corporations, parent corporation, and related corporate divisions (all of the foregoing hereinafter called the "**Released Parties**"), from any and all action and causes of action, judgments, executions, suits, debts, claims, demands, liabilities, obligations, damages and expenses of any and every character, known or unknown, direct and/or indirect, at law or in equity, of whatsoever kind or nature, whether heretofore or hereafter arising, for or because of any matter or things done, omitted or suffered to be done by any of the Released Parties prior to and including the date

of execution hereof, including without limitation, such matters which in any way directly or indirectly arising out of or in any way connected to this Agreement and the Loan Documents (all of the foregoing hereinafter called the “**Released Matters**”). Each Borrower acknowledges that the agreements in this paragraph are intended to be in full satisfaction of all or any alleged injuries or damages arising in connection with the Released Matters. Each Borrower represents and warrants to Lender that neither of them have purported to transfer, assign or otherwise convey any right, title or interest in any Released Matter to any other person or entity and that the foregoing constitutes a full and complete release of all Released Matters.

16. **Non-Reliance.** Each Borrower expressly warrants that it has carefully read this Agreement (including this disclaimer of reliance), understands its contents (which include without limitation, a conformed amendment to the Loan Agreement and the general release above) and executes this Agreement as its own free act. Each Borrower expressly warrants that no promise or agreement which is not herein expressed has been made to such Borrower relating to the Loan Documents in executing this Agreement, and that it is not relying upon (and in fact, expressly disclaims reliance upon) any statement or representation of Lender or any party or any agent of the Lender being released hereby. Each Borrower agrees this is a negotiated arm’s-length transaction (no fiduciary relationship exists) and each Borrower is relying solely on its own judgment to assess the benefits and burdens of this Agreement. Each Borrower has been represented by counsel in connection with this Agreement. Each Borrower has been afforded sufficient opportunity to consult with any financial, tax or other advisors as it deems necessary or desirable in connection with this Agreement. Each Borrower covenants that it has read the entire contents of this Agreement in full and is aware of the legal benefits and consequences of this Agreement.

17. **Ratification; Estoppel; Reaffirmation and Additional Representation.**

A. Each Borrower does hereby reaffirm and ratify the Loan Documents, as amended, modified and supplemented.

B. Each Borrower does hereby reaffirm to Lender each of the representations, warranties, covenants and agreements set forth in the Loan Documents with the same force and effect as if each were separately stated herein and made as of the date hereof to Lender.

C. Each Borrower further represents and warrants that, as of the date hereof, they have no counterclaims, defenses or offsets of any nature whatsoever to the Loans or any of the Loan Documents, and that, as of the date hereof, except with respect to the Specific Defaults, no default has occurred or exists under any of the Loan Documents.

D. Each Borrower does hereby ratify, affirm, reaffirm, acknowledge, confirm and agree that the Loan Documents, as amended, modified and supplemented hereby and by this Agreement, represent the valid, enforceable and collectible obligations of such Borrower.

E. Each Existing Borrower further represents and warrants that, as of the date hereof, there have been no amendments, modifications, and/or restatements of such Borrower’s Organizational Documents (as defined in the Loan Agreement) since January 17, 2023, and ACM further represents and warrants that, as of the date hereof, there have been no amendments, modifications, and/or restatements of ACM’s Organizational Documents (as defined in the Loan Agreement) since May 19, 2023.

18. **Tax Treatment.** For U.S. federal, and applicable state and local, income tax purposes, the Borrowers and Lender agree to treat the modification of the Loan Agreement pursuant to this Agreement as a deemed exchange in which the Term Note and RLOC Note outstanding prior to the Forbearance

Effective Date is exchanged for a new Term Note and a new RLOC Note in a transaction described in Section 1001 of the Code and Section 1.1001-3 of the United States Treasury Regulations in which the amount realized in the exchange is equal to the tax basis of the property exchanged and no cancellation of indebtedness income is realized.

19.**Successors and Assigns.** This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns and personal representatives.

20.**Governing Law and Forum.** The terms and conditions of this Agreement and all of the other Loan Documents shall be governed by the laws of the State of Arizona other than its conflicts of laws provisions.

NOTWITHSTANDING PROVISIONS IN THE LOAN AGREEMENT, THE NOTES, THE NEGATIVE PLEDGE AGREEMENT AND THE OTHER LOAN DOCUMENTS TO THE CONTRARY, ANY LITIGATION OR OTHER ACTIONS BASED HEREON, OR ARISING OUT OF, UNDER, OR IN CONNECTION WITH THIS AGREEMENT, THE LOAN AGREEMENT, THE NOTES AND THE OTHER RELATED DOCUMENTS SHALL BE BROUGHT AND MAINTAINED EXCLUSIVELY IN THE COURTS OF THE STATE OF ARIZONA OR IN THE UNITED STATES DISTRICT COURT FOR ARIZONA; PROVIDED THAT NOTHING IN THIS AGREEMENT SHALL BE DEEMED OR OPERATE TO PRECLUDE LENDER FROM BRINGING SUIT OR TAKING OTHER LEGAL ACTION IN ANY OTHER JURISDICTION. EACH BORROWER HEREBY EXPRESSLY AND IRREVOCABLY SUBMITS TO THE JURISDICTION OF THE COURTS OF THE STATE OF ARIZONA AND OF THE UNITED STATES DISTRICT COURT FOR ARIZONA FOR THE PURPOSE OF ANY SUCH LITIGATION AS SET FORTH ABOVE. EACH BORROWER FURTHER IRREVOCABLY CONSENTS TO THE SERVICE OF PROCESS BY PERSONAL SERVICE WITHIN OR WITHOUT THE STATE OF ARIZONA AND BY ANY OTHER LAWFUL MEANS OF SERVICE OF PROCESS PERMITTED UNDER THE LAWS OF THE STATE OF ARIZONA. EACH BORROWER HEREBY EXPRESSLY AND IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ANY OBJECTION WHICH THEY MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY SUCH LITIGATION BROUGHT IN ANY SUCH COURT REFERRED TO ABOVE AND ANY CLAIM THAT ANY SUCH LITIGATION HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

21.**Counterparts; Effectiveness.** This Agreement and any amendments, waivers, consents or supplements may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which, when so executed and delivered, shall be deemed an original, but all of which counterparts together shall constitute but one agreement. Delivery of an executed counterpart of a signature page to this Agreement by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart signature page.

22.**No Waiver.** Nothing contained in this letter may be construed as a waiver of, or promise to waive any event of default, including without limitation the Specific Defaults, and, subject to the Forbearance Period, Lender hereby reserves all rights and remedies of every kind and nature in respect of all breaches, defaults and events of default in respect of every Loan Document, including without limitation, in respect of the Specific Defaults.

23.**Interpretation.** Within this Agreement, words of any gender shall be held and construed to include any other gender, and words in the singular number shall be held and construed to include the plural, unless the context otherwise requires. The parties acknowledge that the parties and their counsel have reviewed and revised this Agreement and that the normal rule of construction to the effect that any

ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any exhibits or amendments hereto.

**24. Conflict Between Terms.** In the event of a conflict between or among the terms, covenants, conditions or provisions of this Agreement or the Loan Documents, the terms of this Agreement shall control, and in the event of any ambiguities which may be created by a conflict between the terms of this Agreement and the terms of the other Loan Documents, Lender may elect to enforce from time to time those provisions that would afford Lender the maximum financial benefits and security for such obligations and liabilities thereunder and/or provide Lender the maximum assurance of payment of such liabilities and obligations in full.

**25. Revival of Liability.** To the extent any payment or payments made to Lender under this Agreement, the Loan Documents, or any payment or proceeds of any collateral received by Lender in the reduction of the indebtedness evidenced therein or with respect to any of the allocations evidenced by this Agreement or any related documents are subsequently invalidated, declared to be fraudulent or preferential, set aside and/or required to be repaid to a trustee, to a Borrower or any other person liable for any of the obligations evidenced and/or secured by this Agreement or any other related documents, whether directly or indirectly, as a debtor-in-possession or to a receiver or any other party under any bankruptcy law, state or federal law, common law or equitable cause, then the portion of the indebtedness of the Borrowers evidenced hereby or such other liable person intended to have been satisfied by such payment or proceeds will be revived and will continue in full force and effect as if such payment or proceeds had never been received by Lender.

**26. Waiver of Jury Trial.** EACH BORROWER WAIVES THE RIGHT TO A TRIAL BY JURY IN ANY ACTION OR PROCEEDING BASED UPON, OR RELATED TO, THE SUBJECT MATTER OF THIS AGREEMENT. THIS WAIVER IS KNOWINGLY, INTENTIONALLY AND VOLUNTARILY MADE BY ALL PARTIES.

**27. Amendment; No Oral Modification; Final Expression.** The terms and conditions hereof may not be modified, altered or otherwise amended except by an instrument in writing executed by the Borrowers and Lender.

**Missouri Revised Statute § 432.047 Notice.** If and to the extent it were to apply, the following notice is included with this Forbearance & Modification Agreement in order to comply with Missouri Revised Statute § 432.047, and the following notice is not intended to make this Forbearance & Modification Agreement a replacement for any Loan Document, or to alter Lender's and the Borrowers' written agreement in this Forbearance & Modification Agreement or any other Loan Document:

**ORAL OR UNEXECUTED AGREEMENTS OR COMMITMENTS TO LOAN MONEY, EXTEND CREDIT OR TO FORBEAR FROM ENFORCING REPAYMENT OF A DEBT INCLUDING PROMISES TO EXTEND OR RENEW SUCH DEBT ARE NOT ENFORCEABLE, REGARDLESS OF THE LEGAL THEORY UPON WHICH IT IS BASED THAT IS IN ANY WAY RELATED TO THE CREDIT AGREEMENT. TO PROTECT YOU (BORROWER(S)) AND US (CREDITOR) FROM MISUNDERSTANDING OR DISAPPOINTMENT, ANY AGREEMENTS WE REACH COVERING SUCH MATTERS ARE CONTAINED IN THIS WRITING, WHICH IS THE COMPLETE AND EXCLUSIVE STATEMENT OF THE AGREEMENT BETWEEN US, EXCEPT AS WE MAY LATER AGREE IN WRITING TO MODIFY IT.**

28. **Severability.** If any term or provision of this Agreement, or the application thereof to any person or circumstances, shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and shall be enforced to the fullest extent permitted by law.

[signature pages to follow]

IN WITNESS WHEREOF, the parties have executed this Forbearance & Modification Agreement effective as of the date first written above.

**BORROWERS:**

AMTECH SYSTEMS, INC.,  
an Arizona corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer

BRUCE TECHNOLOGIES, INC.,  
a Massachusetts corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer

BTU INTERNATIONAL, INC.,  
a Delaware corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer.

INTERSURFACE DYNAMICS, INC.,  
a Connecticut corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer

P.R. HOFFMAN MACHIN PRODUCTS, INC.,  
an Arizona corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer

ENTREPIX, INC.,  
an Arizona corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer

ADVANCED COMPOUND MATERIALS, INC.,  
a Delaware corporation

By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs  
Title: Chief Financial Officer

**LENDER:**

UMB BANK, N.A.

By: /s/ Sarah George  
Name: Sarah George  
Title: Assistant Vice President

**EXHIBIT A**

**LOAN AND SECURITY AGREEMENT**

**[Omitted and Filed as an Exhibit to the Registrant's Form 10-K]**

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Certain confidential information contained in this document, marked by brackets, has been omitted because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

### LOAN AND SECURITY AGREEMENT

This LOAN AND SECURITY AGREEMENT dated as of January 17, 2023 (the “Agreement”), is executed by and among AMTECH SYSTEMS, INC., an Arizona corporation (the “Parent Borrower”), BRUCE TECHNOLOGIES, INC., a Massachusetts corporation, BTU INTERNATIONAL, INC., a Delaware corporation, INTERSURFACE DYNAMICS, INC., a Connecticut corporation, P.R. HOFFMAN MACHINE PRODUCTS, INC., an Arizona corporation, ENTREPIX, INC., an Arizona corporation, and ADVANCED COMPOUND MATERIALS, INC., a Delaware corporation, (“ACM”, by Joinder Agreement dated December 5, 2023) (collectively and on a joint and several basis with the Parent Borrower, the “Borrower”), each of which has its chief executive office located at 131 S. Clark Drive, Tempe, Arizona 85288, and UMB BANK, N.A., national banking association (the “Lender”), whose address is 2777 East Camelback Rd., Ste. 350, Phoenix, Arizona 85016.

### RECITALS:

A. The Borrower desires to borrow funds and obtain other financial accommodations from the Lender.

B. Pursuant to the Borrower’s request, the Lender is willing to extend such financial accommodations to the Borrower under the terms and conditions set forth herein.

NOW THEREFORE, in consideration of the premises, and the mutual covenants and agreements set forth herein, the Borrower agrees to borrow from the Lender, and the Lender agrees to lend to the Borrower, subject to and upon the following terms and conditions:

### AGREEMENTS:

#### Section 1. DEFINITIONS.

1.1 Defined Terms. For the purposes of this Agreement, the following capitalized words and phrases shall have the meanings set forth below.

“Accounts” has the meaning given it under the UCC.

“Account Debtor” shall mean any Person who is or may become obligated on or under or on account of any Account.

“Acquisition” shall mean the acquisition of the Shares (as defined in the Stock Purchase Agreement).

“Affiliate” of any Person shall mean (a) any other Person which, directly or indirectly, controls or is controlled by or is under common control with such Person, (b) any officer or director of such Person, and (c) with respect to the Lender, any entity administered or managed by the Lender, or an Affiliate or investment advisor thereof and which is engaged in making, purchasing, holding or otherwise investing in commercial loans. A Person shall be deemed to be “controlled by” any other Person if such Person possesses, directly or indirectly, power to direct or cause the direction of the management and policies of such Person whether by contract, ownership of voting securities, membership interests or otherwise.

“Applicable Margin” shall mean one and one-half of one percent (1.50%) per annum.

[\*\*\*\*]=**[CONFIDENTIAL PORTION HAS BEEN OMITTED BECAUSE (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF DISCLOSED.**

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“Bank Product Agreements” shall mean those certain agreements entered into from time to time by the Borrower or any Subsidiary with the Lender or any Affiliate of the Lender concerning Bank Products.

“Bank Product Obligations” shall mean all obligations, liabilities, contingent reimbursement obligations, fees, and expenses owing by the Borrower or any Subsidiary to the Lender or any Affiliate of the Lender pursuant to or evidenced by the Bank Product Agreements and irrespective of whether for the payment of money, whether direct or indirect, absolute or contingent, due or to become due, now existing or hereafter arising.

“Bank Products” shall mean any service or facility extended to the Borrower or any Subsidiary by the Lender or any Affiliate of the Lender, including: (a) credit cards, (b) credit card and other payment processing services, (c) debit cards, (d) purchase cards, (e) ACH Transactions, (f) deposit accounts or other cash management, including controlled disbursement, accounts or services, or (g) Hedging Agreements.

“Bankruptcy Code” shall mean the United States Bankruptcy Code, as now existing or hereafter amended.

“Borrowing Base” means, at any time, the sum of:

(a) eighty percent (80%) of the sum of Borrower’s Eligible Accounts and Eligible Foreign Accounts; plus

(b) the lesser of (i) thirty percent (30%) of the lower of cost or market value of Borrower’s Eligible Inventory, or (ii) Seven Million and No/100 Dollars (\$7,000,000).

“Borrowing Base Certificate” means a certificate, in form and substance acceptable to Lender, setting forth the Borrowing Base and the component calculations thereof.

“Business Day” shall mean any day other than a Saturday, Sunday or a legal holiday on which banks are authorized or required to be closed for the conduct of commercial banking business in Phoenix, Arizona.

“Capital Expenditures” shall mean all expenditures (including Capitalized Lease Obligations) which, in accordance with GAAP, would be required to be capitalized and shown on the consolidated balance sheet of the Parent Borrower, but excluding expenditures made in connection with the replacement, substitution or restoration of assets to the extent financed (i) from insurance proceeds (or other similar recoveries) paid on account of the loss of or damage to the assets being replaced or restored or (ii) with awards of compensation arising from the taking by eminent domain or condemnation of the assets being replaced.

“Capital Lease” shall mean, as to any Person, a lease of any interest in any kind of property or asset, whether real, personal or mixed, or tangible or intangible, by such Person, as lessee, that is, or should be, in accordance with Financial Accounting Standards Board Statement No. 13, as amended from time to time, or, if such statement is not then in effect, such statement of GAAP as may be applicable, recorded as a “capital lease” on the financial statements of such Person prepared in accordance with GAAP.

“Capital Securities” shall mean, with respect to any Person, all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of such Person’s capital, whether now outstanding or issued or acquired after the date hereof, including common shares, preferred shares, membership interests in a limited liability company, limited or general partnership interests in a partnership or any other equivalent of such ownership interest.

**[\*\*\*\*]=[CONFIDENTIAL PORTION HAS BEEN OMMITTED BECAUSE (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF DISCLOSED.**

“Capitalized Lease Obligations” shall mean, as to any Person, all rental obligations of such Person, as lessee under a Capital Lease which are or will be required to be capitalized on the books of such Person.

“Closing Date” shall mean January 17, 2023.

“Code” shall mean the U.S. Internal Revenue Code of 1986, as amended.

“Collateral” shall have the meaning set forth in Section 6.1 hereof.

“Collateral Access Agreement” shall mean an agreement in form and substance reasonably satisfactory to the Lender pursuant to which a mortgagee or lessor of real property on which Collateral is stored or otherwise located, or a warehouseman, processor or other bailee of Inventory or other property owned by the Borrower or any Subsidiary, acknowledges the Liens of the Lender and waives any Liens held by such Person on such property, and, in the case of any such agreement with a mortgagee or lessor, permits the Lender reasonable access to and use of such real property following the occurrence and during the continuance of an Event of Default to assemble, complete and sell any collateral stored or otherwise located thereon.

“Commodity Exchange Act” means the Commodity Exchange Act (7 U.S.C. § 1 et seq.), as amended from time to time, and any successor statute.

“Contingent Liability” and “Contingent Liabilities” shall mean, respectively, each obligation and liability of the Borrower and all such obligations and liabilities of the Borrower incurred pursuant to any agreement, undertaking or arrangement by which the Borrower: (a) guarantees, endorses or otherwise becomes or is contingently liable upon (by direct or indirect agreement, contingent or otherwise, to provide funds for payment, to supply funds to, or otherwise to invest in, a debtor, or otherwise to assure a creditor against loss) the indebtedness, dividend, obligation or other liability of any other Person in any manner (other than by endorsement of instruments in the course of collection), including without limitation, any indebtedness, dividend or other obligation which may be issued or incurred at some future time; (b) guarantees the payment of dividends or other distributions upon the shares or ownership interest of any other Person; (c) undertakes or agrees (whether contingently or otherwise): (i) to purchase, repurchase, or otherwise acquire any indebtedness, obligation or liability of any other Person or any property or assets constituting security therefor, (ii) to advance or provide funds for the payment or discharge of any indebtedness, obligation or liability of any other Person (whether in the form of loans, advances, stock purchases, capital contributions or otherwise), or to maintain solvency, assets, level of income, working capital or other financial condition of any other Person, or (iii) to make payment to any other Person other than for value received; (d) agrees to lease property or to purchase securities, property or services from such other Person with the purpose or intent of assuring the owner of such indebtedness or obligation of the ability of such other Person to make payment of the indebtedness or obligation; (e) to induce the issuance of, or in connection with the issuance of, any letter of credit for the benefit of such other Person; or (f) undertakes or agrees otherwise to assure a creditor against loss. The amount of any Contingent Liability shall (subject to any limitation set forth herein) be deemed to be the outstanding principal amount (or maximum permitted principal amount, if larger) of the indebtedness, obligation or other liability guaranteed or supported thereby.

“Debt” shall mean, as to any Person, without duplication, (a) all indebtedness of such Person for (i) all borrowed money of such Person (including principal, interest, fees and charges), whether or not evidenced by bonds, debentures, notes or similar instruments and (ii) all obligations to pay the deferred purchase price of property or services; (b) all obligations, contingent or otherwise, with respect to the maximum face amount of all letters of credit (whether or not drawn), bankers’ acceptances and similar

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obligations issued for the account of such Person (including the Letters of Credit), and all unpaid drawings in respect of such letters of credit, bankers' acceptances and similar obligations; (c) all indebtedness secured by any Lien on any property owned by such Person, whether or not such indebtedness has been assumed by such Person (provided, however, if such Person has not assumed or otherwise become liable in respect of such indebtedness, such indebtedness shall be deemed to be in an amount equal to the fair market value of the property subject to such Lien at the time of determination); (d) the aggregate amount of all Capitalized Lease Obligations of such Person; (e) all Contingent Liabilities of such Person, whether or not reflected on its balance sheet; (f) all Bank Product Obligations of such Person; and (g) all monetary obligations of such Person under (i) a so-called synthetic, off-balance sheet or tax retention lease, or (ii) an agreement for the use or possession of property creating obligations that do not appear on the balance sheet of such Person but which, upon the insolvency or bankruptcy of such Person, would be characterized as the indebtedness of such Person (without regard to accounting treatment). Notwithstanding the foregoing, Debt shall not include trade payables and accrued expenses incurred by such Person in accordance with customary practices and in the ordinary course of business of such Person.

“Default Rate” shall mean the applicable per annum rate of interest on each Loan plus up to an additional two percent (2.0%) per annum or so much thereof as Lender desires to implement from time to time.

“Depreciation” shall mean the total amounts added to depreciation, amortization, obsolescence, valuation and other proper reserves, as reflected on the Parent Borrower’s financial statements and determined in accordance with GAAP.

“EBITDA” shall mean, for any period, (a) the sum for such period of: (i) Net Income, plus (ii) Interest Charges, plus (iii) federal and state income taxes, plus (iv) Depreciation, plus (v) Transaction Expenses, plus (vi) the amount of restructuring costs and reserves, including, without limitation, in connection with acquisitions and closing and/or consolidation of facilities, plus (vii) extraordinary, nonrecurring items, whether or not classified as such under GAAP (including, without limitation, fees and expenses incurred in connection with the sale of the Arizona Office Building), plus (viii) any losses from disposed or discontinued operations, plus (ix) non-recurring expenses for severance, integration costs (including information technology integration costs), relocation costs, facilities’ opening costs and other business optimization expenses, recruiting costs and fees, signing fees, expenses, costs and bonuses, retention or completion bonuses, contract termination costs, transition costs, systems establishment costs, costs related to closure/consolidation of office and facilities, or any consulting fees incurred in connection with any of the foregoing in connection with the Acquisition or any other acquisition permitted by the Loan Documents), provided, that such expenditures are reasonably identifiable, factually supportable and, to the extent requested by Lender, are accompanied by a detailed itemization thereof, plus (x) non-cash compensation expense (including deferred non-cash compensation expense), or other non-cash expenses or charges, arising from the sale or issuance of Capital Securities, the granting of stock options, and the granting of stock appreciation rights and similar arrangements (including any repricing, amendment, modification, substitution, or change of any such Capital Securities, stock option, stock appreciation rights, or similar arrangements) minus the amount of any such expenses or charges when paid in cash to the extent not deducted in the computation of net income (or loss), plus (xi) all other non-cash charges approved by Lender in its sole discretion, calculated on a consolidated basis in accordance with GAAP consistently applied; provided that the aggregate amount added back to EBITDA pursuant to clauses (vii) through (xi) above shall not exceed \$500,000.00 in the aggregate in any fiscal year without the prior written consent of the Lender.

