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

FORM 10-Q

(Mark One)

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

For the quarterly period ended: December 31, 2024

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	86-0411215
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
58 South River Drive Suite 370, Tempe, Arizona	85288
(Address of principal executive offices)	(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

Indicate by a 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	☐	Accelerated Filer	☒
Non-Accelerated Filer	☐	Smaller Reporting Company	☒
		Emerging Growth Company	☐

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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

At January 31, 2025, there were outstanding 14,289,066 shares of Common Stock.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
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Cautionary Note Regarding Forward-Looking Statements

Our discussion and analysis in this Quarterly Report on Form 10-Q ("Quarterly Report"), our Annual Report on Form 10-K for the fiscal year ended September 30, 2024 (the "2024 Form 10-K"), our other reports that we file with the Securities and Exchange Commission ("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 of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended (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 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 Semiconductor Fabrication Solutions business segment; the effects of competition in the markets in which we operate, including the adverse impact of competitive product announcements or new entrants into our markets and transfers of resources by competitors into our markets; the cyclical nature of the semiconductor industry; pricing and gross profit pressures; control of costs and expenses; risks associated with new technologies and the impact on our business; legislative, regulatory, and competitive developments in markets in which we operate; possible future claims, litigation or enforcement actions and the results of any such claim, litigation proceeding, or enforcement action; the impact of any future pandemic or other business interruptions on our business operations, financial results and financial position; risks of future cybersecurity incidents; adverse developments affecting financial institutions, including bank failures; and other circumstances and risks identified in this Quarterly 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 Quarterly Report 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 Quarterly Report. 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, Form 8-K and Form 10-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 our 2024 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. FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Condensed Consolidated Balance Sheets
(in thousands, except share data)

Assets	December 31, 2024 (Unaudited)	September 30, 2024
Current Assets		
Cash and cash equivalents	$ 13,214	$ 11,086
Accounts receivable (less allowance for credit losses of $117 and $103 at December 31, 2024 and September 30, 2024, respectively)	20,822	21,989
Inventories	25,611	26,867
Income taxes receivable	95	132
Other current assets	4,525	4,302
Total current assets	64,267	64,376
Property, Plant and Equipment - Net	11,076	11,647
Right-of-Use Assets - Net	15,978	16,596
Intangible Assets - Net	3,876	4,004
Goodwill	21,261	21,261
Deferred Income Taxes - Net	185	185
Other Assets	1,133	884
Total Assets	$ 117,776	$ 118,953
Liabilities and Shareholders' Equity		
Current Liabilities		
Accounts payable	$ 6,888	$ 5,356
Accrued compensation and related taxes	2,254	2,057
Accrued warranty expense	513	602
Other accrued liabilities	447	477
Current maturities of finance lease liabilities and long-term debt	102	101
Current portion of long-term operating lease liabilities	2,098	2,041
Contract liabilities	6,658	8,965
Total current liabilities	18,960