“EDITDAR” shall mean, the EBITDA of Borrower plus operating lease expenses, calculated on a consolidated basis in accordance with GAAP consistently applied.

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“Eligible Account” means all Accounts owing to Borrower which are acceptable to Lender for lending purposes, net of any discounts, credits or allowances, but excluding any Account having the following characteristics:

- a)Accounts which remain unpaid for more than ninety (90) days after their invoice date;
  
- b)Accounts owing by a single Account Debtor, including a currently scheduled Account, if twenty-five percent (25%) of the balance owing by said Account Debtor is ineligible as a result of clause (a) above;
  
- c)Accounts with respect to which the Account Debtor is a director, officer, employee or agent of Borrower or otherwise Related Parties of Borrower;
  
- d)Accounts which are owed by an Account Debtor which (i) does not maintain its chief executive office in the United States of America, or (ii) is not organized under the laws of the United States of America or any State of the United States of America;
  
- e)Accounts with respect to which the Account Debtor is (i) the United States of America or any department, agency or instrumentality thereof, unless Borrower assigns its right to payment of such Accounts to Lender in accordance with the Assignment of Claims Act of 1940, as amended, or (ii) any country other than the United States of America or any department, agency or instrumentality thereof;
  
- f)The face amount of any Accounts with respect to which Borrower is or may become liable to the Account Debtor for Goods sold or services rendered by such Account Debtor to Borrower, but only to the extent of the maximum aggregate amount of Borrower’s liability to such Account Debtor;
  
- g)Accounts which are owing by any Account Debtor involved as a debtor in any bankruptcy or other state or federal insolvency proceeding, whether voluntary or involuntary;
  
- h)Accounts which arise in any manner other than the sale of inventory or services in the ordinary course of Borrower’s business;
  
- i)That portion of Accounts that has been restructured, extended, amended or modified;

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j)Accounts which are not subject to a first priority lien in favor of Lender;

k)Accounts as to which Lender, at any time or times hereafter, determines in good faith that the prospect of payment or performance by the Account Debtor is or will be impaired.

“Eligible Foreign Account” means all Accounts owing to Borrower that meet all required criteria for an Eligible Account except that the account debtor for any such account, either (a) maintains its chief executive office in Canada or any European nation, or (b) is organized under the laws of Canada or any European nation; and provided that such Accounts are either: (y) fully supported by a letter of credit acceptable and delivered to Lender, the original of which is in possession of and is directly drawable by Lender, or (z) is fully insured pursuant to a credit insurance policy approved in advance in writing by Lender.

“Eligible Inventory” means Inventory of Borrower which is acceptable to Lender for lending purposes. Without limiting Lender’s discretion, Lender shall, in general, consider Inventory to be Eligible Inventory if it meets, and so long as it continues to meet, the following requirements:

a)it is owned by Borrower, Borrower has the right to subject it to a security interest in favor of Lender and it is subject to a first priority perfected security interest in favor of Lender and to no other claim, lien, security interest or encumbrance whatsoever, other than Permitted Liens;

b)it is located on one of the premises listed on Schedule 7.23 (or other locations to which Lender has agreed in writing), such locations are within the United States and is not in transit;

c)if held for sale or lease or furnishing under contracts of service, it is new and unused and free from defects which would, in Lender’s good faith determination, affect its market value;

d)it is not stored with a bailee, consignee, warehouseman, processor or similar party unless Lender has given its prior written approval and Borrower has caused any such bailee, consignee, warehouseman, processor or similar party to issue and deliver to Lender, in form and substance acceptable to Lender, such Collateral Access Agreements, Uniform Commercial Code financing statements, warehouse receipts, waivers and other documents as Lender shall reasonably require;

e)it is not stored at a leased location unless Lender has received a landlord lien waiver, in form and substance reasonably acceptable to Lender, with respect to such location;

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f)Lender has determined in good faith, in accordance with Lender’s customary business practices, that it is not unacceptable due to age, type, category, quality, or quantity;

g)it is not work-in-process Inventory, slow-moving Inventory, or obsolete Inventory;

h)it is not Inventory manufactured or distributed by Borrower pursuant to a license unless the applicable licensor has executed a written agreement, in form and substance acceptable to Lender, permitting Lender to exercise Lender’s rights and remedies against such inventory;  
and

i)it is not supplies, packaging, waste, or scrap.

“Employee Plan” includes any employee pension benefit plan (as defined in Section 3(2) of ERISA) maintained or administered by the Borrower or to which the Borrower is a party or may reasonably be expected to have any liability or by which the Borrower is bound.

“Environmental Laws” shall mean all applicable federal, state or local laws, statutes, rules, regulations, ordinances and codes, together with all administrative or judicial orders, consent agreements, licenses, authorizations and permits of any governmental authority, in each case relating to any matter arising out of or relating to public health and safety, or pollution or protection of the environment or workplace, as each relate to the exposure to Hazardous Substances, including any of the foregoing relating to the presence, use, production, generation, handling, transport, treatment, storage, disposal, distribution, discharge, emission, release, control or cleanup of any Hazardous Substance.

“ERISA” shall mean the Employee Retirement Income Security Act of 1974, as amended from time to time.

“Event of Default” shall mean any of the events or conditions which are set forth in Section 11 hereof.

“Excluded Account” shall mean a deposit account, securities account or commodity account (i) which is used for the sole purpose of making payroll and withholding tax payments related thereto and other employee wage and benefit payments and accrued and unpaid employee compensation payments (including salaries, wages, benefits and expense reimbursements, 401(k) and other retirement plans and employee benefits, including rabbi trusts for deferred compensation and health care benefits), (ii) which is used solely for paying taxes, including sales taxes, (iii) which is used as an escrow account or as a fiduciary or trust account or is otherwise held exclusively for the benefit of an unaffiliated third party (including any account solely holding amounts representing fines, violations, fees and similar amounts paid by third parties and owed to municipalities), (iv) which is a zero balance deposit account, securities account or commodity account or (v) which is not otherwise subject to the provisions of this definition and together with any other deposit accounts, securities accounts or commodity accounts that are excluded pursuant to this clause (v), have an average daily balance for any fiscal month of less than \$350,000.00 in the aggregate.

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“Excluded Collateral” shall have the meaning set forth in Section 6.1 hereof.

“Excluded Subsidiary” means any direct or indirect Subsidiary of a Borrower that is (a) a “controlled foreign corporation” as defined in Section 957 of the Code, (b) a Subsidiary owned by such a “controlled foreign corporation” or (c) a Subsidiary organized under the laws of United States, any state thereof, or the District of Columbia, substantially all of the assets of which consist of (or are treated as consisting of for U.S. federal income tax purposes) the Capital Securities of (or Capital Securities and debt of) Subsidiaries described in clauses (a) and (b).

“Excluded Swap Obligation” means, with respect to any Borrower, any Swap Obligation if, and to the extent that, all or a portion of the guaranty of such Borrower of, or the grant by such Borrower of a security interest to secure, such Swap Obligation (or a guaranty thereof) is or becomes illegal under the Commodity Exchange Act or any rule, regulation or order of the Commodity Futures Trading Commission (or the application or official interpretation of any thereof) by virtue of such Borrower’s failure for any reason to constitute an “eligible contract participant” as defined in the Commodity Exchange Act and the regulations thereunder at the time the guaranty of such Borrower or the grant of such security interests becomes effective with respect to such Swap Obligation. If a Swap Obligation arises under a master agreement governing more than one swap, such exclusion shall apply only to the portion of such Swap Obligation that is attributable to swaps for which such guaranty or security interests is or becomes illegal.

“Excluded Taxes” means any of the following Taxes imposed on or with respect to the Lender or required to be withheld or deducted from a payment to the Lender, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (i) imposed as a result of the Lender being organized under the laws of, or having its principal office or its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (ii) that are Other Connection Taxes, (b) U.S. federal withholding Taxes imposed on amounts payable to or for the account of the Lender with respect to an applicable interest in a Loan or commitment pursuant to a law in effect on the date on which (i) the Lender acquires such interest in the Loan or commitment (other than an assignment request pursuant to Section 2.5(g)) or (ii) the Lender changes its lending office, except in each case to the extent that, pursuant to Section 2.5(a), amounts with respect to such Taxes were payable either to the Lender’s assignor immediately before the Lender became a party hereto or to the Lender immediately before it changed its lending office, (c) Taxes attributable to the Lender’s failure to comply with Section 2.5(e), and (d) any U.S. federal withholding Taxes imposed under FATCA.

“FATCA” means Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Code and any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement, treaty or convention among governmental authorities and implementing such Sections of the Code.

“Foreign Lender” means any Lender that is not a U.S. Person.

“Forbearance Agreement” means that certain Forbearance & Modification Agreement dated December 5, 2023 by and among Borrower and Lender.

“GAAP” shall mean generally accepted accounting principles set forth from time to time in the opinions and pronouncements of the Accounting Principles Board and the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board (or agencies with similar functions of comparable stature and authority within the U.S. accounting profession),

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which are applicable to the circumstances as of the date of determination, provided, however, that interim financial statements or reports shall be deemed in compliance with GAAP despite the absence of footnotes and fiscal year-end adjustments as required by GAAP.

“Goods” shall have the meaning given it under the UCC.

“Hazardous Substances” shall mean (a) any petroleum or petroleum products, radioactive materials, asbestos in any form that is or could become friable, urea formaldehyde foam insulation, dielectric fluid containing levels of polychlorinated biphenyls, radon gas and mold; (b) any chemicals, materials, pollutant or substances defined as or included in the definition of “hazardous substances”, “hazardous waste”, “hazardous materials”, “extremely hazardous substances”, “restricted hazardous waste”, “toxic substances”, “toxic pollutants”, “contaminants”, “pollutants” or words of similar import, under any applicable Environmental Law; and (c) any other chemical, material or substance, the exposure to, or release of which is prohibited, limited or regulated by any governmental authority or any Environmental Law.

“Hedging Agreement” means any interest rate protection agreement, foreign currency exchange agreement, currency options, spot contracts, collar transactions, commodity price protection agreement, rate swap transactions, basis swaps, forward rate transactions, or other interest rate, currency exchange rate, or commodity price hedging arrangement, or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), designed to provide protection against fluctuations in interest rates, currency exchange rates, or commodity prices, whether or not any such transaction is governed by or subject to any master agreement.

“Indemnified Party” and “Indemnified Parties” shall mean, respectively, each of the Lenders and any parent corporation, Affiliate or Subsidiary of the Lender, and each of their respective officers, directors, employees, attorneys and agents, and all of such parties and entities.

“Intellectual Property” shall mean the collective reference to all rights, priorities and privileges relating to intellectual property, whether arising under United States, multinational or foreign laws or otherwise, including copyrights, patents, service marks and trademarks, and all registrations and applications for registration therefor and all licensees thereof, trade names, domain names, technology, know-how and processes, and all rights to sue at law or in equity for any infringement or other impairment thereof, including the right to receive all proceeds and damages therefrom.

“Interest Charges” shall mean, for any period, the sum of: (a) all interest, charges and related expenses payable with respect to that fiscal period to a lender in connection with borrowed money or the deferred purchase price of assets that are treated as interest in accordance with GAAP, plus (b) the portion of Capitalized Lease Obligations with respect to that fiscal period that should be treated as interest in accordance with GAAP, plus (c) all charges paid or payable (without duplication) during that period with respect to any Hedging Agreements entered into for the purpose of hedging interest rate risk.

“Inventory” has the meaning given it under the UCC.

“Joinder Agreement” shall mean that certain Joinder Agreement by and among the Borrowers and Lender dated December 5, 2023, wherein ACM joined as a joint and several Borrower under the Loan Documents for all purposes.

“Letter of Credit” and “Letters of Credit” shall mean, respectively, a letter of credit and all such letters of credit issued by the Lender upon the execution and delivery by the Borrower and the acceptance by the Lender of a Letter of Credit Agreement.

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“Letter of Credit Agreement” shall mean, at any time, with respect to the issuance of Letters of Credit, the Letter of Credit Agreement in the form being used by the Lender at such time.

“Letter of Credit Obligations” shall mean, at any time, an amount equal to the aggregate of the original face amounts of all Letters of Credit minus the sum of (i) the amount of any reductions in the original face amount of any Letter of Credit which did not result from a draw thereunder, (ii) the amount of any payments made by the Lender with respect to any draws made under a Letter of Credit for which the Borrower has reimbursed the Lender, (iii) the amount of any payments made by the Lender with respect to any draws made under a Letter of Credit which have been converted to a Revolving Loan as set forth in Section 2.4, and (iv) the portion of any issued but expired Letter of Credit which has not been drawn by the beneficiary thereunder. For purposes of determining the outstanding Letter of Credit Obligations at any time, the Lender’s acceptance of a draft drawn on the Lender pursuant to a Letter of Credit shall constitute a draw on the applicable Letter of Credit at the time of such acceptance. In no event shall the aggregate amount of Letter of Credit Obligations at any time exceed One Million Dollars (\$1,000,000).

“Liabilities” shall mean at all times all liabilities of the Borrower that would be shown as such on a consolidated balance sheet of the Parent Borrower prepared in accordance with GAAP.

“Lien” shall mean, with respect to any Person, any interest granted by such Person in any real or personal property, asset or other right owned or being purchased or acquired by such Person (including, without limitation, an interest in respect of a Capital Lease) which secures payment or performance of any obligation and shall include any mortgage, lien, encumbrance, title retention lien, charge or other security interest of any kind, whether arising by contract, as a matter of law, by judicial process or otherwise.

“Loan Documents” shall mean each of the agreements, documents, instruments and certificates set forth in Section 3.1 hereof, and any and all such other instruments, documents, certificates and agreements from time to time executed and delivered by the Borrower, or any of its Subsidiaries for the benefit of the Lender pursuant to any of the foregoing, and all amendments, restatements, supplements and other modifications thereto.

“Loans” shall mean, collectively, all Revolving Loans and Term Loan made by the Lender to the Borrower and all Letter of Credit Obligations issued by the Lender for the benefit of the Borrower or any of its Subsidiaries, under and pursuant to this Agreement.

“Material Adverse Effect” shall mean (a) a material adverse change in, or a material adverse effect upon, the assets, business, properties, financial condition or results of operations of the Parent Borrower taken as a whole, (b) a material impairment of the ability of the Borrower to perform any of the Obligations under any of the Loan Documents, or (c) a material adverse effect on (i) any substantial portion of the Collateral, (ii) the legality, validity, binding effect or enforceability against the Borrower of any of the Loan Documents, (iii) the perfection or priority of any Lien granted to the Lender under any Loan Document, or (iv) the rights or remedies of the Lender under any Loan Document.

“Net Income” shall mean, with respect to the Parent Borrower for any period, the consolidated net income (or loss) of the Parent Borrower for such period as determined in accordance with GAAP, excluding any extraordinary gains and any gains from discontinued operations.

“Non-Excluded Taxes” shall mean Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of the Borrower under any Loan Document.

“Note” and “Notes” shall mean, respectively, each of and collectively, the Revolving Note and Term Note.

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“Obligations” shall mean the Loans, as evidenced by any Note, all interest accrued thereon (including interest which would be payable as post-petition in connection with any bankruptcy or similar proceeding, whether or not permitted as a claim thereunder), any fees due the Lender hereunder, any expenses incurred by the Lender hereunder and any and all other liabilities and obligations of the Borrower to the Lender under this Agreement and any other Loan Document, including any reimbursement obligations of the Borrower in respect of Letters of Credit and surety bonds, and all other Bank Product Obligations of the Borrower owed to the Lender or an Affiliate of the Lender, all in each case howsoever created, arising or evidenced, whether direct or indirect, absolute or contingent, now or hereafter existing, or due or to become due, together with any and all renewals or extensions thereof.

“Organizational Certificates” means, with respect to any Person that is a corporation, limited partnership or limited liability company, a certificate of the appropriate official(s) of the jurisdiction of organization of such Person and each jurisdiction of foreign qualification in which such Person is required to maintain foreign qualification to lawfully transact business in such jurisdiction (other than any jurisdiction where the failure to be so qualified would not reasonably likely to have a Material Adverse Effect on the Borrower), certifying as to (i) the subsistence in good standing of, (ii) the authority to transact business by and (iii) the payment of taxes by, such Person in such jurisdiction(s).

“Organizational Documents” means (i) with respect to any Person that is a corporation, the articles of incorporation and bylaws of such corporation, (ii) with respect to any Person that is a limited partnership, the articles of formation and partnership agreement of such limited partnership, (iii) with respect to any Person that is a limited liability company, the articles of organization or certificate of formation and operating agreement or limited liability company agreement of such limited liability company, (iv) with respect to any Person that is a trust, the trust agreement governing such trust, and (v) with respect to any Person that is a general partnership, the partnership agreement of such general partnership.

“Organizational Identification Number” means, with respect to Borrower, the organizational identification number assigned to Borrower by the applicable governmental unit or agency of the jurisdiction of organization of the Borrower.

“Other Connection Taxes” means, with respect to the Lender, Taxes imposed as a result of a present or former connection between the Lender and the jurisdiction imposing such Tax (other than connections arising from the Lender having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

“Other Taxes” shall mean any present or future stamp or documentary taxes or any other excise or property taxes, charges or similar levies which arise from the execution, delivery, enforcement or registration of, or otherwise with respect to, this Agreement or any of the other Loan Documents, except any such Taxes that are Other Connection Taxes.

“Permitted Liens” shall mean (a) Liens for Taxes, assessments or other governmental charges not at the time delinquent or thereafter payable without penalty or being contested in good faith by appropriate proceedings and, in each case, for which the Borrower maintains adequate reserves in accordance with GAAP; (b) Liens arising in the ordinary course of business (such as (i) Liens of carriers, warehousemen, mechanics and materialmen and other similar Liens imposed by law, and (ii) Liens in the form of deposits or pledges incurred in connection with worker’s compensation, unemployment compensation and other types of social security (excluding Liens arising under ERISA) or in connection with surety bonds, bids, performance bonds and similar obligations); (c) Liens described on Schedule 9.2 as of the Closing Date; (d) attachments, appeal bonds, judgments and other similar Liens to the extent such underlying judgments

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or awards do not constitute an Event of Default under Section 11.8 hereof; (e) easements, rights of way, restrictions (including zoning and other land use restrictions), covenants, licenses, encroachments, protrusions and other similar charges or encumbrances and minor defects or irregularities in title and other similar Liens not interfering in any material respect with the ordinary conduct of the business of the Borrower; (f) Liens granted to the Lender hereunder and under the other Loan Documents and any Hedging Agreements; (g) leases, subleases, licenses or sublicenses (including licenses or sublicenses of intellectual property) granted to other Persons not materially interfering with the conduct of the business of the Borrower; (h) Liens arising from precautionary Uniform Commercial Code or other similar financing statement filings regarding operating leases or consignments entered into in the ordinary course of business; (i) statutory and common law landlords' liens under leases to which the Borrower or any is a party; (j) deposits made in the ordinary course of business to secure liability to insurance carriers; (k) Liens (i) of a collection bank arising under Section 4-210 of the UCC (or similar provisions of other applicable laws) on items in the course of collection, (ii) attaching to commodity trading accounts or other commodities brokerage accounts incurred in the ordinary course of business and (iii) in favor of a banking or other financial institution arising as a matter of law or under customary general terms and conditions encumbering deposits (including the right of set-off) and which are within the general parameters customary in the banking industry; (l) Liens that may arise on inventory or equipment of the Borrower in the ordinary course of business as a result of such inventory or equipment being located on premises owned by Persons other than the Borrower; (m) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods in the ordinary course of business; (n) Liens on specific items of inventory or other goods (and proceeds thereof) of any Person securing such Person's obligations in respect of bankers' acceptances or letters of credit issued or created for the account of such Person to facilitate the purchase, shipment or storage of such inventory or other goods, and pledges or deposits in the ordinary course of business; and (o) Liens upon assets of the Borrower securing Debt permitted by Section 9.1(f); provided that such Liens do not encumber any asset of the Borrower other than the assets acquired with such Debt and after-acquired property that is affixed or incorporated into such assets and proceeds and products thereof; provided that individual financings of equipment provided by one lender may be cross collateralized to other financings of equipment provided by such lender on customary terms.

"Person" shall mean any natural person, partnership, limited liability company, corporation, trust, joint venture, joint stock company, association, unincorporated organization, government or agency or political subdivision thereof, or other entity, whether acting in an individual, fiduciary or other capacity.

"Prime Rate" shall mean the floating per annum rate of interest which at any time, and from time to time, shall be most recently announced by the Lender as its Prime Rate, which is not intended to be the Lender's lowest or most favorable rate of interest at any one time. The effective date of any change in the Prime Rate shall for purposes hereof be the date the Prime Rate is changed by the Lender. The Lender shall not be obligated to give notice of any change in the Prime Rate.

"Receivables Employment Agreement" shall mean an agreement between Parent Borrower and the former chairman and chief executive officer of Parent Borrower that provides for, among other things, payment of incentive compensation tied to the collection of a customer receivable that was previously written off.

"Regulatory Change" shall mean the introduction of, or any change in any applicable law, treaty, rule, regulation or guideline or in the interpretation or administration thereof by any governmental authority or any central bank or other fiscal, monetary or other authority having jurisdiction over the Lender or its lending office.

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“Related Parties” shall mean, with respect to any Person, such Person’s Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of such Person and of such Person’s Affiliates.

“Revolving Interest Rate” shall mean a floating per annum rate of interest equal to the Prime Rate, adjusting daily, plus the Applicable Margin.

“Revolving Loan” and “Revolving Loans” shall mean, respectively, each direct advance and the aggregate of all such direct advances made by the Lender to the Borrower under and pursuant to this Agreement, as set forth in Section 2.1 of this Agreement.

“Revolving Loan Availability” shall mean, at any time, the amount, if any, by which the lesser of the Borrowing Base and the Revolving Loan Commitment exceeds the sum of (a) the outstanding principal balance of the Revolving Loans plus (b) the Letter of Credit Obligations.

“Revolving Loan Commitment” shall mean Fourteen Million and 00/100 Dollars (\$14,000,000.00).

“Revolving Loan Maturity Date” shall mean January 17, 2025, unless extended by the Lender pursuant to any modification, extension or renewal note executed by the Borrower and accepted by the Lender in its sole and absolute discretion in substitution for the Revolving Note.

“Revolving Note” shall mean an amended and restated revolving note in the form prepared by and acceptable to the Lender, dated as of the Forbearance Effective Date (as such term is defined in the Forbearance Agreement), in the amount of the Revolving Loan Commitment and maturing on the Revolving Loan Maturity Date, duly executed by the Borrower and payable to the order of the Lender, together with any and all renewal, extension, modification or replacement notes executed by the Borrower and delivered to the Lender and given in substitution therefor.

“SEC” shall mean the Securities and Exchange Commission or any successor thereto.

“Senior Debt” shall mean all Debt of the Borrower owing to Lender.

“Specific Default” shall have the meaning assigned to it in the Forbearance Agreement.

“Stock Purchase Agreement” shall mean that certain Stock Purchase Agreement, dated on or about the date hereof, by and among Amtech Systems, Inc., Entrepix, Inc., the stockholders of Entrepix, Inc., and Timothy P. Tobin.

“Subordinated Debt” shall mean that portion of the Debt of the Borrower which is subordinated to the Obligations in a manner reasonably satisfactory to the Lender, including, but not limited to, right and time of payment of principal and interest.

“Subsidiary” and “Subsidiaries” shall mean, respectively, with respect to any Person, each and all such corporations, partnerships, limited partnerships, limited liability companies, limited liability partnerships, joint ventures or other entities of which or in which such Person owns, directly or indirectly, such number of outstanding Capital Securities as have more than fifty percent (50.00%) of the ordinary voting power for the election of directors or other managers of such corporation, partnership, limited liability company or other entity. Unless the context otherwise requires, each reference to Subsidiaries herein shall be a reference to Subsidiaries of the Parent Borrower.

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“Swap Obligation” means, with respect to the Borrower, any obligation to pay or perform under any agreement, contract, or transaction, that constitutes a “swap” within the meaning of Section 1a(47) of the Commodity Exchange Act.

“Taxes” shall mean any and all present and future taxes, duties, levies, imposts, deductions, assessments, charges or withholdings imposed by a government authority, including interest and penalties and other additions to taxes, with respect to the foregoing.

“Term Interest Rate” shall mean a floating per annum rate of interest equal to the Prime Rate, adjusting daily, plus the Applicable Margin.

“Term Loan” shall mean the direct advance made by the Lender to the Borrower in the form of Term Loan under and pursuant to this Agreement, as set forth in Section 2.2 of this Agreement.

“Term Loan Commitment” shall mean Four Million Four Hundred Twenty-Three Thousand Two Hundred and 00/100 Dollars (\$4,423,200.00).

“Term Loan Maturity Date” shall mean January 17, 2029, unless extended by the Lender pursuant to any modification, extension or renewal.

“Term Note” shall mean an amended and restated term note in the form prepared by and acceptable to the Lender, dated as of the Forbearance Effective Date, in the amount of the Term Loan Commitment and maturing on the Term Loan Maturity Date, duly executed by the Borrower and payable to the order of the Lender, together with any and all renewal, extension, modification or replacement notes executed by the Borrower and delivered to the Lender and given in substitution therefor.

“Transaction Expenses” shall mean any fees or expenses incurred or paid by the Parent Borrower or any of its Subsidiaries in connection with the Transactions, this Agreement and the other Loan Documents and the transactions contemplated hereby and thereby, including any amortization thereof in any period.

“Transactions” shall mean, collectively, the negotiation and execution of the Loan Documents, funding of any Loans, the consummation of the Acquisition and the payment of the Transaction Expenses.

“U.S. Person” means any Person that is a “United States Person” as defined in Section 7701(a)(30) of the Code.

“UCC” shall mean the Uniform Commercial Code in effect in the state of Arizona from time to time.

“Unmatured Event of Default” shall mean any event which, with the giving of notice, the passage of time or both, would constitute an Event of Default.

“Voidable Transfer” shall have the meaning set forth in Section 13.21 hereof.

“Wholly-Owned Subsidiary” shall mean any Subsidiary of which or in which the Borrower owns, directly or indirectly, one hundred percent (100%) of the Capital Securities of such Subsidiary.

1.2Accounting Terms. Any accounting terms used in this Agreement which are not specifically defined herein shall have the meanings customarily given them in accordance with GAAP. Calculations and determinations of financial and accounting terms used and not otherwise specifically

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defined hereunder and the preparation of financial statements to be furnished to the Lender pursuant hereto shall be made and prepared, both as to classification of items and as to amount, in accordance with sound accounting practices and GAAP as used in the preparation of the financial statements of the Borrower on the date of this Agreement. If any changes in accounting principles or practices from those used in the preparation of the financial statements are hereafter occasioned by the promulgation of rules, regulations, pronouncements and opinions by or required by the Financial Accounting Standards Board or the American Institute of Certified Public Accountants (or any successor thereto or agencies with similar functions), which results in a material change in the method of accounting in the financial statements required to be furnished to the Lender hereunder or in the calculation of financial covenants, standards or terms contained in this Agreement, the parties hereto agree to enter into good faith negotiations to amend such provisions so as equitably to reflect such changes to the end that the criteria for evaluating the financial condition and performance of the Borrower will be the same after such changes as they were before such changes; and if the parties fail to agree on the amendment of such provisions, the Borrower will furnish financial statements in accordance with such changes, but shall provide calculations for all financial covenants, perform all financial covenants and otherwise observe all financial standards and terms in accordance with applicable accounting principles and practices in effect immediately prior to such changes. Calculations with respect to financial covenants required to be stated in accordance with applicable accounting principles and practices in effect immediately prior to such changes shall be reviewed and certified by the Borrower's accountants.

1.3 Other Terms Defined in UCC. All other capitalized words and phrases used herein and not otherwise specifically defined herein shall have the respective meanings assigned to such terms in the UCC, to the extent the same are used or defined therein.

1.4 Other Interpretive Provisions.

(a) The meanings of defined terms are equally applicable to the singular and plural forms of the defined terms. Whenever the context so requires, the neuter gender includes the masculine and feminine, the single number includes the plural, and vice versa, and in particular the word "Borrower" shall be so construed.

(b) Section and Schedule references are to this Agreement unless otherwise specified. The words "hereof", "herein" and "hereunder" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement.

(c) The term "including" is not limiting, and means "including, without limitation".

(d) In the computation of periods of time from a specified date to a later specified date, the word "from" means "from and including"; the words "to" and "until" each mean "to but excluding", and the word "through" means "to and including".

(e) Unless otherwise expressly provided herein, (i) references to agreements (including this Agreement and the other Loan Documents) and other contractual instruments shall be deemed to include all subsequent amendments, restatements, supplements and other modifications thereto, but only to the extent such amendments, restatements, supplements and other modifications are not prohibited by the terms of any Loan Document, and (ii) references to any statute or regulation shall be construed as including all statutory and regulatory provisions amending, replacing, supplementing or interpreting such statute or regulation.

(f) To the extent any of the provisions of the other Loan Documents are inconsistent with the terms of this Loan Agreement, the provisions of this Loan Agreement shall govern.

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(g) This Agreement and the other Loan Documents may use several different limitations, tests or measurements to regulate the same or similar matters. All such limitations, tests and measurements are cumulative and each shall be performed in accordance with its terms.

## Section 2. COMMITMENT OF THE LENDER.

### 2.1 Revolving Loans.

(a) Revolving Loan Commitment. Subject to the terms and conditions of this Agreement and the other Loan Documents, and in reliance upon the representations and warranties of the Borrower set forth herein and in the other Loan Documents, the Lender agrees to make such Revolving Loans at such times as the Parent Borrower may from time to time request until, but not including, the Revolving Loan Maturity Date (as may be extended), and in such amounts as the Parent Borrower may from time to time request, provided, however, that the aggregate principal balance of all Revolving Loans outstanding at any time shall not exceed the Revolving Loan Availability. Revolving Loans made by the Lender may be repaid and, subject to the terms and conditions hereof, borrowed again up to, but not including the Revolving Loan Maturity Date unless the Revolving Loans are otherwise accelerated, terminated or extended as provided in this Agreement. The Revolving Loans shall be used by the Borrower for the purpose of working capital.

(b) Revolving Loan Interest and Payments. The principal amount of the Revolving Loans outstanding from time to time shall bear interest at the applicable Revolving Interest Rate. Accrued and unpaid interest on the unpaid principal balance of all Revolving Loans outstanding from time to time, shall be due and payable monthly, in arrears, commencing on February 1, 2023, and continuing on the first day of each calendar month thereafter, and on the Revolving Loan Maturity Date. Any amount of principal or interest on the Revolving Loans which is not paid when due, whether at stated maturity, by acceleration or otherwise, shall bear interest payable on demand at the Default Rate.

(c) Revolving Loan Principal Payments.

(i) Revolving Loan Mandatory Payments. All Revolving Loans hereunder shall be repaid by the Borrower on the Revolving Loan Maturity Date, unless payable sooner pursuant to the provisions of this Agreement. In the event the Revolving Loan Availability is less than zero dollars (\$0.00), the Borrower shall, without notice or demand of any kind, immediately make such repayments of the Revolving Loans or take such other actions as are satisfactory to the Lender as shall be necessary to eliminate such excess, all without further demand, presentment, protest or notice of any kind, all of which are hereby waived by the Borrower.

(ii) Optional Prepayments. The Borrower may from time to time prepay the Revolving Loans, in whole or in part, without any prepayment penalty whatsoever, provided that any prepayment of the entire principal balance of the Revolving Loans shall include accrued interest on such Revolving Loans to the date of such prepayment.

### 2.2 Term Loan.

(a) Term Loan Commitment. Subject to the terms and conditions of this Agreement and the other Loan Documents, and in reliance upon the representations and warranties of the Borrower set forth herein and in the other Loan Documents, the Lender agrees to make Term Loan equal to the Term Loan Commitment. Term Loan shall be available to the Borrower in a single principal advance on such date as the conditions set forth in Section 3 shall have been satisfied. Term Loan

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shall be used by the Borrower to facilitate the acquisition of Entrepix, Inc. by the Parent Borrower. Term Loan may be prepaid in whole or in part at any time without penalty, but shall be due in full on the Term Loan Maturity Date, unless the credit extended under Term Loan is otherwise accelerated, terminated or extended as provided in this Agreement. Term Loan Commitment shall terminate upon the making of the Term Loan on the date hereof.

(b)Term Loan Interest and Payments. The principal amount of Term Loan outstanding from time to time shall bear interest at the applicable Term Interest Rate. Accrued and unpaid interest on the unpaid principal balance of the Term Loan shall be due and payable monthly, in arrears, on the first day of each calendar month and on the Term Loan Maturity Date. Any amount of principal or interest on Term Loan which is not paid when due, whether at stated maturity, by acceleration or otherwise, shall bear interest payable on demand at the Default Rate.

(c)Term Loan Principal Payments. The outstanding principal balance of Term Loan shall be repaid in equal installments in the amount of Seventy-Three Thousand Seven Hundred Twenty and 00/100 Dollars (\$73,720.00), beginning on December 1, 2023, and continuing on the first day of each month thereafter, plus a final payment of all outstanding principal due on the Term Loan Maturity Date. Principal amounts repaid on Term Note may not be borrowed again.

(d)Term Loan Optional Prepayments.

(i)The Borrower may voluntarily prepay the principal balance of Term Loan, in whole or in part at any time or from time to time on or after the date hereof, subject to the following conditions:

(A)Not less than three (3) days prior to the date upon which the Borrower desires to make such prepayment, the Borrower shall deliver to the Lender written notice of its intention to prepay Term Loan, which notice shall be irrevocable and state the prepayment amount and the prepayment date.

(B)The Borrower shall pay to the Lender all accrued and unpaid interest on the Term Loan through the date of such prepayment on the principal balance being prepaid. Each prepayment of the Term Loan shall be applied to the scheduled installments of the Term Loan in inverse order of maturity.

(C)Notwithstanding the forgoing, if the Term Loan is subject to a Bank Product Agreement (i.e. Hedging Agreement), in whole or in part, it is expressly understood by the Borrower that such a prepayment may cause breakage, termination or like fees to be due under the terms of the Bank Product Agreement. Accordingly, Borrower should consult the terms the Bank Product Agreements and other disclosures provided therewith for determination of fees or penalties which may be associated with such a prepayment.

2.3Interest and Fee Computation; Collection of Funds. Except as otherwise set forth herein, all interest and fees shall be calculated on the basis of a year consisting of 360 days and shall be paid for the actual number of days elapsed. Principal payments submitted in funds not immediately available shall continue to bear interest until collected. If any payment to be made by the Borrower hereunder or under any Note shall become due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day and such extension of time shall be included in computing any interest in respect of such payment. Notwithstanding anything to the contrary contained herein, the final payment due under any of the Loans must be made by wire transfer or other immediately available funds. All payments made by the Borrower hereunder or under any of the Loan Documents shall be made without setoff, counterclaim,

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or other defense. To the extent permitted by applicable law, all payments hereunder or under any of the Loan Documents (including any payment of principal, interest, or fees) to, or for the benefit, of any Person shall be made by the Borrower free and clear of, and without deduction or withholding for, or account of, any taxes now or hereinafter imposed by any taxing authority.

**2.4 Letters of Credit.** Subject to the terms and conditions of this Agreement and upon (i) the execution by the Borrower and the Lender of a Letter of Credit Agreement in form and substance acceptable to the Lender (together with all amendments, modifications and restatements thereof, the “Letter of Credit Agreement”) and (ii) the execution and delivery by the Borrower, and the acceptance by the Lender, in its sole and absolute discretion, of a Letter of Credit Agreement, the Lender agrees to issue for the account of the Borrower or any of its Subsidiaries such Letters of Credit in the standard form of the Lender and otherwise in form and substance reasonably acceptable to the Lender, from time to time during the term of this Agreement. Without limiting the Lender’s discretion described above, Borrower shall not request and Lender is not required to issue any Letter of Credit which would result in the aggregate Letter of Credit Obligations hereunder exceeding One Million Dollars (\$1,000,000) at any time. The amount of any payments made by the Lender with respect to draws made by a beneficiary under a Letter of Credit for which the Borrower has failed to reimburse the Lender upon five (5) Business Days the Lender’s demand for repayment shall be deemed to have been converted to a Revolving Loan as of the date such payment was made by the Lender to such beneficiary. Upon the occurrence of an Event of a Default and at the option of the Lender upon written notice to the Borrower during the continuance of such Event of Default, all Letter of Credit Obligations shall be converted to Revolving Loans, all without demand, presentment or protest of any kind, all of which are hereby waived by the Borrower. To the extent the provisions of the Letter of Credit Agreement differ from, or are inconsistent with, the terms of this Agreement, the provisions of this Agreement shall govern.

**2.5 Taxes.**

(a) Except as required by applicable law, all payments made by the Borrower under this Agreement shall be made free and clear of, and without deduction or withholding for or on account of any Taxes. If any Non-Excluded Taxes or Other Taxes are required to be withheld from any amounts payable to the Lender hereunder, the amounts so payable to the Lender shall be increased to the extent necessary to yield to the Lender (after payment of all Non-Excluded Taxes and Other Taxes) interest or any such other amounts payable hereunder at the rates or in the amounts specified in this Agreement, provided, however, that the Borrower shall not be required to increase any such amounts payable to the Lender with respect to any Non-Excluded Taxes that are attributable to the Lender’s failure to comply with the requirements of subsection 2.5(c).

(b) Without duplication of the prior subsection, the Borrower shall pay any Other Taxes to the relevant governmental authority in accordance with applicable law.

(c) At the request of the Borrower, the Lender shall take reasonable steps to (i) contest its liability for any Non-Excluded Taxes or Other Taxes that have not been paid, or (ii) seek a refund of any Non-Excluded Taxes or Other Taxes that have been paid.

(d) Whenever any Non-Excluded Taxes or Other Taxes are payable by the Borrower, as promptly as possible thereafter the Borrower shall send to the Lender a certified copy of an original official receipt received by the Borrower showing payment thereof, a copy of the Tax return reporting such payment, or other evidence of such payment reasonably satisfactory to the lender. If the Borrower fails to pay any Non-Excluded Taxes or Other Taxes when due to the appropriate taxing authority, the Borrower shall indemnify the Lender on an after-tax basis for any incremental taxes, interest or penalties that may become payable by the Lender.

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(e) If the Lender is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document, the Lender shall deliver to the Borrower, at the time or times reasonably requested by the Borrower, such properly completed and executed documentation reasonably requested by the Borrower as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, the Lender, if reasonably requested by the Borrower, shall deliver such other documentation prescribed by applicable law or reasonably requested by the Borrower as will enable the Borrower to determine whether or not such Lender is subject to backup withholding or information reporting requirements.

(i) Without limiting the generality of the foregoing,

(A) any Lender that is a U.S. Person shall deliver to the Borrower on or about the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower), executed copies of IRS Form W-9 certifying that the Lender is exempt from U.S. federal backup withholding tax.

(B) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower (in such number of copies as shall be requested by the Borrower) on or about the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower), whichever of the following is applicable:

i) in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN or IRS Form W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty;

ii) executed copies of IRS Form W-8ECI;

iii) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate to the effect that such Foreign Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of the Borrower within the meaning of Section 871(h)(3)(B) of the Code, or a "controlled foreign corporation" related to the Borrower as described in Section 881(c)(3)(C) of the Code (a "U.S. Tax Compliance Certificate") and (y) executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E; or

iv) to the extent a Foreign Lender is not the beneficial owner, executed copies of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN, IRS Form W-8BEN-E, a U.S. Tax Compliance Certificate, IRS Form W-9, or other certification documents from each beneficial owner, as applicable; provided that if the Foreign Lender is a partnership and one or more direct or indirect partners of such

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Foreign Lender are claiming the portfolio interest exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate on behalf of each such direct and indirect partner;

(C) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower (in such number of copies as shall be requested by the recipient) on or about the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower), executed copies of any other form prescribed by applicable law as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable law to permit the Borrower to determine the withholding or deduction required to be made; and

(D) if a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower at the time or times prescribed by law and at such time or times reasonably requested by the Borrower such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower as may be necessary for the Borrower to comply with its obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount, if any, to deduct and withhold from such payment. Solely for purposes of this clause (D), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

Each Lender agrees that if any form or certification it previously delivered expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the Borrower in writing of its legal inability to do so.

(f) If any party determines, in its sole discretion exercised in good faith, that it has received a refund of any Taxes as to which it has been indemnified pursuant to this Section 2.5 (including by the payment of additional amounts pursuant to this Section 2.5), it shall pay to the indemnifying party an amount equal to such refund (but only to the extent of indemnity payments made under this Section 2.5 with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) of such indemnified party and without interest (other than any interest paid by the relevant governmental authority with respect to such refund). Such indemnifying party, upon the request of such indemnified party, shall repay to such indemnified party the amount paid over pursuant to this paragraph (f) (plus any penalties, interest or other charges imposed by the relevant governmental authority) in the event that such indemnified party is required to repay such refund to such governmental authority. Notwithstanding anything to the contrary in this paragraph (f), in no event will the indemnified party be required to pay any amount to an indemnifying party pursuant to this paragraph (f) the payment of which would place the indemnified party in a less favorable net after-Tax position than the indemnified party would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This paragraph shall not be construed to require any indemnified party to make available its Tax returns (or any other information relating to its Taxes that it deems confidential) to the indemnifying party or any other Person.

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(g) If the Lender requires the Borrower to pay any additional amounts to the Lender or any governmental authority for the account of the Lender pursuant to Section 2.5, then the Lender shall (at the request of the Borrower) use reasonable efforts to, as applicable, designate a different lending or issuing office for funding or booking its Loans hereunder or issuing Letters of Credit or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of the Lender, such designation or assignment (i) would eliminate or reduce amounts payable pursuant to Section 2.5, as the case may be, in the future, and (ii) would not subject the Lender to any unreimbursed cost or expense and would not otherwise be disadvantageous to the Lender. The Borrower hereby agrees to pay all reasonable costs and expenses incurred by the Lender in connection with any such designation or assignment.

(h) The agreements in this Section 2.5 shall survive the satisfaction and payment of the Obligations and the termination of this Agreement.

2.6 All Loans to Constitute Single Obligation; Joint and Several Liability. The Loans shall constitute one general obligation of the Borrower, and shall be secured by Lender's priority security interest in and Lien upon all of the Collateral and by all other security interests, Liens, claims and encumbrances heretofore, now or at any time or times hereafter granted by the Borrower to Lender. Further, each undersigned Borrower agrees that it shall be jointly and severally liable for the Loans.

### Section 3. CONDITIONS OF BORROWING.

Notwithstanding any other provision of this Agreement, the Lender shall not be required to disburse, make or continue all or any portion of the Loans, if any of the following conditions shall have occurred.

3.1 Loan Documents. With respect to the initial borrowing of Loans, the Borrower shall have failed to execute and deliver to the Lender any of the following Loan Documents, all of which must be reasonably satisfactory to the Lender and the Lender's counsel in form, substance and execution:

(a) Loan Agreement. Two copies of this Agreement duly executed by the Borrower.

(b) Revolving Note. A Revolving Note duly executed by the Borrower, in the form prepared by and acceptable to the Lender.

(c) Term Note. A Term Note duly executed by the Borrower, in the form prepared by and acceptable to the Lender.

(d) Negative Pledge Agreement. A Negative Pledge Agreement dated as of the date of this Agreement, executed by the Borrower, with respect to the real property located at 131 S. Clark Drive, Tempe, Arizona 85288, in the form prepared by and acceptable to the Lender.

(e) [Reserved].

(f) [Reserved].

(g) Search Results; Lien Terminations. Copies of UCC search reports dated such a date as is reasonably acceptable to the Lender, listing all effective financing statements which name the Borrower, under its present names and any previous names, as debtors, together with (i) copies of such financing statements, (ii) payoff letters evidencing repayment in full of all existing Debt to be repaid with the Loans, the termination of all agreements relating thereto and the release of all Liens granted in connection therewith, with UCC or other appropriate termination statements and

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documents effective to evidence the foregoing (other than Permitted Liens), and (iii) such other UCC termination statements as the Lender may reasonably request.

(h)Organizational and Authorization Document. Copies of (i) the Organizational Documents of the Borrower; (ii) resolutions for the Borrower approving and authorizing such Person's execution, delivery and performance of the Loan Documents to which it is party and the transactions contemplated thereby; (iii) signature and incumbency certificates for the Borrower, for any Person executing any of the Loan Documents, each of which the Borrower hereby certifies to be true and complete, and in full force and effect without modification, it being understood that the Lender may conclusively rely on each such document and certificate until formally advised by the Borrower of any changes therein; and (iv) Organizational Certificate of the Borrower and in each other state requested by the Lender.

(i)Insurance. Evidence reasonably satisfactory to the Lender of the existence of insurance required to be maintained pursuant to Section 8.6, together with evidence that the Lender has been named as a lender's loss payee on all related insurance policies.

(j)Additional Documents. Such other certificates, financial statements, schedules, resolutions, opinions of counsel, notes and other documents which are provided for hereunder or which the Lender shall reasonably require.

3.2Event of Default. Any Event of Default, or Unmatured Event of Default shall have occurred and be continuing (other than the Specific Default, but only to the extent the Forbearance Period [as defined in the Forbearance Agreement] remains in effect).

3.3Material Adverse Effect. The occurrence and continuance of any event having a Material Adverse Effect upon the Borrower.

3.4Litigation. Any litigation or governmental proceeding shall have been instituted against the Borrower or any of its officers or shareholders which has a Material Adverse Effect upon the Borrower.

3.5Representations and Warranties. Any representation or warranty of the Borrower contained herein or in any Loan Document shall be untrue or incorrect in any material respect as of the date of any Loan as though made on such date, except to the extent such representation or warranty expressly relates to an earlier date.

3.6Commitment Fee. With respect to the initial borrowing of Loans, the Borrower shall have failed to pay or cause to be paid to the Lender (which may be with Loan proceeds) a commitment fee in the amount of Thirty Thousand and 00/100 Dollars (\$30,000.00).

#### Section 4.NOTES EVIDENCING LOANS.

4.1Revolving Note. The Revolving Loans and the Letter of Credit Obligations shall be evidenced by the Revolving Note. At the time of the initial disbursement of a Revolving Loan and at each time any additional Revolving Loan shall be requested hereunder, or a repayment made in whole or in part thereon, Lender shall make a notation thereof on the books and records of the Lender. All amounts recorded shall be, absent manifest error, conclusive and binding evidence of (i) the principal amount of the Revolving Loans advanced hereunder and the amount of all Letter of Credit Obligations, (ii) any accrued and unpaid interest owing on the Revolving Loans, and (iii) all amounts repaid on the Revolving Loans or the Letter of Credit Obligations. The failure to record any such amount or any error in recording such amounts shall not, however, limit or otherwise affect the obligations of the Borrower under the Revolving Note to repay the principal amount of the Revolving Loans, together with all interest accruing thereon.

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4.2 Term Note. Term Loan shall be evidenced by Term Note. At the time of the disbursement of Term Loan or a repayment made in whole or in part thereon, the Lender shall make a notation thereof shall be made on the books and records of the Lender. All amounts recorded shall be, absent demonstrable error, conclusive and binding evidence of (i) the principal amount of Term Loan advanced hereunder, (ii) any accrued and unpaid interest owing on Term Loan and (iii) all amounts repaid on Term Loan. The failure to record any such amount or any error in recording such amounts shall not, however, limit or otherwise affect the obligations of the Borrower under Term Note to repay the principal amount of Term Loan, together with all interest accruing thereon.

#### Section 5. MANNER OF BORROWING.

5.1 Borrowing Procedures. Each Loan shall be made available to the Borrower upon any written, verbal, electronic, telephonic or teletype loan request which the Lender in good faith reasonably believes to emanate from a properly authorized representative of the Parent Borrower, whether or not that is in fact the case. Each such notice shall be effective upon receipt by the Lender, shall be irrevocable, and shall specify the date, amount and type of borrowing. A request for a direct advance must be received by the Lender no later than 3:00 p.m. Phoenix, Arizona time, on the day it is to be funded. The proceeds of each direct advance shall be made available at the office of the Lender by credit to the account of the applicable Borrower as designated by the Parent Borrower or by other means requested by the Borrower and acceptable to the Lender. The Borrower does hereby irrevocably confirm, ratify and approve all such advances by the Lender prior to the Revolving Loan Maturity Date or Term Loan Maturity Date, as applicable.

5.2 Automatic Debit. In order to effectuate the timely payment of any of the Obligations when due, the Borrower hereby authorizes and directs the Lender, at the Lender's option, to (a) debit the amount of the Obligations to any ordinary deposit account of the Borrower, or (b) make a Revolving Loan hereunder to pay the amount of the Obligations.

5.3 Discretionary Disbursements. The Lender, in its sole and absolute discretion, may immediately upon notice to the Borrower, disburse any or all proceeds of the Loans made or available to the Borrower pursuant to this Agreement to pay any fees, costs, expenses or other amounts required to be paid by the Borrower to the Lender hereunder and not so paid. All monies so disbursed shall be a part of the Obligations, payable by the Borrower on demand from the Lender.

#### Section 6. SECURITY FOR THE OBLIGATIONS.

6.1 Security for Obligations. As security for the payment and performance of the Obligations, the Borrower does hereby pledge, assign, transfer and deliver to the Lender and does hereby grant to the Lender a continuing and unconditional first priority security interest (subject to Permitted Liens) in and to any and all property of the Borrower, of any kind or description, tangible or intangible, wheresoever located and whether now existing or hereafter arising or acquired, including, but not limited to, the following (all of which property, along with the products and proceeds therefrom, are individually and collectively referred to as the "Collateral"):

(a) all property of, or for the account of, the Borrower now or hereafter coming into the possession, control or custody of, or in transit to, the Lender or any agent or bailee for the Lender or any parent, Affiliate or Subsidiary of the Lender or any participant with the Lender in the Loans (whether for safekeeping, deposit, collection, custody, pledge, transmission or otherwise), including all earnings, dividends, interest, or other rights in connection therewith and the products and proceeds therefrom, including the proceeds of insurance thereon; and

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(b)the additional property of the Borrower, whether now existing or hereafter arising or acquired, and wherever now or hereafter located, together with all additions and accessions thereto, substitutions, betterments and replacements therefor, products and Proceeds therefrom, and all of the Borrower's books and records and recorded data relating thereto (regardless of the medium of recording or storage), together with all of the Borrower's right, title and interest in and to all computer software required to utilize, create, maintain and process any such records or data on electronic media, identified and set forth as follows:

(i)All Accounts and all Goods whose sale, lease or other disposition by the Borrower has given rise to Accounts and have been returned to, or repossessed or stopped in transit by, the Borrower, or rejected or refused by an Account Debtor;

(ii)All Inventory, including, without limitation, raw materials, work-in-process and finished goods;

(iii)All Goods (other than Inventory), including, without limitation, embedded software, Equipment, vehicles, furniture and Fixtures;

(iv)All Software and computer programs;

(v)All Securities, Investment Property, Financial Assets and Deposit Accounts;

(vi)All Chattel Paper, Electronic Chattel Paper, Instruments, Documents, Letter of Credit Rights, all proceeds of letters of credit, Health-Care-Insurance Receivables, Supporting Obligations, notes secured by real estate, Commercial Tort Claims and General Intangibles, including Payment Intangibles; and

(vii)All Proceeds (whether Cash Proceeds or Noncash Proceeds) of the foregoing property, including, without limitation, all insurance policies and proceeds of insurance payable by reason of loss or damage to the foregoing property, including unearned premiums, and of eminent domain or condemnation awards.

Notwithstanding the foregoing, no security interest is or will be granted pursuant hereto in any right, title or interest of the in, to or under (all of which property, along with the products and proceeds therefrom, are individually and collectively referred to as the "Excluded Collateral"):

(c)interest in any contracts (including Contracts and Contract Rights), permits, licenses, leases, Accounts, General Intangibles (other than any Capital Securities), Payment Intangibles, Chattel Paper, Letter-of-Credit Rights, Promissory Notes and Health-Care-Insurance Receivables if the grant of a security interest or Lien therein is prohibited as a matter of law, rule or regulation or under the terms of such contracts (including Contracts and Contract Rights), permits, licenses, leases, Accounts, General Intangibles, Payment Intangibles, Chattel Paper, Letter-of-Credit Rights, Promissory Notes and Health-Care-Insurance Receivables, in each case after giving effect to any applicable Uniform Commercial Code and other applicable law;

(d)Capital Securities of any current or future Excluded Subsidiary;

(e)assets subject to Capitalized Lease Obligations, purchase money financing and cash to secure letter of credit reimbursement obligations to the extent such Capitalized Lease Obligations, purchase money financing or letters of credit are permitted under the Credit Agreement and the terms thereof prohibit a grant of a security interest therein;

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(f) any application for registration of a trademark filed with the U.S. Patent and Trademark Office on an intent-to-use basis until such time (if any) as a statement of use or amendment to allege use is accepted by the U.S. Patent and Trademark Office, at which time such trademark shall automatically become part of the Collateral and subject to the security interest of this Agreement;

(g) Capital Securities in any Person (i) other than the Borrower (other than the Parent Borrower) and Wholly-Owned Subsidiaries to the extent a pledge thereof is not permitted by the terms of such Person's charter documents or joint venture or shareholders agreements and other organizational documents and (ii) to the extent a pledge thereof is not permitted by any law, rule or regulation after giving effect to the applicable anti-assignment provisions of the UCC and other applicable law;

(h) those assets as to which the Lender and the Parent Borrower reasonably and mutually agree that the cost of obtaining such a security interest or perfection thereof are excessive in relation to the benefit to the Lender of the security to be afforded thereby;

(i) "margin stock" (within the meaning of Regulation U as adopted by the Board of Governors of the Federal Reserve System or any successor thereto);

(j) Excluded Accounts; and

(k) any asset to the extent granting a security interest in such asset would result in a material adverse tax consequence to Borrower and/or its Subsidiaries, as reasonably determined in good faith by Parent Borrower and notified in writing to the Lender;

provided, however, that Excluded Collateral shall not include any Proceeds, substitutions or replacements of any Excluded Collateral referred to in any of clauses (a) through (i) above (unless such Proceeds, substitutions or replacements would constitute Excluded Collateral referred to in any of clauses (a) through (l) above). Notwithstanding anything to the contrary contained herein or in any other Loan Document, (i) the Borrower shall not be required to perfect a security interest in Fixtures, (ii) the Borrower shall not be required to take any action with respect to the creation or perfection of a security interest or Liens under foreign law with respect to any Collateral and (iii) the Borrower shall not be required to comply with the Federal Assignment of Claims Act (or any state or municipal equivalent).

6.2 Possession and Transfer of Collateral. Unless an Event of Default exists hereunder, the Borrower shall be entitled to possession or use of the Collateral (except that Borrower shall deliver to Lender Instruments or Documents with an individual value in excess of \$50,000.00, Tangible Chattel Paper with an individual value in excess of \$50,000.00, Investment Property consisting of certificated securities and other Collateral required to be delivered to the Lender pursuant to this Section 6). The cancellation or surrender of any Note, upon payment or otherwise, shall not affect the right of the Lender to retain the Collateral for any other of the Obligations. The Borrower shall not sell, assign (by operation of law or otherwise), license, lease or otherwise dispose of, or grant any option with respect to any of the Collateral (collectively "Dispose" ("Disposition" shall have the meaning correlative thereto)), except (a) that the Borrower may Dispose of Inventory or obsolete, worn-out or excess furniture, fixtures, equipment or other property, real or personal, tangible or intangible, in each case, in the ordinary course of business; (b) Dispositions between or among Borrowers; (c) the sale, assignment, transfer, disposition or discount by the Borrower, without recourse, of accounts receivable arising in the ordinary course of business; (d) sales of equipment by the Borrower for fair market value so long as the amount does not exceed \$250,000.00 in the aggregate per year; and (e) pursuant to the Receivables Employment Agreement.

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6.3 Financing Statements. The Borrower shall, at the Lender's request, at any time and from time to time, execute and deliver to the Lender such financing statements, amendments and other documents and do such acts as the Lender reasonably deems necessary in order to establish and maintain valid, attached and perfected first priority security interests (subject to Permitted Liens) in the Collateral in favor of the Lender, free and clear of all Liens and claims and rights of third parties whatsoever, except Permitted Liens. The Borrower hereby irrevocably authorizes the Lender at any time, and from time to time, until the Obligations are paid in full, to file in any jurisdiction any initial financing statements and amendments thereto without the signature of the Borrower that (a) indicate the Collateral (i) is comprised of all assets of the Borrower or words of similar effect, regardless of whether any particular asset comprising a part of the Collateral falls within the scope of Article 9 of the Uniform Commercial Code of the jurisdiction wherein such financing statement or amendment is filed, or (ii) as being of an equal or lesser scope or within greater detail as the grant of the security interest set forth herein, and (b) contain any other information required by Section 5 of Article 9 of the Uniform Commercial Code of the jurisdiction wherein such financing statement or amendment is filed regarding the sufficiency or filing office acceptance of any financing statement or amendment, including (i) whether the Borrower is an organization, the type of organization and any Organizational Identification Number issued to the Borrower, and (ii) in the case of a financing statement filed as a fixture filing or indicating Collateral as as-extracted collateral or timber to be cut, a sufficient description of the real property to which the Collateral relates. The Borrower agrees to furnish any such information to the Lender promptly upon reasonable request. The Borrower further ratifies and affirms its authorization for any financing statements and/or amendments thereto, executed and filed by the Lender in connection with this Agreement in any jurisdiction prior to the date of this Agreement.

6.4 [Reserved].

6.5 Preservation of the Collateral. The Lender may, but is not required, to take such actions from time to time as the Lender reasonably deems appropriate to maintain or protect the Collateral. The Lender shall have exercised reasonable care in the custody and preservation of the Collateral if the Lender takes such action as the Borrower shall reasonably request in writing which is not inconsistent with the Lender's status as a secured party, but the failure of the Lender to comply with any such request shall not be deemed a failure to exercise reasonable care; provided, however, the Lender's responsibility for the safekeeping of the Collateral shall (i) be deemed reasonable if such Collateral is accorded treatment substantially equal to that which the Lender accords its own property, and (ii) not extend to matters beyond the control of the Lender, including, without limitation, acts of God, war, insurrection, riot or governmental actions. In addition, any failure of the Lender to preserve or protect any rights with respect to the Collateral against prior or third parties, or to do any act with respect to preservation of the Collateral, not so requested by the Borrower, shall not be deemed a failure to exercise reasonable care in the custody or preservation of the Collateral. The Borrower shall have the sole responsibility for taking such action as may be reasonably necessary, from time to time, to preserve all rights of the Borrower and the Lender in the Collateral against prior or third parties. Without limiting the generality of the foregoing, where Collateral consists in whole or in part of securities, the Borrower represents to, and covenants with, the Lender that the Borrower has made arrangements for keeping informed of changes or potential changes affecting the securities (including, but not limited to, rights to convert or subscribe, payment of dividends, reorganization or other exchanges, tender offers and voting rights), and the Borrower agrees that the Lender shall have no responsibility or liability for informing the Borrower of any such or other changes or potential changes or for taking any action or omitting to take any action with respect thereto.

6.6 Other Actions as to any and all Collateral. The Borrower further agrees to promptly take any other action reasonably requested by the Lender to ensure the attachment, perfection and first priority (subject to Permitted Liens) of, and the ability of the Lender to enforce, the Lender's security interest in any and all of the Collateral including, without limitation, taking all actions requested by the Lender that are required by the UCC in effect from time to time or by other law, as applicable in any relevant UCC

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jurisdiction, or by other law as applicable in any foreign jurisdiction; provided that Borrower shall not be required to execute a (a) mortgage in favor of the Lender unless (i) an Event of Default has occurred and is continuing or (ii) the real property to be covered by such mortgage has a value in excess of \$5,000,000.00, (b) control agreement (i) with respect to an Excluded Account or (ii) on any other accounts held by it sooner than sixty (60) days after the date hereof or the opening of such account (or, in each case, such later date as the Lender shall agree), (c) any documents or instruments necessary to perfect on the Borrower's interest (A) in any cars, trucks, construction and other equipment covered by a certificate of title law of any state and rolling stock, vessels, boats, ships and aircraft or (B) or leaseholds, unless, with respect to this clause (c), an Event of Default has occurred and is continuing, in each case, to the extent a security interest therein cannot be perfected by a UCC filing.

6.7Collateral in the Possession of a Warehouseman or Bailee. If any of the Collateral with an aggregate fair market value in excess of \$500,000.00 at any time (including the date hereof) is in the possession of a warehouseman or bailee, the Borrower shall promptly notify the Lender thereof, and shall use commercially reasonable efforts to, within ninety (90) days after date hereof (or such later date as may be agreed by the Lender), obtain a Collateral Access Agreement. The Lender agrees with the Borrower that the Lender shall not give any such instructions unless an Event of Default has occurred and is continuing.

6.8Letter-of-Credit Rights. If the Borrower at any time is a beneficiary under a letter of credit with a face value in excess of \$100,000.00 now or hereafter issued in favor of the Borrower, the Borrower shall promptly notify the Lender thereof and, at the request and option of the Lender, the Borrower shall, pursuant to an agreement in form and substance reasonably satisfactory to the Lender, either (i) arrange for the issuer and any confirmer of such letter of credit to consent to an assignment to the Lender of the proceeds of any drawing under the letter of credit, or (ii) arrange for the Lender to become the transferee beneficiary of the letter of credit, with the Lender agreeing, in each case, that the proceeds of any drawing under the letter to credit are to be applied as provided in this Agreement.

6.9Commercial Tort Claims. If the Borrower shall at any time hold or acquire a Commercial Tort Claim with a value in excess of \$100,000.00, the Borrower shall promptly notify the Lender in writing signed by the Borrower of the details thereof and grant to the Lender in such writing a security interest therein and in the proceeds thereof, all upon the terms of this Agreement, in each case in form and substance reasonably satisfactory to the Lender, and shall execute any amendments hereto deemed reasonably necessary by the Lender to perfect its security interest in such Commercial Tort Claim.

6.10Electronic Chattel Paper and Transferable Records. If the Borrower at any time holds or acquires an interest in any electronic chattel paper or any "transferable record", as that term is defined in Section 201 of the federal Electronic Signatures in Global and National Commerce Act, or in Section 16 of the Uniform Electronic Transactions Act as in effect in any relevant jurisdiction with a value in excess of \$100,000.00, the Borrower shall promptly notify the Lender thereof and, at the request of the Lender, shall take such action as the Lender may reasonably request to vest in the Lender control under Section 9-105 of the UCC of such electronic chattel paper or control under Section 201 of the federal Electronic Signatures in Global and National Commerce Act or, as the case may be, Section 16 of the Uniform Electronic Transactions Act, as so in effect in such jurisdiction, of such transferable record. The Lender agrees with the Borrower that the Lender will arrange, pursuant to procedures satisfactory to the Lender and so long as such procedures will not result in the Lender's loss of control, for the Borrower to make alterations to the electronic chattel paper or transferable record permitted under Section 9-105 of the UCC or, as the case may be, Section 201 of the federal Electronic Signatures in Global and National Commerce Act or Section 16 of the Uniform Electronic Transactions Act for a party in control to make without loss of control.

Section 7.REPRESENTATIONS AND WARRANTIES.

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To induce the Lender to make the Loans, the Borrower makes the following representations and warranties to the Lender, each of which shall survive the execution and delivery of this Agreement:

7.1 Borrower Organization and Name. The Borrower is duly organized, existing and in good standing under the laws of the state of reflected in its Organizational Documents, with power to conduct its business as presently conducted. The Borrower is duly licensed or qualified in all foreign jurisdictions wherein the nature of its activities require such qualification or licensing, except for such jurisdictions where the failure to so qualify would not have a Material Adverse Effect. The exact legal name of the Borrower is as set forth in the first paragraph of this Agreement, and the Borrower currently does not conduct, nor has it during the last five (5) years conducted, business under any other name or trade name.

7.2 Authorization. The Borrower has the requisite power and authority to enter into this Agreement, to request the borrowings and execute and deliver the Loan Documents as provided herein and to perform all of its duties and obligations under this Agreement and the other Loan Documents to which it is a party. The execution and delivery of this Agreement and the other Loan Documents will not, nor will the observance or performance of any of the matters and things herein or therein set forth, violate or contravene any provision of law or of the Organizational Documents or Organizational Certificates of the Borrower. All necessary and appropriate action has been taken on the part of the Borrower to authorize the execution and delivery of this Agreement and the Loan Documents.

7.3 Validity and Binding Nature. This Agreement and the other Loan Documents to which the Borrower is a party are the legal, valid and binding obligations of the Borrower, enforceable against the Borrower in accordance with their terms, subject to bankruptcy, insolvency and similar laws affecting the enforceability of creditors' rights generally and to general principles of equity.

7.4 Consent; Absence of Breach. To the Borrower's knowledge, the execution, delivery and performance of this Agreement, the other Loan Documents to which it is a party and any other documents or instruments to be executed and delivered by the Borrower in connection with the Loans, and the borrowings by the Borrower hereunder, do not and will not (a) require any consent, approval, authorization of, or filings with, notice to or other act by or in respect of, any governmental authority or any other Person (other than any consent or approval which has been obtained and is in full force and effect); (b) conflict with (i) any provision of law or any applicable regulation, order, writ, injunction or decree of any court or governmental authority, (ii) the Organizational Documents of the Borrower, or (iii) any material agreement, indenture, instrument or other document, or any judgment, order or decree, which is binding upon the Borrower or any of their properties or assets; or (c) require, or result in, the creation or imposition of any Lien on any asset of Borrower, other than Liens in favor of the Lender created pursuant to this Agreement (in the case of the preceding clauses (a), (b)(i), (b)(iii) and (c), other than in each case that would not reasonably be expected to have a Material Adverse Effect).

7.5 Ownership of Properties; Liens. The Borrower is the sole owner all of its properties and assets, real and personal, tangible and intangible, of any nature whatsoever (including patents, trademarks, trade names, service marks and copyrights), free and clear of all Liens, charges and claims (including infringement claims with respect to patents, trademarks, service marks, copyrights and the like), other than Permitted Liens.

7.6 Equity Ownership. All issued and outstanding Capital Securities of the Borrower and each of its Subsidiaries are duly authorized and validly issued, fully paid, non-assessable, and free and clear of all Liens other than those in favor of the Lender, if any, and such securities were issued in compliance with all applicable state and federal laws concerning the issuance of securities. As of the date hereof, there are no pre-emptive or other outstanding rights, options, warrants, conversion rights or other similar agreements

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or understandings for the purchase or acquisition of any Capital Securities of the Borrower and each of its Subsidiaries.

7.7 Intellectual Property. The Borrower owns and possesses or has a license or other right to use all Intellectual Property, as are necessary for the conduct of the businesses of the Borrower, without any infringement upon rights of others which would reasonably be expected to have a Material Adverse Effect upon the Borrower, and no material claim has been asserted and is pending by any Person challenging or questioning the use of any Intellectual Property or the validity or effectiveness of any Intellectual Property nor does the Borrower know of any valid basis for any such claim.

7.8 Financial Statements. All financial statements submitted to the Lender by the Parent Borrower have been prepared in accordance with GAAP, on a consolidated basis, except as otherwise noted therein, consistent with the previous fiscal year and present fairly the financial condition of the Parent Borrower and the results of the operations for the Parent Borrower as of such date and for the periods indicated. Since the date of the most recent financial statement submitted by the Parent Borrower to the Lender, there has been no change in the financial condition or in the assets or liabilities of the Parent Borrower having a Material Adverse Effect on the Parent Borrower on a consolidated basis.

7.9 Litigation and Contingent Liabilities. There is no litigation, arbitration proceeding, demand, charge, claim, petition or governmental investigation or proceeding pending, or to the knowledge of the Borrower, threatened in writing, against the Borrower, which, if adversely determined, which would reasonably be expected to have a Material Adverse Effect upon the Borrower, except as set forth in Schedule 7.9.

7.10 Other than any liability incident to such litigation or proceedings, the Borrower has no material guarantee obligations, contingent liabilities, liabilities for taxes, or any long-term leases or unusual forward or long-term commitments, including any interest rate or foreign currency swap or exchange transaction or other obligation in respect of derivatives, that are not reflected or reserved for (in each case, to the extent required by GAAP) in the most recent audited financial statements delivered pursuant to subsection 8.8(a) or fully-reflected or fully reserved for in the most recent quarterly financial statements delivered pursuant to subsection 8.8(b) and not permitted by Section 9.1.

7.11 Event of Default. Excepting the Specific Default, no Event of Default or Unmatured Event of Default exists or would result from the incurrence by the Borrower of any of the Obligations hereunder or under any other Loan Document, and the Borrower is not in material default under any other material contract or agreement for Debt to which it is a party, the effect of which would have a Material Adverse Effect upon the Borrower.

7.12 Accounts and Inventory. Each Account or item of Inventory which Borrower requests Lender to classify as an Eligible Account, Eligible Foreign Account or as Eligible Inventory, as of the time when such request is made, conforms in all respects to the requirements of such classification as set forth in the respective definitions of "Eligible Account," "Eligible Foreign Account" and "Eligible Inventory."

7.13 Environmental Laws and Hazardous Substances. The Borrower has not generated, used, stored, treated, transported, manufactured, handled, produced or disposed of any Hazardous Substances, on the premises of the Borrower in any manner which at any time materially violates any Environmental Law or any license, permit, certificate, approval or similar authorization required thereunder. The Borrower complies in all material respects with all Environmental Laws and all licenses, permits certificates, approvals and similar authorizations required thereunder. Within the last two (2) years, Borrower has not received any written investigation, proceeding, complaint, order, claim, citation or notice by any governmental authority or any other Person, nor is any pending or, to the Borrower's knowledge, threatened in writing, and the Borrower shall promptly notify the Lender after receiving written notice of any such

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investigation, proceeding, complaint, order, claim, citation or notice, and shall take reasonably prompt and appropriate actions to respond thereto, with respect to any material non-compliance with, or violation of, the requirements of any Environmental Law by the Borrower. The Borrower has no material liability, contingent or otherwise, in connection with a release, spill or discharge of any Hazardous Substances or the generation, use, storage, treatment, transportation, manufacture, handling, production or disposal of any Hazardous Substances. The Borrower further agrees to allow the Lender or its agent access to the properties of the Borrower, upon reasonable prior notice from the Lender, to confirm material compliance with all Environmental Laws, and the Borrower shall, following determination by the Lender that there is material non-compliance with any Environmental Law, at the Borrower's sole expense, cause an independent environmental engineer reasonably acceptable to the Lender to conduct such tests of the relevant site as are appropriate, and prepare and deliver a report setting forth the result of such tests, and, if required by Environmental Laws, a proposed plan for remediation and an estimate of the costs thereof.

7.14 Solvency, etc. As of the date hereof, and immediately prior to and immediately after giving effect to the issuance of each Letter of Credit and each Loan hereunder and the use of the proceeds thereof, (a) the fair value of the Parent Borrower's assets is greater than the amount of its liabilities (including disputed, contingent and unliquidated liabilities) as such value is established and liabilities evaluated as required under the Section 548 of the Bankruptcy Code, (b) the present fair saleable value of the Parent Borrower's assets is not less than the amount that will be required to pay the probable liability on its debts as they become absolute and matured, (c) the Parent Borrower (on a consolidated basis with its Subsidiaries) is able to realize upon its assets and pay its debts and other liabilities (including disputed, contingent and unliquidated liabilities) as they mature in the normal course of business, (d) the Parent Borrower (on a consolidated basis with its Subsidiaries) does not intend to, and does not believe that it will, incur debts or liabilities beyond its ability to pay as such debts and liabilities mature, and (e) the Parent Borrower is not engaged in business or a transaction, and is not about to engage in business or a transaction, for which its property would constitute unreasonably small capital.

7.15 ERISA Obligations. All Employee Plans of the Borrower meet the minimum funding standards of Section 302 of ERISA and 412 of the Code where applicable, and each such Employee Plan that is intended to be qualified within the meaning of Section 401 of the Code is qualified. No withdrawal liability has been incurred under any such Employee Plans and no "Reportable Event" or "Prohibited Transaction" (as such terms are defined in ERISA), has occurred with respect to any such Employee Plans and Borrower's participation in such Employee Plans, as applicable, unless approved by the appropriate governmental agencies. The Borrower has promptly paid and discharged all obligations and liabilities of the Borrower arising under the Employee Retirement Income Security Act of 1974 ("ERISA") of a character which if unpaid or unperformed might result in the imposition of a Lien against any of its properties or assets.

7.16 Labor Relations. Except as could not reasonably be expected to have a Material Adverse Effect, (i) there are no strikes, lockouts or other labor disputes against the Borrower or, to the best knowledge of the Borrower, threatened, (ii) hours worked by and payment made to employees of the Borrower have not been in violation of the Fair Labor Standards Act or any other applicable law, (iii) no unfair labor practice complaint is pending against the Borrower or, to the best knowledge of the Borrower, threatened before any governmental authority and (iv) Borrower has been in compliance with all applicable laws regarding employment and employment practices (including but not limited to laws regarding terms and conditions of employment, discrimination, harassment, retaliation, equal opportunity, immigration, benefits, payment of employment, social security and similar Taxes, occupational safety and health, plant closings and wages and hours, unemployment insurance and termination of employment).

7.17 Security Interest. This Agreement creates a valid security interest in favor of the Lender in the Collateral and, when properly perfected by filing in the appropriate jurisdictions, or by possession or

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Control of such Collateral by the Lender or delivery of such Collateral to the Lender, shall constitute a valid, perfected, first-priority security interest (subject to Permitted Liens) in such Collateral.

7.18 Lending Relationship. The relationship hereby created between each Borrower (on the one hand) and the Lender (on the other) is and has been conducted on an open and arm's length basis in which no fiduciary relationship exists, and the Borrower has not relied and is not relying on any such fiduciary relationship in executing this Agreement and in borrowing the Loans. The Lender represents that it will receive any Note payable to its order as evidence of a bank loan.

7.19 Business Loan. The Loans, including interest rate, fees and charges as contemplated hereby, are business loans.

7.20 Taxes. The Borrower has timely filed all income and other material tax returns and reports required by law to have been filed by it and has paid all income and other material Taxes due and payable with respect to such returns, except any such Taxes which are not yet due and payable or are being diligently contested in good faith by appropriate proceedings and for which adequate reserves in accordance with GAAP shall have been set aside on its books or the contesting of which does not create a Lien on the Collateral which is not a Permitted Lien. There is no controversy, audit or examination by a governmental authority in progress, or to the knowledge of the Borrower, threatened in writing in respect of any tax returns of the Borrower. The Borrower has made adequate reserves on its books and records in accordance with GAAP for all Material Taxes that have accrued but which are not yet due and payable.

7.21 Compliance with Regulation U. No portion of the proceeds of the Loans shall be used by the Borrower, or any Affiliate of the Borrower, either directly or indirectly, for the purpose of purchasing or carrying any margin stock, within the meaning of Regulation U as adopted by the Board of Governors of the Federal Reserve System or any successor thereto.

7.22 Governmental Regulation. The Borrower is not, and after giving effect to any loan, will not be, subject to regulation under the Public Utility Holding Company Act of 1935, the Federal Power Act, the ICC Termination Act of 1995 or the Investment Company Act of 1940 or to any federal or state statute or regulation limiting its ability to incur indebtedness for borrowed money.

7.23 Bank Accounts. Except those listed on Schedule 7.22 attached hereto, and subject to Section 8.19, all Deposit Accounts and operating bank accounts of the Borrower are located at the Lender.

7.24 Place of Business. The principal place of business and books and records of the Borrower is set forth in the preamble to this Agreement, and the location of all Collateral, if other than at such principal place of business, is as set forth on Schedule 7.23 attached hereto and made a part hereof, and the Borrower shall promptly notify the Lender of any change in such locations. The Borrower will not remove or permit assets constituting the Collateral with a value in excess of \$750,000.00 to be removed from such locations without the prior written notice to the Lender, except for Inventory sold in the usual and ordinary course of the Borrower's business.

7.25 Complete Information. This Agreement and all financial statements, schedules, certificates, confirmations, agreements, contracts, and other materials and information heretofore or contemporaneously herewith furnished in writing by the Borrower to the Lender for purposes of, or in connection with, this Agreement and the transactions contemplated hereby is, and all written information hereafter furnished by or on behalf of the Borrower to the Lender pursuant hereto or in connection herewith will be, taken as a whole and after giving supplements thereto, true and accurate in all material respects on the date as of which such information is dated or certified, and none of such information, taken as a whole and after giving supplements thereto, omits to state any material fact known to the Borrower necessary to make such information not misleading in light of the circumstances under which made (it being recognized

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by the Lender that any projections and forecasts provided by the Borrower are based on good faith estimates and assumptions believed by the Borrower to be reasonable as of the date of the applicable projections or assumptions and that actual results during the period or periods covered by any such projections and forecasts may differ from projected or forecasted results and such difference may be material).

7.26 Subordinated Debt. The subordination provisions of the Subordinated Debt are enforceable against the holders of the Subordinated Debt by the Lender. The Obligations constitute Senior Debt entitled to the benefits of the subordination provisions contained in the Subordinated Debt (if any).

Section 8. AFFIRMATIVE COVENANTS. DURING THE TERM OF THIS AGREEMENT:

8.1 Compliance with Bank Regulatory Requirements; Increased Costs. If the Lender shall reasonably determine that any Regulatory Change, or compliance by the Lender or any Person controlling the Lender with any request or directive (whether or not having the force of law) of any governmental authority, central bank or comparable agency has or would have the effect of reducing the rate of return on the Lender's or such controlling Person's capital as a consequence of the Lender's obligations hereunder or under any Letter of Credit to a level below that which the Lender or such controlling Person could have achieved but for such Regulatory Change or compliance (taking into consideration the Lender's or such controlling Person's policies with respect to capital adequacy) by an amount deemed by the Lender or such controlling Person to be material or would otherwise reduce the amount of any sum received or receivable by the Lender under this Agreement or under any Note with respect thereto, then from time to time, upon written demand by the Lender (which demand shall be accompanied by a statement setting forth the basis for such demand and a calculation of the amount thereof in reasonable detail), the Borrower shall pay directly to the Lender or such controlling Person such additional amount as will compensate the Lender for such increased cost or such reduction, so long as such amounts have accrued on or after the day which is one hundred eighty days (180) days prior to the date on which the Lender first made demand therefor.

8.2 Borrower Existence. The Borrower shall at all times preserve and maintain its (a) its existence and good standing in the jurisdiction of its organization, and (b) its qualification to do business and good standing in each jurisdiction where the nature of its business makes such qualification necessary (other than such jurisdictions in which the failure to be qualified or in good standing could not reasonably be expected to have a Material Adverse Effect), and shall at all times continue as a going concern in the business which the Borrower is presently conducting or such other business reasonably related or ancillary thereto.

8.3 Compliance With Laws. The Borrower shall use the proceeds of the Loans for working capital and other general corporate or business purposes (including to facilitate the acquisition of Entrepix, Inc. by the Parent Borrower) not in contravention of any requirements of law and not in violation of this Agreement, and shall comply in all respects, including the conduct of its business and operations and the use of its properties and assets, with all applicable laws, rules, regulations, decrees, orders, judgments, licenses and permits, except where failure to comply would not reasonably be expected to have a Material Adverse Effect. In addition, and without limiting the foregoing sentence, the Borrower shall (a) ensure, and cause each Subsidiary to ensure, that no person who owns a controlling interest in or otherwise controls the Borrower or any Subsidiary is or shall be listed on the Specially Designated Nationals and Blocked Person List or other similar lists maintained by the Office of Foreign Assets Control ("OFAC"), the Department of the Treasury or included in any Executive Orders, (b) not use or permit the use of the proceeds of the Loans to violate any of the foreign asset control regulations of OFAC or any enabling statute or Executive Order relating thereto, and (c) comply, and cause each Subsidiary to comply, with all applicable Bank Secrecy Act ("BSA") laws and regulations, as amended.

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8.4 Payment of Taxes and Liabilities. The Borrower shall pay and discharge, prior to delinquency and before penalties accrue thereon, all property and other taxes, and all governmental charges or levies against it or any of the Collateral, as well as claims of any kind which, if unpaid, could become a Lien on any of the Collateral; provided that the foregoing shall not require the Borrower to pay any such tax or charge so long as it shall contest the validity thereof in good faith by appropriate proceedings and shall set aside on its books adequate reserves with respect thereto in accordance with GAAP and, in the case of a claim which would become a Lien on any of the Collateral, such contest proceedings stay the foreclosure of such Lien or the sale of any portion of the Collateral to satisfy such claim.

8.5 Maintain Property. The Borrower shall at all times maintain, preserve and keep its plant, properties and Equipment constituting Collateral, in good repair, working order and condition, normal wear and tear excepted.

8.6 Maintain Insurance. The Borrower shall at all times maintain with insurance companies reasonably acceptable to the Lender, such insurance coverage as may be required by any law or governmental regulation or court decree or order applicable to it and such other insurance, to such extent and against such hazards and liabilities, including employers', public and professional liability risks, as is customarily maintained by companies similarly situated, and shall have insured amounts no less than, and deductibles no higher than, are customary and reasonable. The Borrower shall furnish to the Lender a certificate setting forth in reasonable detail the nature and extent of all insurance maintained by the Borrower, which shall be reasonably acceptable to the Lender. The Borrower shall cause each issuer of an insurance policy to provide the Lender with an endorsement (i) showing the Lender as lender loss payee with respect to each policy of property or casualty insurance; and (ii) providing that ten (10) days' notice will be given to the Lender prior to any cancellation of, material reduction or change in coverage provided by or other material modification to such policy. The Borrower shall execute and deliver to the Lender a collateral assignment, in form and substance satisfactory to the Lender, of each business interruption insurance policy maintained by the Borrower.

In the event the Borrower either fails to provide the Lender with evidence of the insurance coverage required by this Section or at any time hereafter shall fail to obtain or maintain any of the policies of insurance required above, or to pay any premium in whole or in part relating thereto, then the Lender, without waiving or releasing any obligation or default by the Borrower hereunder, may at any time (but shall be under no obligation to so act), obtain and maintain such policies of insurance and pay such premiums and take any other action with respect thereto, which the Lender reasonably deems advisable. This insurance coverage (a) may, but need not, protect the Borrower's interests in such property, including, but not limited to, the Collateral, and (b) may not pay any claim made by, or against, the Borrower in connection with such property, including, but not limited to, the Collateral. The Borrower may later cancel any such insurance purchased by the Lender, but only after providing the Lender with evidence that the Borrower has obtained the insurance coverage required by this Section. If the Lender purchases insurance for the Collateral, the Borrower will be responsible for the costs of that insurance, including interest and any other charges that may be imposed with the placement of the insurance, until the effective date of the cancellation or expiration of the insurance. The costs of the insurance may be added to the principal amount of the Loans owing hereunder. The costs of the insurance may be more than the cost of the insurance the Borrower may be able to obtain on its own.

8.7 ERISA Liabilities; Employee Plans. The Borrower shall (i) keep in full force and effect any and all Employee Plans which are presently in existence or may, from time to time, come into existence under ERISA, and not withdraw from any such Employee Plans, unless such withdrawal can be effected or such Employee Plans can be terminated without material liability to the Borrower; (ii) make required contributions to all of such Employee Plans in a timely manner in all material respects and in a sufficient amount to comply with the standards of ERISA; including the minimum funding standards of ERISA, as

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applicable; (iii) comply with all material requirements of ERISA which relate to such Employee Plans in all material respects; (iv) notify the Lender promptly upon receipt by the Borrower of any notice concerning the imposition of any withdrawal liability or of the institution of any proceeding or other action which may result in the termination of any such Employee Plans or the appointment of a trustee to administer such Employee Plans; (v) promptly advise the Lender of the occurrence of any "Reportable Event" or "Prohibited Transaction" (as such terms are defined in ERISA), with respect to any such Employee Plans that would reasonably be expected to result in material liability to the Borrower; and (vi) amend any Employee Plan that is intended to be qualified within the meaning of Section 401 of the Code to the extent necessary to keep the Employee Plan qualified, and to cause the Employee Plan to be administered and operated in a manner that does not cause the Employee Plan to lose its qualified status.

**8.8Financial Statements.** The Parent Borrower shall at all times maintain a system of accounting in all respects in accordance with GAAP, and shall furnish to the Lender such information regarding the business affairs, operations and financial condition of the Parent Borrower, including, but not limited to:

(a) promptly when available, and in any event, within one hundred twenty (120) days after the close of each of its fiscal years, a copy of the annual audited financial statements of the Parent Borrower, including consolidated balance sheet, statement of income and retained earnings, statement of cash flows for the fiscal year then ended prepared and certified without adverse reference to going concern value and without qualification (except for qualifications for a change in accounting principles with which such accountants concur and which shall have been disclosed in the notes to the financial statements or other than as a result of, or with respect to, an upcoming maturity date under this Agreement occurring within one year from the time such opinion is delivered or any potential inability to satisfy any financial maintenance covenant in this Agreement on a future date or in a future period) by Grant Thornton LLP or other independent auditor of recognized standing, selected by the Borrower and reasonably acceptable to the Lender;

(b) promptly when available, and in any event, (i) within seventy (70) days following the end of each fiscal quarter, a copy of the consolidated financial statements of the Parent Borrower regarding such fiscal quarter, including balance sheet, statement of income and retained earnings, statement of cash flows for the fiscal quarter then ended prepared and certified as true and correct by the Borrower's treasurer or chief financial officer; and

(c) promptly when available, and in any event within fifteen (15) days of the end of each calendar month, Borrower shall deliver to Lender an executed Borrowing Base Certificate as of the last day of the immediately preceding month. Such Borrowing Base Certificate shall be in a form and with such specificity as is satisfactory to lender and shall contain such additional information concerning Accounts, Inventory and eligibility determination as may be requested by Lender including, if specifically requested by Lender, copies of all invoices prepared in connection with such Accounts. From and after the occurrence of an Event of Default (other than the Specific Default), Lender may require, and Borrower shall deliver, more frequent Borrowing Base Certificates as of such date Lender may specify. Each Borrowing Base Certificate will be certified as accurate in all material respects by each Borrower's Chief Financial Officer.

Notwithstanding the foregoing, the obligations referred to in clauses (a) and (b) above may be satisfied with respect to financial information of the Parent Borrower by furnishing the Parent Borrower's Form 10-K or 10-Q, as applicable, filed with the SEC (and the public filing of such report with the SEC shall constitute delivery under this Section 8.8)

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No change with respect to such accounting principles shall be made by the Borrower without giving prior notification to the Lender. The Borrower represents and warrants to the Lender that the financial statements delivered to the Lender at or prior to the execution and delivery of this Agreement and to be delivered at all times thereafter accurately reflect and will accurately reflect the financial condition of the Borrower.

8.9[Reserved].

8.10Accounts Payable, Accounts Receivable, WIP and Inventory Reports. The Borrower shall, contemporaneously with the furnishing of the Borrowing Base Certificate pursuant to Section 8.8(c), deliver to Lender, in digital form, (a) a report detailing accounts payable (including aging (on a 0-30, 30-60, 60-90 and over 90 day basis), (b) a report detailing accounts receivable and accounts receivable aging (on a 0-30, 30-60, 60-90 and over 90 day basis) including all account debtor name and contact information and invoice level detail, (c) a detailed work-in-process report and (d) a detailed inventory report, each such report to be as of the end of the preceding calendar month.

8.11Covenant Compliance Certificate. The Borrower shall, contemporaneously with the furnishing of the financial statements pursuant to Section 8.8, deliver to the Lender a duly completed compliance certificate, dated the date of such financial statements and certified as true and correct by an appropriate officer of the Borrower, containing a computation of each of the financial covenants set forth in Section 10 and stating that the Borrower has not become aware of any Event of Default or Unmatured Event of Default that has occurred and is continuing or, if there is any such Event of Default or Unmatured Event of Default describing it and the steps, if any, being taken to cure it.

8.12Field Audits: Appraisals.

(a) On any Business Day during normal business hours, upon reasonable prior notice to the Borrower, the Borrower shall permit the Lender to inspect the Inventory, other tangible assets and/or other business operations of the Borrower, to perform appraisals of the Equipment of the Borrower, and to inspect, audit, check and make copies of, and extracts from, the books, records, computer data, computer programs, journals, orders, receipts, correspondence and other data relating to Inventory, Accounts and any other Collateral. All such inspections or audits by the Lender shall be at the Borrower's sole expense, provided, however, that so long as no Event of Default or Unmatured Event of Default exists (other than the Specific Default so long as the Forbearance Period remains in effect), the Borrower shall not be required to reimburse the Lender for inspections or audits more frequently than once each fiscal year.

(b) Without limiting the generality of the foregoing, Borrower shall permit a third-party appraiser selected by Lender in its sole discretion, to appraise the Inventory and Equipment of Borrower with such frequency and at such times as Lender may determine. All such appraisals shall be at the Borrower's sole expense, provided, however, that so long as no Event of Default or Unmatured Event of Default exists (other than the Specific Default so long as the Forbearance Period remains in effect), the Borrower shall not be required to reimburse the Lender for such appraisals more frequently than twice each fiscal year. All such appraisals shall be conducted during normal business hours and at times and dates determined by Lender in consultation with the Borrower and with prior written notice to Borrower.

8.13Other Reports. The Borrower shall, within such reasonable period of time as the Lender may reasonably specify, deliver to the Lender such other schedules and reports as the Lender may reasonably require.

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8.14 Intellectual Property. The Borrower shall maintain, preserve and renew all Intellectual Property necessary for the conduct of its business as and where the same is currently located as heretofore or as hereafter conducted by it.

8.15 Notice of Proceedings. The Borrower, promptly upon becoming aware, shall give written notice to the Lender of any litigation, arbitration or governmental investigation or proceeding not previously disclosed by the Borrower to the Lender which has been instituted or, to the knowledge of the Borrower, is threatened in writing against the Borrower or to which any of its respective properties is subject, in each case, which the Borrower determines in its reasonable discretion would reasonably be expected to have a Material Adverse Effect.

8.16 Notice of Event of Default or Material Adverse Effect. The Borrower shall, promptly after the commencement thereof, give notice to the Lender in writing of the occurrence of any Event of Default or any Unmatured Event of Default, or the occurrence of any condition or event having a Material Adverse Effect.

8.17 Environmental Matters. If any release or other disposal of Hazardous Substances shall occur or shall have occurred on any real property or any other assets of the Borrower in material violation of Environmental Law, the Borrower shall cause the prompt containment and removal of such Hazardous Substances and the remediation of such real property or other assets as necessary to comply with all Environmental Laws. Without limiting the generality of the foregoing, the Borrower shall comply with any Federal or state judicial or administrative order requiring the performance at any real property of the Borrower of activities in response to the release of a Hazardous Substance. To the extent that the transportation of Hazardous Substances is permitted by this Agreement, the Borrower shall dispose of such Hazardous Substances, or of any other wastes, only at licensed disposal facilities.

8.18 Further Assurances. The Borrower shall take such actions as are necessary and as the Lender may reasonably request from time to time to ensure that the Obligations under the Loan Documents are secured by substantially all of the assets of the Borrower (other than Excluded Collateral), in each case as the Lender may reasonably determine, including (a) the execution and delivery of security agreements, pledge agreements, mortgages, deeds of trust, financing statements and other documents, and the filing or recording of any of the foregoing, and (b) the delivery of certificated securities and other collateral with respect to which perfection is obtained by possession.

8.19 Banking Relationship. The Borrower covenants and agrees, at all times during the term of this Agreement, to utilize the Lender as its primary bank of account and depository for all financial services, including all receipts, disbursements, cash management and related service for its operations located in the United States. Notwithstanding the foregoing, Borrower shall have until (i) April 30, 2023 (or such later date as the Lender shall agree) to establish all necessary accounts with Lender to comply with the foregoing sentence and (ii) June 30, 2023 (or such later date as the Lender shall agree), to transition all of its existing accounts and deposits to Lender (other than as agreed to by the Lender from time to time).

8.20 Non-Utilization Fee. The Borrower agrees to pay to the Lender a non-utilization fee equal to 12.5 basis points of the total of (a) the Revolving Loan Commitment, minus (b) the sum of (i) the daily average of the aggregate principal amount of all Revolving Loans outstanding, plus (ii) the daily average of the aggregate amount of the Letter of Credit Obligations, which non-utilization fee shall be (A) calculated on the basis of a year consisting of 360 days, (B) paid for the actual number of days elapsed, and (C) payable quarterly in arrears on the last day of each March, June, September and December, commencing on March 31, 2023, and on the Revolving Loan Maturity Date.

8.21 Post Closing Obligations. Notwithstanding anything herein to the contrary, the Borrower shall:

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(a) within ninety (90) days of the Closing Date (or such longer period as the Lender may agree), use its commercially reasonable efforts to terminate the (i) UCC-1 Financing Statement, filed with the Delaware Secretary of State on July 5, 2019 with the Filing Number 20194652439, in favor of Dana Limited and (ii) UCC-1 Financing Statement, filed with the Delaware Secretary of State on November 6, 2019 with the Filing Number 20197836328, in favor of Dana Limited; and

(b) within ten (10) Business Days of the Closing Date (or such longer period as the Lender may agree), deliver to the Lender all physically certificated equity interests held by the Borrower with accompanying stock powers which are required to be delivered pursuant to the terms and conditions of the Loan Documents.

Section 9. NEGATIVE COVENANTS.

9.1 Debt. The Borrower shall not, either directly or indirectly, create, assume, incur or have outstanding any Debt (including purchase money indebtedness), or become liable, whether as endorser, guarantor, surety or otherwise, for any debt or obligation of any other Person, except:

(a) the Obligations under this Agreement and the other Loan Documents;

(b) obligations of the Borrower for Taxes, assessments, municipal or other governmental charges;

(c) obligations of the Borrower for accounts payable, other than for money borrowed, incurred in the ordinary course of business;

(d) Bank Product Obligations under a Hedging Agreement incurred in favor of the Lender or an Affiliate thereof for bona fide hedging purposes and not for speculation;

(e) Debt described on Schedule 9.1 and any extension, renewal or refinancing thereof so long as the principal amount thereof is not increased;

(f) Debt of the Borrower evidenced by Capitalized Lease Obligations and purchase money Debt [(including obligations in respect of mortgages, industrial revenue bonds, industrial development bonds and similar financings) in connection with the acquisition, construction, installation, repair, replacement or improvement of fixed or capital assets; provided that in no event shall the aggregate principal amount of all such Debt incurred or assumed in each case after the date hereof pursuant to this clause (g) exceed \$1,000,000.00 (measured at the time of incurrence) at any one time outstanding;

(g) intercompany loans;

(h) Debt incurred by the Borrower arising from agreements providing for indemnification or from guaranties or letters of credit, surety bonds or performance bonds securing the performance of the Borrower pursuant to such agreements, in connection with Dispositions of any business or assets permitted by this Agreement;

(i) Debt of the Borrower which may be deemed to exist pursuant to any guaranties not in respect of borrowed money, performance, surety, statutory or appeal bonds or similar obligations incurred in the ordinary course of business;

(j) Debt of the Borrower in respect of cash management agreements, netting services, overdraft protections and otherwise in connection with deposit accounts; or

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(k)Debt of the Borrower consisting of insurance premium financing in the ordinary course of business.

9.2Encumbrances. The Borrower shall not, either directly or indirectly, create, assume, incur or suffer or permit to exist any Lien or charge of any kind or character upon any asset of the Borrower, whether owned at the date hereof or hereafter acquired, except for Permitted Liens.

9.3[Reserved]

9.4Acquisitions, Merger or Sales. Following the date hereof, the Borrower shall not, whether in one transaction or a series of related transactions, be a party to any merger or consolidation, or purchase or otherwise acquire all or substantially all of the assets or any Capital Securities of any class of, or any partnership or joint venture interest in, any other Person without the prior written consent of Lender. Further, the Borrower shall not, whether in one transaction or a series of related transactions, be a party to any merger or consolidation, or sell all or substantially all of its assets or any Capital Securities of any class to any other Person without the prior written consent of Lender. Notwithstanding anything herein to the contrary, if any Excluded Subsidiary is permitted to be formed or acquired after the Closing Date, such Excluded Subsidiary shall not become a Borrower or guarantor of this Agreement, and no Capital Securities of such Excluded Subsidiary shall be pledged pursuant to any pledge agreement.

9.5[Reserved.]

9.6Distributions. If an Event of Default has occurred and is continuing, the Parent Borrower shall not, (a) make any distribution or dividend (other than stock dividends or distributions or dividends to any other Borrower or Affiliate for the purposes of payment of any Tax determined on a combined, consolidated, unitary, affiliated or other group basis for any such group that includes the Borrower), whether in cash or otherwise, to any of its equityholders, (b) purchase or redeem any of its Capital Securities or any warrants, options or other rights in respect thereof (other than distributions or dividends to allow for the repurchase, acquisition or retirement for value of Capital Securities of Parent Borrower (or of any parent entity thereof) or any of its Subsidiaries, as applicable, held by any employee or director or former employee or director of the Parent Borrower or its Subsidiaries, as applicable, including pursuant to any employee or director equity plan, employee or director stock option or profits interest plan or any other employee or director benefit plan or any agreement (including any separation, stock subscription or shareholder agreement) in aggregate amount not to exceed \$100,000.00 per fiscal year), (c) pay any management fees or similar fees to any of its equityholders or any Affiliate thereof, or (d) pay or prepay interest on, principal of, premium, if any, redemption, conversion, exchange, purchase, retirement, defeasance, sinking fund or any other payment in respect of any Subordinated Debt.

9.7Transactions with Affiliates. The Borrower shall not, directly or indirectly, enter into or permit to exist any transaction with any of its Affiliates or with any director, officer or employee of the Borrower other than (i) transactions between or among Borrowers, (ii) transactions in the ordinary course of, and pursuant to the reasonable requirements of, the business of the Borrower and upon fair and reasonable terms which are no less favorable to the Borrower than would be obtained in a comparable arm's length transaction with a Person that is not an Affiliate of the Borrower, (iii) transactions permitted by Section 9.6, and (iv) transactions pursuant to the Receivables Employment Agreement.

9.8Unconditional Purchase Obligations. The Borrower shall not enter into or be a party to any contract for the purchase of materials, supplies or other property or services if such contract requires that payment be made by it regardless of whether delivery is ever made of such materials, supplies or other property or services.

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9.9 Cancellation of Debt. The Borrower shall not cancel any material claim or debt owing to it, except for reasonable consideration or in the ordinary course of business.

9.10 Inconsistent Agreements. The Borrower shall not enter into any agreement containing any provision which would (a) be violated or breached by any borrowing by the Borrower hereunder or by the performance by the Borrower or any Subsidiary of any of its Obligations hereunder or under any other Loan Document, (b) prohibit the Borrower or any Subsidiary from granting to the Lender a Lien on any of its assets or (c) create or permit to exist or become effective any encumbrance or restriction on the ability of any Subsidiary to (i) pay dividends or make other distributions to the Borrower or any other Subsidiary, or pay any Debt owed to the Borrower or any other Subsidiary, (ii) make loans or advances to the Borrower or any other Subsidiary, or (iii) transfer any of its assets or properties to the Borrower or any other Subsidiary, other than, in each case, (A) customary restrictions and conditions contained in agreements relating to the sale of all or a substantial part of the assets of any Subsidiary pending such sale, provided that such restrictions and conditions apply only to the Subsidiary to be sold and such sale is permitted hereunder, (B) restrictions or conditions imposed by any agreement relating to purchase money Debt, Capital Leases and other secured Debt permitted by this Agreement if such restrictions or conditions apply only to the property or assets securing such Debt, and (C) customary provisions in leases and other contracts restricting the assignment thereof.

9.11 Use of Proceeds. Neither the Borrower nor any of its Subsidiaries or Affiliates shall use any portion of the proceeds of the Loans, either directly or indirectly, for the purpose of purchasing any securities (other than, to the extent constituting securities, the Capital Securities of Entrepix, Inc.) or transactions permitted by Section 9.6.

9.12 Bank Accounts. The Borrower shall not establish any new Deposit Accounts or other bank accounts, other than Deposit Accounts or other bank accounts established at or with the Lender without the prior written consent of the Lender.

9.13 Business Activities; Change of Legal Status and Organizational Documents. The Borrower shall not (a) without the consent of the Lender, engage in any line of business other than the businesses engaged in on the date hereof and businesses reasonably related or ancillary thereto, including, without limitation, software licensing and contract manufacturing, (b) without notice to the Lender, change its name, its Organizational Identification Number, if it has one, its type of organization, its jurisdiction of organization or other legal structure, or (c) without the consent of the Lender, permit its charter, bylaws or other organizational documents to be amended or modified in any way which would reasonably be expected to materially adversely affect the interests of the Lender.

#### Section 10. FINANCIAL COVENANTS.

10.1 Minimum EBITDA. Borrower shall maintain, on a consolidated basis, EBITDA of not less than (a) \$[\*\*\*\*] for the three-month period ending December 31, 2023, (b) [\*\*\*\*] for the six-month period ending March 31, 2024, (c) \$[\*\*\*\*] for the nine-month period ending June 30, 2024, and (d) \$[\*\*\*\*] for the twelve-month period ending September 30, 2024.

10.2 Fixed Charge Coverage. As of the end of each of such Borrower's fiscal year, commencing for the fiscal year ending September 30, 2024, the Borrower shall maintain a ratio of (a) the total for such fiscal year of EBITDAR minus the sum of all (i) income taxes paid in cash plus cash dividends/distributions plus maintenance Capital Expenditures plus management fees paid in cash, to (b) the sum for such fiscal quarter of (i) Interest Charges plus (ii) required payments of principal on Debt (including the Term Loan, but excluding the Revolving Loans) plus (iii) operating lease/rent expense, of not less than 1.30 to 1.00 based on a trailing 4 quarter basis.

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10.3 Working Capital. As of the end of each of its fiscal quarters, beginning March 31, 2023, the Borrower shall maintain, on a consolidated working capital of current assets (excluding related party receivables and prepaid expenses) minus current liabilities of at least \$35,000,000.00.

#### Section 11 EVENTS OF DEFAULT.

The Borrower, without notice or demand of any kind (except as specified below), shall be in default under this Agreement upon the occurrence of any of the following events (each an “Event of Default”).

11.1 Nonpayment of Obligations. Any amount due and owing on any Note or any of the Obligations, whether by its terms or as otherwise provided herein, is not paid within five (5) Business Days of when due.

11.2 Misrepresentation. Any written warranty, representation, certificate or statement of the Borrower in this Agreement, or the other Loan Documents shall be false in any material respect when made, or if any financial data or any other information now or hereafter furnished to the Lender by or on behalf of the Borrower pursuant to the Loan Documents shall prove to be false, inaccurate or misleading in any material respect.

11.3 Nonperformance. Any failure to perform or default in the performance of any covenant, condition or agreement contained in this Agreement or any other Loan Document and, if capable of being cured, such failure to perform or default in performance continues for a period of thirty (30) days after the Borrower receives notice or knowledge from any source of such failure to perform or default in performance.

11.4 Default under Loan Documents. A default under any of the other Loan Documents, all of which covenants, conditions and agreements contained therein are hereby incorporated in this Agreement by express reference, shall be and constitute an Event of Default under this Agreement and any other of the Obligations and, if capable of being cured, such failure to perform or default in performance continues for a period of thirty (30) days after the Borrower receives notice or knowledge from any source of such failure to perform or default in performance.

11.5 Default under Other Debt. Any default by the Borrower in the payment of any Debt (other than the Loans) beyond any period of grace provided with respect thereto or in the performance of any other term, condition or covenant contained in any agreement (including, but not limited to any capital or operating lease or any agreement in connection with the deferred purchase price of property) under which any such obligation is created, the effect of which would reasonably be expected to have a Material Adverse Effect upon the Borrower.

11.6 Other Material Obligations. Any default in the payment when due, or in the performance or observance of, any material obligation of, or condition agreed to by, any Obligor with respect to any material purchase or lease of goods or services where such default, singly or in the aggregate with all other such defaults, which would reasonably be expected to have a Material Adverse Effect.

11.7 Bankruptcy, Insolvency, etc. The Borrower becomes insolvent or admits in writing its inability or refusal to pay Debts as they become due; or the Borrower applies for, consents to, or acquiesces in the appointment of a trustee, receiver or other custodian for the Borrower or any property thereof, or makes a general assignment for the benefit of creditors; or, in the absence of such application, consent or acquiescence, a trustee, receiver or other custodian is appointed for the Borrower or for a substantial part of the property of any thereof and is not discharged within sixty (60) days; or any bankruptcy, reorganization, debt arrangement, or other case or proceeding under any bankruptcy or insolvency law, or any dissolution or liquidation proceeding, is commenced in respect of the Borrower, and if such case or

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proceeding is not commenced by the Borrower, it is consented to or acquiesced in by the Borrower, or remains undismissed for sixty (60) days; or the Borrower takes any action to authorize, or in furtherance of, any of the foregoing.

11.8Judgments. The entry of any final judgment, decree, levy, attachment, garnishment or other process, or the filing of any Lien against the Borrower in connection with the foregoing which is not covered by insurance and which judgment or other process would have a Material Adverse Effect on the Borrower.

11.9Collateral Impairment. The entry of any judgment, decree, levy, attachment, garnishment or other process, or the filing of any Lien against, any of the Collateral in each case involving an amount in excess of \$750,000.00 (to the extent not covered by insurance) and such judgment or other process shall not have been, within sixty (60) days from the entry thereof, (i) bonded over to the reasonable satisfaction of the Lender and appealed, (ii) vacated, or (iii) discharged, or the loss, theft, destruction, seizure or forfeiture, or the occurrence of any material deterioration or impairment of any material portion of the Collateral, or any material decline or depreciation in the value or market price thereof (whether actual or reasonably anticipated), which causes such Collateral, in the sole opinion of the Lender acting in good faith, to become unsatisfactory as to value or character, such that it causes the Lender to reasonably believe that it is insecure and that the likelihood for repayment of the Obligations is or will soon be impaired, time being of the essence. The cause of such deterioration, impairment, decline or depreciation shall include, but is not limited to, the failure by the Borrower to use commercially reasonable efforts to take any action deemed reasonably necessary by the Lender to preserve and maintain the value and collectability of the Collateral and requested by Lender to Borrower in writing.

11.10Material Adverse Effect. The occurrence of any development, condition or event which has a Material Adverse Effect on the Borrower.

11.11[Reserved].

11.12Subordinated Debt. The subordination provisions of any Subordinated Debt shall for any reason be revoked or invalid or otherwise cease to be in full force and effect. The Borrower shall contest in any manner, or any other holder thereof shall contest in any judicial proceeding, the validity or enforceability of the Subordinated Debt or deny that it has any further liability or obligation thereunder, or the Obligations shall for any reason not have the priority contemplated by the subordination provisions of the Subordinated Debt.

## Section 12.REMEDIES.

Upon the occurrence and during the continuance of an Event of Default, the Lender shall have all rights, powers and remedies set forth in the Loan Documents as a secured party under the UCC or as otherwise provided at law or in equity. Without limiting the generality of the foregoing, the Lender may, at its option upon the occurrence of an Event of Default, declare its commitments to the Borrower to be terminated and all Obligations to be immediately due and payable, provided, however, that upon the occurrence of an Event of Default under Section 11.7, all commitments of the Lender to the Borrower shall immediately terminate and all Obligations shall be automatically due and payable, all without demand, notice or further action of any kind required on the part of the Lender. The Borrower hereby waives any and all presentment, demand, notice of dishonor, protest, and all other notices and demands in connection with the enforcement of Lender's rights under the Loan Documents, and hereby consents to, and waives notice of release, with or without consideration, of any Borrower or of any Collateral, notwithstanding

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anything contained herein or in the Loan Documents to the contrary. In addition to the foregoing, upon the occurrence and during the continuance of an Event of Default:

12.1 Possession and Assembly of Collateral. The Lender may, without notice, demand or legal process of any kind, take possession of any or all of the Collateral (in addition to Collateral of which the Lender already has possession), wherever it may be found, and for that purpose may pursue the same wherever it may be found, and may at any time enter into any of the Borrower's premises where any of the Collateral may be or is supposed to be, and search for, take possession of, remove, keep and store any of the Collateral until the same shall be sold or otherwise disposed of and the Lender shall have the right to store and conduct a sale of the same in any of the Borrower's premises without cost to the Lender. At the Lender's request, the Borrower will, at the Borrower's sole expense, assemble the Collateral and make it available to the Lender at a place or places to be designated by the Lender which is reasonably convenient to the Lender and the Borrower.

12.2 Sale of Collateral. The Lender may sell any or all of the Collateral at public or private sale, upon such terms and conditions as the Lender may deem proper, and the Lender may purchase any or all of the Collateral at any such sale. The Borrower acknowledges that the Lender may be unable to effect a public sale of all or any portion of the Collateral because of certain legal and/or practical restrictions and provisions which may be applicable to the Collateral and, therefore, may be compelled to resort to one or more private sales to a restricted group of offerees and purchasers. The Borrower consents to any such private sale so made even though at places and upon terms less favorable than if the Collateral were sold at public sale. The Lender shall have no obligation to clean-up or otherwise prepare the Collateral for sale. The Lender may apply the net proceeds, after deducting all costs, expenses and attorneys' fees incurred or paid at any time in the collection, protection and sale of the Collateral and the Obligations, to the payment of any Note and/or any of the other Obligations, returning the excess proceeds, if any, to the Borrower. The Borrower shall remain liable for any amount remaining unpaid after such application, with interest at the Default Rate. Any notification of intended disposition of the Collateral required by law shall be conclusively deemed reasonably and properly given if given by the Lender at least ten (10) calendar days before the date of such disposition. The Borrower hereby confirms, approves and ratifies all acts and deeds of the Lender relating to the foregoing, and each part thereof, and expressly waives any and all claims of any nature, kind or description which it has or may hereafter have against the Lender or its representatives, by reason of taking, selling or collecting any portion of the Collateral. The Borrower consents to releases of the Collateral at any time (including prior to default) and to sales of the Collateral in groups, parcels or portions, or as an entirety, as the Lender shall deem appropriate. The Borrower expressly absolves the Lender from any loss or decline in market value of any Collateral by reason of delay in the enforcement or assertion or nonenforcement of any rights or remedies under this Agreement.

12.3 Standards for Exercising Remedies. To the extent that applicable law imposes duties on the Lender to exercise remedies in a commercially reasonable manner, the Borrower acknowledges and agrees that it is not commercially unreasonable for the Lender (a) to fail to incur expenses reasonably deemed significant by the Lender to prepare Collateral for disposition or otherwise to complete raw material or work-in-process into finished goods or other finished products for disposition, (b) to fail to obtain third party consents for access to Collateral to be disposed of, or to obtain or, if not required by other law, to fail to obtain governmental or third party consents for the collection or disposition of Collateral to be collected or disposed of, (c) to fail to exercise collection remedies against Account Debtors or other Persons obligated on Collateral or to remove liens or encumbrances on or any adverse claims against Collateral, (d) to exercise collection remedies against Account Debtors and other Persons obligated on Collateral directly or through the use of collection agencies and other collection specialists, (e) to advertise dispositions of Collateral through publications or media of general circulation, whether or not the Collateral is of a specialized nature, (f) to contact other Persons, whether or not in the same business as the Borrower, for expressions of interest in acquiring all or any portion of the Collateral, (g) to hire one or more professional auctioneers to assist in

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the disposition of Collateral, whether or not the Collateral is of a specialized nature, (h) to dispose of Collateral by utilizing internet sites that provide for the auction of assets of the types included in the Collateral or that have the reasonable capability of doing so, or that match buyers and sellers of assets, (i) to dispose of assets in wholesale rather than retail markets, (j) to disclaim disposition warranties, including, without limitation, any warranties of title, (k) to purchase insurance or credit enhancements to insure the Lender against risks of loss, collection or disposition of Collateral or to provide to the Lender a guaranteed return from the collection or disposition of Collateral, or (l) to the extent deemed appropriate by the Lender, to obtain the services of other brokers, investment bankers, consultants and other professionals to assist the Lender in the collection or disposition of any of the Collateral. The Borrower acknowledges that the purpose of this section is to provide non-exhaustive indications of what actions or omissions by the Lender would not be commercially unreasonable in the Lender's exercise of remedies against the Collateral and that other actions or omissions by the Lender shall not be deemed commercially unreasonable solely on account of not being indicated in this section. Without limitation upon the foregoing, nothing contained in this section shall be construed to grant any rights to the Borrower or to impose any duties on the Lender that would not have been granted or imposed by this Agreement or by applicable law in the absence of this section.

**12.4 UCC and Offset Rights.** The Lender may exercise, from time to time, any and all rights and remedies available to it under the UCC or under any other applicable law in addition to, and not in lieu of, any rights and remedies expressly granted in this Agreement or in any other agreements between the Borrower and the Lender, and may, without demand or notice of any kind, appropriate and apply toward the payment of such of the Obligations, whether matured or unmatured, including costs of collection and reasonable attorneys' fees, and in such order of application as the Lender may, from time to time, elect, any indebtedness of the Lender to the Borrower, however created or arising, including, but not limited to, balances, credits, deposits, accounts or moneys of the Borrower in the possession, control or custody of, or in transit to the Lender. The Borrower hereby waives the benefit of any law that would otherwise restrict or limit the Lender in the exercise of its right, which is hereby acknowledged, to appropriate at any time hereafter any such indebtedness owing from the Lender to the Borrower.

**12.5 Additional Remedies.** The Lender shall have the right and power to:

(a) instruct the Borrower, at its own expense, to notify any parties obligated on any of the Collateral, including, but not limited to, any Account Debtors, to make payment directly to the Lender of any amounts due or to become due thereunder, or the Lender may directly notify such obligors of the security interest of the Lender, and/or of the assignment to the Lender of the Collateral and direct such obligors to make payment to the Lender of any amounts due or to become due with respect thereto, and thereafter, collect any such amounts due on the Collateral directly from such Persons obligated thereon;

(b) enforce collection of any of the Collateral, including, but not limited to, any Accounts, by suit or otherwise, or make any compromise or settlement with respect to any of the Collateral, or surrender, release or exchange all or any part thereof, or compromise, extend or renew for any period (whether or not longer than the original period) any indebtedness thereunder;

(c) take possession or control of any proceeds and products of any of the Collateral, including the proceeds of insurance thereon;

(d) extend, renew or modify for one or more periods (whether or not longer than the original period) any Note, any other of the Obligations, any obligation of any nature of any other obligor with respect to any Note or any of the Obligations;

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(e) grant releases, compromises or indulgences with respect to any Note, any of the Obligations, any extension or renewal of any of the Obligations, any security therefor, or to any other obligor with respect to any Note or any of the Obligations;

(f) transfer the whole or any part of securities which may constitute Collateral into the name of the Lender or the Lender's nominee without disclosing, if the Lender so desires, that such securities so transferred are subject to the security interest of the Lender, and any corporation, association, or any of the managers or trustees of any trust issuing any of such securities, or any transfer agent, shall not be bound to inquire, in the event that the Lender or such nominee makes any further transfer of such securities, or any portion thereof, as to whether the Lender or such nominee has the right to make such further transfer, and shall not be liable for transferring the same;

(g) vote the Collateral;

(h) make an election with respect to the Collateral under Section 1111 of the Bankruptcy Code or take action under Section 364 or any other section of the Bankruptcy Code; provided, however, that any such action of the Lender as set forth herein shall not, in any manner whatsoever, impair or affect the liability of the Borrower hereunder, nor prejudice, waive, nor be construed to impair, affect, prejudice or waive the Lender's rights and remedies at law, in equity or by statute, nor release, discharge, nor be construed to release or discharge, the Borrower, any guarantor or other Person liable to the Lender for the Obligations; and

(i) at any time, and from time to time, accept additions to, releases, reductions, exchanges or substitution of the Collateral, without in any way altering, impairing, diminishing or affecting the provisions of this Agreement, the Loan Documents, or any of the other Obligations, or the Lender's rights hereunder, under any Note or under any of the other Obligations.

The Borrower hereby ratifies and confirms whatever the Lender may do upon the occurrence and during the continuance of an Event of Default with respect to the Collateral and agrees that the Lender shall not be liable for any error of judgment or mistakes of fact or law with respect to actions taken in connection with the Collateral upon the occurrence and during the continuance of an Event of Default.

12.6 Appointment of Receiver. After the occurrence and during the continuance of an Event of Default, Borrower hereby agrees and acknowledges that in addition to any other remedy under the Loan Documents, this Agreement, or at law or equity, that the Lender shall be and is entitled to the appointment of a receiver under either state or federal receivership law and the Borrower hereby consents to the appointment of a receiver of the Lender's choice for purposes of effectuating the provisions of this paragraph. Borrower further agrees and consents that, at the Lender's choosing, such receiver will be entitled to take exclusive possession and control, to the exclusion of Borrower and its agents, of all or substantially all of Borrower's Collateral or such limited or specific property of Borrower constituting Collateral as the Lender at its discretion may identify or select. Borrower further agrees that such receiver shall be vested with such powers as the appointing court determines are necessary and appropriate to possess, maintain, operate, control, and/or liquidate property placed into the control of the receiver and specifically agrees that at the specific request of the Lender, the receiver may be vested with the power to operate the Borrower as a going concern in all respects, and to collect accounts, enforce and settle claims, and to liquidate Borrower's property or the Collateral. Borrower shall and hereby agrees to cooperate in all reasonable receiver requests for assistance and information necessary to effectuate the duties ascribed to the receiver by the court. Borrower hereby grants to the Lender, solely upon the occurrence and during the continuation of an Event of Default during the term of this Agreement, its limited power of attorney authorizing the Lender to represent the Borrower's consent to the appointment of a receiver in any order that the Lender may present to a court. Borrower further agrees and acknowledges that three (3) Business

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Days' notice of a hearing appointing such receiver shall be considered reasonable notice of such hearing. The provisions of this Section 12.6 shall survive the termination of this Agreement.

12.7 Attorney-in-Fact. The Borrower hereby irrevocably makes, constitutes and appoints the Lender (and any officer of the Lender or any Person designated by the Lender for that purpose) as the Borrower's true and lawful proxy and attorney-in-fact (and agent-in-fact) in the Borrower's name, place and stead, with full power of substitution, solely upon the occurrence and during the continuation of an Event of Default during the term of this Agreement, to (i) take such actions as are permitted in this Agreement, (ii) execute such financing statements and other documents and to do such other acts as the Lender may require to perfect and preserve the Lender's security interest in, and to enforce such interests in the Collateral, and (iii) carry out any remedy provided for in this Agreement, including, without limitation, endorsing the Borrower's name to checks, drafts, instruments and other items of payment, and proceeds of the Collateral, executing change of address forms with the postmaster of the United States Post Office serving the address of the Borrower, changing the address of the Borrower to that of the Lender, opening all envelopes addressed to the Borrower and applying any payments contained therein to the Obligations. The Borrower hereby acknowledges that the constitution and appointment of such proxy and attorney-in-fact are coupled with an interest and are irrevocable. The Borrower hereby ratifies and confirms all that such attorney-in-fact may do or cause to be done by virtue of any provision of this Agreement.

12.8 No Marshaling. The Lender shall not be required to marshal any present or future Collateral for, or other assurances of payment of, the Obligations or any of them or to resort to such collateral security or other assurances of payment in any particular order. To the extent that it lawfully may, the Borrower hereby agrees that it will not invoke any law relating to the marshaling of Collateral which might cause delay in or impede the enforcement of the Lender's rights under this Agreement or under any other instrument creating or evidencing any of the Obligations or under which any of the Obligations is outstanding or by which any of the Obligations is secured or payment thereof is otherwise assured, and, to the extent that it lawfully may, the Borrower hereby irrevocably waives the benefits of all such laws.

12.9 Application of Proceeds. The Lender will within three (3) Business Days after receipt of cash or solvent credits from collection of items of payment, proceeds of Collateral or any other source, apply the whole or any part thereof against the Obligations secured hereby. The Lender shall further have the exclusive right to determine how, when and what application of such payments and such credits shall be made on the Obligations, and such determination shall be conclusive upon the Borrower. Any proceeds of any disposition by the Lender of all or any part of the Collateral may be first applied by the Lender to the payment of expenses incurred by the Lender in connection with the Collateral, including attorneys' fees and legal expenses as provided for in Section 13 hereof. Notwithstanding anything to the contrary set forth above, in no event shall any proceeds of any Collateral owned, or any guaranty provided, by any Borrower under any Loan Document be applied to repay or cash collateralize any Excluded Swap Obligation with respect to such Borrower, but appropriate adjustments shall be made with respect to payments from other Borrowers to preserve the allocation to Obligations otherwise set forth above in this Section; provided, further, that Lender may elect to apply the proceeds of any such Collateral or guaranty to repay or cash collateralize any Obligations in accordance with the priority set forth above (other than Excluded Swap Obligation with respect to such Borrower) before applying the proceeds of any other Collateral or guaranty provided under any Loan Document, if in the reasonable determination of Lender, such order of application will maximize the repayment of all of the Obligations. Lender shall have absolute discretion as to the time of application of any such proceeds, moneys, or balances in accordance with this Agreement.

12.10 No Waiver. No Event of Default shall be waived by the Lender except in writing. No failure or delay on the part of the Lender in exercising any right, power or remedy hereunder shall operate as a waiver of the exercise of the same or any other right at any other time; nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise

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of any other right, power or remedy hereunder. There shall be no obligation on the part of the Lender to exercise any remedy available to the Lender in any order. The remedies provided for herein are cumulative and not exclusive of any remedies provided at law or in equity. The Borrower agrees that in the event that the Borrower fails to perform, observe or discharge any of its Obligations or liabilities under this Agreement or any other agreements with the Lender, no remedy of law will provide adequate relief to the Lender, and further agrees that the Lender shall be entitled to seek temporary and permanent injunctive relief in any such case without the necessity of proving actual damages.

12.11 Letters of Credit. With respect to all Letters of Credit for which presentment for honor shall not have occurred at the time of an acceleration pursuant to this Section 12, the Borrower shall at such time deposit in a cash collateral account opened by the Lender an amount equal to the Letter of Credit Obligations then outstanding. Amounts held in such cash collateral account shall be applied by the Lender to the payment of drafts drawn under such Letters of Credit, and the unused portion thereof after all such Letters of Credit shall have expired or been fully drawn upon, if any, shall be applied to repay the Obligations, in such order of application as the Lender may, in its sole discretion, from time to time elect. After all such Letters of Credit shall have expired or been fully drawn upon, all commitments to make Loans hereunder have terminated and all other Obligations have been indefeasibly satisfied and paid in full in cash, the balance, if any, in such cash collateral account shall be returned to the Borrower or such other Person as may be lawfully entitled thereto.

### Section 13. MISCELLANEOUS.

13.1 Obligations Absolute. None of the following shall affect the Obligations of the Borrower to the Lender under this Agreement or the Lender's rights with respect to the Collateral:

- (a) acceptance or retention by the Lender of other property or any interest in property as security for the Obligations;
- (b) release by the Lender of any Borrower, or all or any part of the Collateral or of any party liable with respect to the Obligations;
- (c) release, extension, renewal, modification or substitution by the Lender of any Note, or any note evidencing any of the Obligations, or the compromise of the liability of any guarantor of the Obligations; or
- (d) failure of the Lender to resort to any other security or to pursue the Borrower or any other obligor liable for any of the Obligations before resorting to remedies against the Collateral.

13.2 Entire Agreement. This Agreement and the other Loan Documents (i) are valid, binding and enforceable against the Borrower and the Lender in accordance with their respective provisions and no conditions exist as to their legal effectiveness; (ii) constitute the entire agreement between the parties with respect to the subject matter hereof and thereof; and (iii) are the final expression of the intentions of the Borrower and the Lender. No promises, either expressed or implied, exist between the Borrower and the Lender, unless contained herein or therein. This Agreement, together with the other Loan Documents, supersedes all negotiations, representations, warranties, commitments, term sheets, discussions, negotiations, offers or contracts (of any kind or nature, whether oral or written) prior to or contemporaneous with the execution hereof with respect to any matter, directly or indirectly related to the terms of this Agreement and the other Loan Documents. This Agreement and the other Loan Documents are the result of negotiations among the Lender, the Borrower and the other parties thereto, and have been reviewed (or have had the opportunity to be reviewed) by counsel to all such parties, and are the products of all parties. Accordingly, this Agreement and the other Loan Documents shall not be construed more strictly against the Lender merely because of the Lender's involvement in their preparation.

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13.3 Amendments; Waivers. No delay on the part of the Lender in the exercise of any right, power or remedy shall operate as a waiver thereof, nor shall any single or partial exercise by the Lender of any right, power or remedy preclude other or further exercise thereof, or the exercise of any other right, power or remedy. No amendment, modification or waiver of, or consent with respect to, any provision of this Agreement or the other Loan Documents shall in any event be effective unless the same shall be in writing and acknowledged by the Lender, and then any such amendment, modification, waiver or consent shall be effective only in the specific instance and for the specific purpose for which given.

13.4 WAIVER OF DEFENSES. THE BORROWER WAIVES EVERY PRESENT AND FUTURE DEFENSE, CAUSE OF ACTION, COUNTERCLAIM OR SETOFF WHICH THE BORROWER MAY NOW HAVE OR HEREAFTER MAY HAVE TO ANY ACTION BY THE LENDER IN ENFORCING THIS AGREEMENT. PROVIDED THE LENDER ACTS IN GOOD FAITH, THE BORROWER RATIFIES AND CONFIRMS WHATEVER THE LENDER MAY DO PURSUANT TO THE TERMS OF THIS AGREEMENT. THIS PROVISION IS A MATERIAL INDUCEMENT FOR THE LENDER GRANTING ANY FINANCIAL ACCOMMODATION TO THE BORROWER.

13.5 FORUM SELECTION AND CONSENT TO JURISDICTION. ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER, OR IN CONNECTION WITH THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, SHALL BE BROUGHT AND MAINTAINED EXCLUSIVELY IN THE COURTS OF THE STATE OF ARIZONA OR IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF ARIZONA; PROVIDED THAT NOTHING IN THIS AGREEMENT SHALL BE DEEMED OR OPERATE TO PRECLUDE THE LENDER FROM BRINGING SUIT OR TAKING OTHER LEGAL ACTION IN ANY OTHER JURISDICTION. THE BORROWER HEREBY EXPRESSLY AND IRREVOCABLY SUBMITS TO THE JURISDICTION OF THE COURTS OF THE STATE OF ARIZONA AND OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF ARIZONA FOR THE PURPOSE OF ANY SUCH LITIGATION AS SET FORTH ABOVE. THE BORROWER FURTHER IRREVOCABLY CONSENTS TO THE SERVICE OF PROCESS BY REGISTERED MAIL, POSTAGE PREPAID, OR BY PERSONAL SERVICE WITHIN OR WITHOUT THE STATE OF ARIZONA. THE BORROWER HEREBY EXPRESSLY AND IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ANY OBJECTION WHICH IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY SUCH LITIGATION BROUGHT IN ANY SUCH COURT REFERRED TO ABOVE AND ANY CLAIM THAT ANY SUCH LITIGATION HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

13.6 WAIVER OF JURY TRIAL. THE LENDER AND THE BORROWER, AFTER CONSULTING OR HAVING HAD THE OPPORTUNITY TO CONSULT WITH COUNSEL, EACH KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE IRREVOCABLY, ANY RIGHT TO A TRIAL BY JURY IN ANY ACTION OR PROCEEDING TO ENFORCE OR DEFEND ANY RIGHTS UNDER THIS AGREEMENT, ANY NOTE, ANY OTHER LOAN DOCUMENT, ANY OF THE OTHER OBLIGATIONS, THE COLLATERAL, OR ANY AMENDMENT, INSTRUMENT, DOCUMENT OR AGREEMENT DELIVERED OR WHICH MAY IN THE FUTURE BE DELIVERED IN CONNECTION HERewith OR THEREWITH OR ARISING FROM ANY LENDING RELATIONSHIP EXISTING IN CONNECTION WITH ANY OF THE FOREGOING, OR ANY COURSE OF CONDUCT OR COURSE OF DEALING IN WHICH THE LENDER AND THE BORROWER ARE ADVERSE PARTIES, AND EACH AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY. THIS PROVISION IS A MATERIAL INDUCEMENT FOR THE LENDER GRANTING ANY FINANCIAL ACCOMMODATION TO THE BORROWER.

13.7 Assignability. The Lender may at any time assign the Lender's rights in this Agreement, the other Loan Documents, the Obligations, or any part thereof and transfer the Lender's rights in any or

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all of the Collateral, and the Lender thereafter shall be relieved from all liability with respect to such Collateral. In addition, the Lender may at any time sell one or more participations in the Loans. The Borrower may not sell or assign this Agreement, or any other agreement with the Lender or any portion thereof, either voluntarily or by operation of law, without the prior written consent of the Lender. This Agreement shall be binding upon the Lender and the Borrower and their respective legal representatives and successors. All references herein to the Borrower shall be deemed to include any successors, whether immediate or remote.

13.8Confirmations. The Borrower and the Lender agree from time to time, upon written request received by it from the other, to confirm to the other in writing the aggregate unpaid principal amount of the Loans then outstanding under such Note.

13.9Participations. In the event that any Lender sells one or more participations in the Loans to any Person pursuant to Section 13.7 (each, a "Participant") (i) such Lender's obligations under this Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations, and (iii) the Borrower and any other Lenders shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. For the avoidance of doubt, each Lender shall be responsible for the indemnity under Section 13.21 with respect to any payments made by such Lender to its Participant(s).

Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; provided that such agreement or instrument may provide that such Lender will not, without the consent of the Participant, agree to any amendment, modification or waiver that affects such Participant. The Borrower agrees that each Participant shall be entitled to the benefits of Sections 2.5 (subject to the requirements and limitations therein (it being understood that the documentation required under Section 2.5(e) shall be delivered to the participating Lender)) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to Section 13.7; provided that such Participant (A) agrees to be subject to the provisions of Section 2.5(g) as if it were an assignee under Section 13.7; and (B) shall not be entitled to receive any greater payment under Section 2.5, with respect to any participation, than its participating Lender would have been entitled to receive, except to the extent such entitlement to receive a greater payment results from a change in law that occurs after the Participant acquired the applicable participation. Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of the Borrower, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under the Loan Documents (the "Participant Register"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans, letters of credit or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary.

13.10Confidentiality. The Lender agrees to use reasonable efforts (equivalent to at least the efforts the Lender applies to maintain the confidentiality of its own confidential information) to maintain as confidential all information provided to it by or on behalf of the Borrower, except that the Lender may disclose such information (a) to Persons employed or engaged by the Lender in evaluating, approving, structuring or administering the Loans; (b) to any assignee or participant or potential assignee or participant that has agreed to comply with the covenant contained in this Section 13.9 (and any such assignee or

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participant or potential assignee or participant may disclose such information to Persons employed or engaged by them as described in clause (a) above); (c) as required or requested by any federal or state regulatory authority or examiner, or any insurance industry association, or as reasonably believed by the Lender to be compelled by any court decree, subpoena or legal or administrative order or process; (d) as, on the advice of the Lender's counsel, is required by law; (e) in connection with the exercise of any right or remedy under the Loan Documents or in connection with any litigation with respect to the Loan Documents to which the Lender is a party; (f) to any nationally recognized rating agency that requires access to information about the Lender's investment portfolio in connection with ratings issued with respect to the Lender; (g) to any Affiliate of the Lender who may provide Bank Products to the Borrower or any Subsidiary, or (h) that ceases to be confidential through no fault of the Lender; provided, that, to the extent permitted pursuant to any applicable law, order, regulation or ruling, and other than in connection with credit and other bank examinations conducted in the ordinary course with respect to the Lender, in the case of any disclosure pursuant to the foregoing clauses (c), (d) or (e), the Lender will to notify the Borrower in advance of such disclosure so as to afford the Borrower the opportunity to protect the confidentiality of the information proposed to be so disclosed.

13.11 Binding Effect. This Agreement shall become effective upon execution by the Borrower and the Lender. If this Agreement is not dated or contains any blanks when executed by the Borrower, the Lender is hereby authorized, without notice to the Borrower, to date this Agreement as of the date when it was executed by the Borrower, and to complete any such blanks according to the terms upon which this Agreement is executed.

13.12 Governing Law. This Agreement, the Loan Documents and any Note shall be delivered and accepted in and shall be deemed to be contracts made under and governed by the internal laws of the State of Arizona (but giving effect to federal laws applicable to national banks) applicable to contracts made and to be performed entirely within such state, without regard to conflict of laws principles.

13.13 Enforceability. Wherever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by, unenforceable or invalid under any jurisdiction, such provision shall as to such jurisdiction, be severable and be ineffective to the extent of such prohibition or invalidity, without invalidating the remaining provisions of this Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

13.14 Survival of Borrower Representations. All covenants, agreements, representations and warranties made by the Borrower herein shall, notwithstanding any investigation by the Lender, be deemed material and relied upon by the Lender and shall survive the making and execution of this Agreement and the other Loan Documents and the issuance of any Note. The Lender, in extending financial accommodations to the Borrower, is expressly acting and relying on the aforesaid representations and warranties.

13.15 Extensions of Lender's Commitment. This Agreement shall secure and govern the terms of (i) any extensions or renewals of the Lender's commitment hereunder, and (ii) any replacement note executed by the Borrower and accepted by the Lender in its sole and absolute discretion in substitution for any Note.

13.16 Time of Essence. Time is of the essence in making payments of all amounts due the Lender under this Agreement and in the performance and observance by the Borrower of each covenant, agreement, provision and term of this Agreement.

13.17 Counterparts; Facsimile Signatures. This Agreement may be executed in any number of counterparts and by the different parties hereto on separate counterparts and each such counterpart shall be

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deemed to be an original, but all such counterparts shall together constitute but one and the same Agreement. Receipt of an executed signature page to this Agreement by facsimile or other electronic transmission shall constitute effective delivery thereof. Electronic records of executed Loan Documents maintained by the Lender shall be deemed to be originals thereof.

13.18 Notices. Except as otherwise provided herein, the Borrower waives all notices and demands in connection with the enforcement of the Lender's rights hereunder. All notices, requests, demands and other communications provided for hereunder shall be in writing and addressed as follows:

If to the Borrower:  
c/o Amtech Systems, Inc.  
131 S. Clark Drive  
Tempe, Arizona 85288  
Attention: Lisa D. Gibbs, CFO

With a copy to:  
DLA Piper LLP (US)  
2525 E. Camelback Road, Suite 1000  
Phoenix, Arizona 85016  
Attention: Gregory R. Hall  
Email: greg.hall@us.dlapiper.com

If to the Lender:  
UMB Bank, N.A.  
2777 E. Camelback Road, Suite 350  
Phoenix, Arizona 85016  
Attention: Sarah George

or, as to each party, at such other address as shall be designated by such party in a written notice to each other party complying as to delivery with the terms of this subsection. All notices addressed as above shall be deemed to have been properly given (i) if served in person, upon acceptance or refusal of delivery; (ii) if mailed by certified or registered mail, return receipt requested, postage prepaid, on the third (3rd) Business Day following the day such notice is deposited in any post office station or letter box; or (iii) if sent by recognized overnight courier, on the first Business (1st) Day following the day such notice is delivered to such carrier. No notice to or demand on the Borrower in any case shall entitle the Borrower to any other or further notice or demand in similar or other circumstances.

13.19 [Reserved].

13.20 Costs, Fees and Expenses. The Borrower shall pay or reimburse the Lender for all reasonable and documented out-of-pocket costs, fees and expenses incurred by the Lender or for which the Lender becomes obligated in connection with the negotiation, preparation, consummation, collection of the Obligations or enforcement of this Agreement, the other Loan Documents and all other documents provided for herein or delivered or to be delivered hereunder or in connection herewith (including any amendment, supplement or waiver to any Loan Document), or during any workout, restructuring or negotiations in respect thereof, including, without limitation, reasonable consultants' fees and attorneys' fees and time charges of one outside counsel to the Lender; search fees, costs and expenses, whether or not the transaction contemplated hereby shall be consummated. In furtherance of the foregoing, the Borrower shall pay any and all UCC search fees, filing fees and other costs and expenses in connection with the execution and delivery of this Agreement, any Note and the other Loan Documents to be delivered hereunder, and agrees to save and hold the Lender harmless from and against any and all liabilities with respect to or resulting

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from any delay in paying or omission to pay such costs and expenses. That portion of the Obligations consisting of costs, expenses or advances to be reimbursed by the Borrower to the Lender pursuant to this Agreement or the other Loan Documents which are not paid on or prior to the date hereof shall be payable by the Borrower to the Lender on demand. If at any time or times hereafter the Lender: (a) employs counsel for advice or other representation (i) with respect to this Agreement or the other Loan Documents, (ii) to represent the Lender in any litigation, contest, dispute, suit or proceeding or to commence, defend, or intervene or to take any other action in or with respect to any litigation, contest, dispute, suit, or proceeding (whether instituted by the Lender, the Borrower, or any other Person) in any way or respect relating to this Agreement, the other Loan Documents or the Borrower's business or affairs, or (iii) to enforce any rights of the Lender against the Borrower or any other Person that may be obligated to the Lender by virtue of this Agreement or the other Loan Documents; (b) takes any action to protect, collect, sell, liquidate, or otherwise dispose of any of the Collateral; and/or (c) attempts to or enforces any of the Lender's rights or remedies under this Agreement or the other Loan Documents, the costs and expenses incurred by the Lender in any manner or way with respect to the foregoing, shall be part of the Obligations, payable by the Borrower to the Lender on demand.

13.21 Indemnification. The Borrower agrees to defend (with counsel reasonably satisfactory to the Lender), protect, indemnify, exonerate and hold harmless each Indemnified Party from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, expenses and distributions of any kind or nature (including, without limitation, the disbursements and the and documented out-of-pocket reasonable fees of counsel for the Indemnified Parties party thereto, which may be imposed on, incurred by, or asserted against, any Indemnified Party (whether direct, indirect or consequential and whether based on any federal, state or local laws or regulations, including, without limitation, securities laws, Environmental Laws, commercial laws and regulations, under common law or in equity, or based on contract or otherwise)) in any manner relating to or arising out of this Agreement or any of the Loan Documents, or any act, event or transaction related or attendant thereto, the preparation, execution and delivery of this Agreement and the Loan Documents, including, but not limited to, the making or issuance and management of the Loans, the use or intended use of the proceeds of the Loans, the enforcement of the Lender's rights and remedies under this Agreement, the Loan Documents, any Note, any other instruments and documents delivered hereunder; provided, however, that the Borrower shall not have any obligations hereunder to any Indemnified Party with respect to matters determined by a court of competent jurisdiction by final judgment not subject to appeal to have been caused by or resulting from the willful misconduct or gross negligence of such Indemnified Party or its Affiliate. To the extent that the undertaking to indemnify set forth in the preceding sentence may be unenforceable because it violates any law or public policy, the Borrower shall satisfy such undertaking to the maximum extent permitted by applicable law. Any liability, obligation, loss, damage, penalty, cost or expense covered by this indemnity shall be paid to each Indemnified Party on demand, and failing prompt payment, together with interest thereon at the Default Rate from the date incurred by each Indemnified Party until paid by the Borrower, shall be added to the Obligations of the Borrower and be secured by the Collateral. The provisions of this Section shall survive the satisfaction and payment of the other Obligations and the termination of this Agreement. This Section 13.21 shall not apply with respect to Taxes other than any Taxes that represent losses, claims, or damages arising from any non-Tax claim.

13.22 Revival and Reinstatement of Obligations. If the incurrence or payment of the Obligations by the Borrower or the transfer to the Lender of any Collateral should for any reason subsequently be declared to be void or voidable under any state or federal law relating to creditors' rights, including provisions of the Bankruptcy Code relating to fraudulent conveyances, preferences, or other voidable or recoverable payments of money or transfers of property (collectively, a "Voidable Transfer"), and if the Lender is required to repay or restore, in whole or in part, any such Voidable Transfer, or elects to do so upon the reasonable advice of its counsel, then, as to any such Voidable Transfer, or the amount thereof that the Lender is required or elects to repay or restore, and as to all reasonable costs, expenses, and

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attorneys' fees of the Lender, the Obligations shall automatically shall be revived, reinstated, and restored and shall exist as though such Voidable Transfer had never been made.

13.23 Customer Identification - USA Patriot Act Notice. The Lender hereby notifies the Borrower that pursuant to the requirements of the USA Patriot Act (Title III of Pub. L. 107-56, signed into law October 26, 2001) (the "Act"), and the Lender's policies and practices, the Lender is required to obtain, verify and record certain information and documentation that identifies the Borrower, which information includes the name and address of the Borrower and such other information that will allow the Lender to identify the Borrower in accordance with the Act.

13.24 Electronic Records. The Borrower acknowledges and agrees that this Agreement and each other Loan Document and all paper records related to the transaction with which the Loan Documents are a part and whether or not the paper records were submitted in advance of, contemporaneously with or subsequent to, the execution of the Loan Documents may, at the option of the Lender, be converted by any digital or electronic method or process to an electronic record or subsequently further converted or migrated to another electronic record format or electronic storage medium. The Borrower acknowledges and agrees that upon conversion to an electronic record as authorized herein such electronic record shall be the record of the transaction and the electronic record shall have the same legal force and effect as the paper documents from which it was converted. The Borrower waives any legal requirement that any documents digitally or electronically converted be embodied, stored, or reproduced in a tangible media. The Borrower agrees that a printed or digitally reproduced copy of the electronic record shall be given the same legal force and effect as a signed writing. In addition, the Borrower authorizes and agrees to destruction of the paper documents by the Lender upon conversion of the paper documents to a digital or electronic record.

13.25 No Oral Agreements. Oral agreements or commitments to loan money, extend credit or to forbear from enforcing repayment of a debt including promises to extend or renew such debt are not enforceable, regardless of the legal theory upon which it is based that is in any way related to this Agreement. To protect the Borrower and the Lender from misunderstanding or disappointment, any agreements the Borrower and the Lender reach covering such matters are contained in this Agreement, which is the complete and exclusive statement of the agreement between the Borrower and the Lender, except as the Borrower and the Lender may later agree in writing to modify it.

13.26 Parent Borrower. Each Borrower (other than the Parent Borrower) hereby appoints and designates the Parent Borrower as its representative, and the Parent Borrower hereby accepts such appointment and designation. As the representative of each Borrower, the Parent Borrower is authorized to act as agent, attorney-in-fact and representative of such Borrower for the purposes of issuing loan notice and similar notices, giving instructions with respect to the disbursement of the proceeds of the Loans, electing interest rate options, giving and receiving all other notices and consents under the Loan Documents, making and taking all other actions (including in respect of compliance with covenants) on behalf of such Borrower under the Loan Documents and all other purposes incidental to any of the foregoing. Each Borrower (other than the Parent Borrower) hereby agrees that each notice, instruction, election, request, representation and warranty, agreement, covenant, undertaking, consent and similar action made or taken by such Borrower and shall on its behalf by the Parent Borrower shall be deemed for all purposes to have been made or taken by such Borrower and shall be binding upon and enforceable against such Borrower to the same extent as if the same had been made or taken directly by such Borrower.

[SIGNATURE PAGES TO FOLLOW]

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IN WITNESS WHEREOF, the Borrower and the Lender have executed this Loan and Security Agreement as of the date first above written.

BORROWER:

AMTECH SYSTEMS, INC., BRUCE TECHNOLOGIES, INC.,  
an Arizona corporation a Massachusetts corporation

By: /s/ Lisa D. Gibbs By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs Name: Lisa D. Gibbs  
Title: Chief Financial Officer Title: Chief Financial Officer

BTU INTERNATIONAL, INC., INTERSURFACE DYNAMICS, INC.,  
a Delaware corporation a Connecticut corporation

By: /s/ Lisa D. Gibbs By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs Name: Lisa D. Gibbs  
Title: Chief Financial Officer Title: Chief Financial Officer

P.R. HOFFMAN MACHINE PRODUCTS, INC., EXTREPIX, INC.,  
an Arizona corporation an Arizona corporation

By: /s/ Lisa D. Gibbs By: /s/ Lisa D. Gibbs  
Name: Lisa D. Gibbs Name: Lisa D. Gibbs  
Title: Chief Financial Officer Title: Chief Financial Officer

*Signature Page to Loan and Security Agreement  
UMB Bank, n.a./Amtech Systems, Inc.*

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COMPETITIVELY HARMFUL IF DISCLOSED.**

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Agreed and accepted:

UMB BANK, N.A.,  
a national banking association

By: /s/ Sarah George  
Name: Sarah George  
Title: Commercial Client Manager

*Signature Page to Loan and Security Agreement  
UMB Bank, n.a./Amtech Systems, Inc.*

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## AMTECH SYSTEMS, INC. AND ITS SUBSIDIARIES

## SUBSIDIARIES OF THE REGISTRANT

<u>Name</u>	<u>Jurisdiction in which incorporated</u>
Advanced Compound Materials, Inc	State of Delaware
Bruce Technologies, Inc	State of Massachusetts
BTU Europe Ltd.	United Kingdom
BTU International, Inc.	State of Delaware
BTU Ltd. (Shanghai)	China
BTU Overseas, Ltd.	State of Delaware
BTU Overseas (Shanghai) Co., Ltd.	China
Entrepix, Inc.	State of Arizona
Entrepix Asia Ptd., Ltd.	Singapore
Entrepix International, Inc.	State of Arizona
Intersurface Dynamics, Inc.	State of Connecticut
P.R. Hoffman Machine Products, Inc.	State of Arizona
Tempress Systems, Inc.	State of Texas

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We have issued our report dated December 14, 2023, with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of Amtech Systems, Inc. on Form 10-K for the year ended September 30, 2023. We consent to the incorporation by reference of said reports in the Registration Statements of Amtech Systems, Inc. on Forms S-8 (File Nos. 333-263875, 333-204431, 333-196940, 333-196937, 333-131051, 333-145454, 333-09911, 333-168606, 333-168607).

/s/ GRANT THORNTON LLP

Phoenix, Arizona  
December 14, 2023

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in Registration Statement on Form S-8 (No. 333-09911, 333-131051, 333-145454, 333-168606, 333-168607, 333-196937, 333-196940, 333-204431, and 333-263875) of our report dated November 17, 2021, with respect to the consolidated financial statements of Amtech Systems, Inc., for the year ended September 30, 2021, included in this Annual Report on Form 10-K for the year ended September 30, 2023.

/s/ MAYER HOFFMAN MCCANN P.C.

Phoenix, Arizona  
December 14, 2023

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## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT EACH PERSON WHOSE SIGNATURE APPEARS BELOW CONSTITUTES AND APPOINTS ROBERT C. DAIGLE AND LISA D. GIBBS, AND EACH OF THEM, HIS TRUE AND LAWFUL ATTORNEYS-IN-FACT AND AGENTS, WITH FULL POWER OF SUBSTITUTION AND RESUBSTITUTION, FOR HIM AND IN HIS NAME, PLACE AND STEAD, IN ANY AND ALL CAPACITIES, TO SIGN AMTECH SYSTEMS, INC.'S ANNUAL REPORT ON FORM 10-K FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2023, AND ANY AND ALL AMENDMENTS TO SUCH ANNUAL REPORT ON FORM 10-K, AND TO FILE THE SAME, WITH ALL EXHIBITS THERETO, AND OTHER DOCUMENTS IN CONNECTION THEREWITH WITH THE SECURITIES AND EXCHANGE COMMISSION, GRANTING UNTO SAID ATTORNEYS-IN-FACT AND AGENTS, AND EACH OF THEM, FULL POWER AND AUTHORITY TO DO AND PERFORM EACH AND EVERY ACT AND THING REQUISITE AND NECESSARY TO BE DONE IN AND ABOUT THE PREMISES, AS FULLY AND TO ALL INTENTS AND PURPOSES AS HE MIGHT OR COULD DO IN PERSON HEREBY RATIFYING AND CONFIRMING ALL THAT SAID ATTORNEYS-IN-FACT AND AGENTS, OR HIS SUBSTITUTE OR SUBSTITUTES, MAY LAWFULLY DO OR CAUSE TO BE DONE BY VIRTUE HEREOF.

Signature	Title	Date
<u>/s/ Robert C. Daigle</u> Robert C. Daigle	Chairman of the Board and Chief Executive Officer	December 12, 2023
<u>/s/ Lisa D. Gibbs</u> Lisa D. Gibbs	Vice President and Chief Financial Officer and Director (Principal Financial Officer and Principal Accounting Officer)	December 12, 2023
<u>/s/ Robert M. Averick</u> Robert M. Averick	Director	December 12, 2023
<u>/s/ Michael Garnreiter</u> Michael Garnreiter	Director	December 12, 2023
<u>/s/ Michael M. Ludwig</u> Michael M. Ludwig	Director	December 12, 2023

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AMTECH SYSTEMS, INC. AND ITS SUBSIDIARIES  
CERTIFICATION PURSUANT TO RULE 13a-14(a)/15d-14(a)  
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Robert C. Daigle, certify that:

1. I have reviewed this Annual Report on Form 10-K of Amtech Systems, Inc. (the “registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of registrant’s board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

By /s/ Robert C. Daigle  
Robert C. Daigle  
Chairman of the Board and Chief Executive Officer  
Amtech Systems, Inc.

Date: December 14, 2023

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AMTECH SYSTEMS, INC. AND ITS SUBSIDIARIES  
CERTIFICATION PURSUANT TO RULE 13a-14(a)/15d-14(a)  
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Lisa D. Gibbs, certify that:

1. I have reviewed this Annual Report on Form 10-K of Amtech Systems, Inc. (the “registrant”),
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of registrant’s board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

By /s/ Lisa D. Gibbs  
Lisa D. Gibbs  
Vice President and Chief Financial Officer  
Amtech Systems, Inc.

Date: December 14, 2023

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AMTECH SYSTEMS, INC. AND ITS SUBSIDIARIES

CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Amtech Systems, Inc. (the "Company") on Form 10-K for the period ended September 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Robert C. Daigle, Chairman of the Board and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

By: /s/ Robert C. Daigle  
Robert C. Daigle  
Chairman of the Board and Chief Executive Officer

Date: December 14, 2023

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AMTECH SYSTEMS, INC. AND ITS SUBSIDIARIES

CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Amtech Systems, Inc. (the "Company") on Form 10-K for the period ended September 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Lisa D. Gibbs, Vice President & Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

By            /s/ Lisa D. Gibbs  
              Lisa D. Gibbs  
              Vice President and Chief Financial Officer  
              Amtech Systems, Inc.  
Date:        December 14, 2023

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AMTECH SYSTEMS, INC.  
POLICY FOR RECOVERY OF ERRONEOUSLY AWARDED INCENTIVE COMPENSATION

(Adopted September 26, 2023)

## 1. INTRODUCTION

Amtech Systems, Inc. (the “*Company*”) is adopting this policy (this “*Policy*”) to provide for the Company’s recovery of certain Incentive Compensation (as defined below) erroneously awarded to Affected Officers (as defined below) under certain circumstances.

This Policy is administered by the Compensation Committee (the “*Committee*”) of the Company’s Board of Directors (the “*Board*”). The Committee shall have full and final authority to make any and all determinations required or permitted under this Policy. Any determination by the Committee with respect to this Policy shall be final, conclusive and binding on all parties. The Board may amend or terminate this Policy at any time.

This Policy is intended to comply with Section 10D of the Securities and Exchange Act of 1934, as amended (the “*Exchange Act*”), Rule 10D-1 thereunder and the applicable rules of any national securities exchange on which the Company’s securities are listed (the “*Exchange*”) and will be interpreted and administered consistent with that intent.

## 2. EFFECTIVE DATE

This Policy shall apply to all Incentive Compensation paid or awarded on or after the date of adoption of this Policy, and to the extent permitted or required by applicable law.

## 3. DEFINITIONS

For purposes of this Policy, the following terms shall have the meanings set forth below:

“*Affected Officer*” means any current or former “officer” as defined in Exchange Act Rule 16a-1, and any other senior executives as determined by the Committee.

“*Erroneously Awarded Compensation*” means the amount of Incentive Compensation received that exceeds the amount of Incentive Compensation that otherwise would have been received had it been determined based on the Restatement, computed without regard to any taxes paid. In the case of Incentive Compensation based on stock price or total shareholder return, where the amount of Erroneously Awarded Compensation is not subject to mathematical recalculation directly from the information in the Restatement, the amount shall reflect a reasonable estimate of the effect of the Restatement on the stock price or total shareholder return upon which the Incentive Compensation was received, as determined by the Committee in its sole discretion. The Committee may determine the form and amount of Erroneously Awarded Compensation in its sole discretion.

“*Financial Reporting Measure*” means any measure that is determined and presented in accordance with the accounting principles used in preparing the Company’s financial statements, and any measures that are derived wholly or in part from such measures, whether or not such measure is presented within the financial statements or included in a filing with the Securities and Exchange Commission. Stock price and total shareholder return are Financial Reporting Measures.

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“**Incentive Compensation**” means any compensation that is granted, earned or vested based in whole or in part on the attainment of a Financial Reporting Measure. For purposes of clarity, base salaries, bonuses or equity awards paid solely upon satisfying one or more subjective standards, strategic or operational measures, or continued employment are not considered Incentive Compensation, unless such awards were granted, paid or vested based in part on a Financial Reporting Measure.

“**Restatement**” means an accounting restatement due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements (i.e., a “Big R” restatement), or that would result in a material misstatement if the error was corrected in the current period or left uncorrected in the current period (i.e., a “little r” restatement).

#### **4.RECOVERY**

If the Company is required to prepare a Restatement, the Company shall seek to recover and claw back from any Affected Officer reasonably promptly the Erroneously Awarded Compensation that is received by the Affected Officer:

- (i) after the person begins service as an Affected Officer;
- (ii) who serves as an Affected Officer at any time during the performance period for that Incentive Compensation;
- (iii) while the Company has a class of securities listed on the Exchange; and
- (iv) during the three completed fiscal years immediately preceding the date on which the Company was required to prepare the Restatement (including any transition period within or immediately following those years that results from a change in the Company’s fiscal year, provided that a transition period of nine to 12 months will be deemed to be a completed fiscal year).

If, after the release of earnings for any period for which a Restatement subsequently occurs and prior to the announcement of the Restatement for such period, the Affected Officer sold any securities constituting, or any securities issuable on exercise, settlement or exchange of any equity award constituting, Incentive Compensation, the excess of (a) the actual aggregate sales proceeds from the Affected Officer’s sale of those shares, over (b) the aggregate sales proceeds the Affected Officer would have received from the sale of those shares at a price per share determined appropriate by the Committee in its discretion to reflect what the Company’s common stock price would have been if the Restatement had occurred prior to such sales, shall be deemed to be Erroneously Awarded Compensation; provided, however, that the aggregate sales proceeds determined by the Committee under this clause (b) with respect to shares acquired upon exercise of an option shall not be less than the aggregate exercise price paid for those shares.

For purposes of this Policy:

- Erroneously Awarded Compensation is deemed to be received in the Company’s fiscal year during which the Financial Reporting Measure specified in the Incentive Compensation is attained, even if the payment or grant of the Incentive Compensation occurs after the end of that period; and

•the date the Company is required to prepare a Restatement is the earlier of (x) the date the Board, the Committee or any officer of the Company authorized to take such action concludes, or reasonably should have concluded, that the Company is required to prepare the Restatement, or (y) the date a court, regulator, or other legally authorized body directs the Company to prepare the Restatement.

For purposes of clarity, in no event shall the Company be required to award any Affected Officers an additional payment or other compensation if the Restatement would have resulted in the grant, payment or vesting of Incentive Compensation that is greater than the Incentive Compensation actually received by the Affected Officer. The recovery of Erroneously Awarded Compensation is not dependent on if or when the Restatement is filed.

#### **5.SOURCES OF RECOUPMENT**

To the extent permitted by applicable law, the Committee may, in its discretion, seek recoupment from the Affected Officer(s) through any means it determines, which may include any of the following sources: (i) prior Incentive Compensation payments; (ii) future payments of Incentive Compensation; (iii) cancellation of outstanding Incentive Compensation; (iv) direct repayment; and (v) non-Incentive Compensation or securities held by the Affected Officer. To the extent permitted by applicable law, the Company may offset such amount against any compensation or other amounts owed by the Company to the Affected Officer.

#### **6.LIMITED EXCEPTIONS TO RECOVERY**

Notwithstanding the foregoing, the Committee, in its discretion, may choose to forgo recovery of Erroneously Awarded Compensation under the following circumstances, provided that the Committee (or a majority of the independent members of the Board) has made a determination that recovery would be impracticable because:

(i)The direct expense paid to a third party to assist in enforcing this Policy would exceed the recoverable amounts; provided that the Company has made a reasonable attempt to recover such Erroneously Awarded Compensation, has documented such attempt and has (to the extent required) provided that documentation to the Exchange;

(ii)Recovery would violate home country law where the law was adopted prior to November 28, 2022, and the Company provides an opinion of home country counsel to that effect to the Exchange that is acceptable to the Exchange; or

(iii)Recovery would likely cause an otherwise tax-qualified retirement plan to fail to meet the requirements of the Internal Revenue Code of 1986, as amended.

#### **7.NO INDEMNIFICATION OR INSURANCE**

The Company will not indemnify, insure or otherwise reimburse any Affected Officer against the recovery of Erroneously Awarded Compensation.

#### **8.NO IMPAIRMENT OF OTHER REMEDIES**

This Policy does not preclude the Company from taking any other action to enforce an Affected Officer's obligations to the Company, including termination of employment, institution of civil proceedings, or reporting of any misconduct to appropriate government authorities. This Policy is in

addition to the requirements of Section 304 of the Sarbanes-Oxley Act of 2002 that are applicable to the Company's Chief Executive Officer and Chief Financial Officer.

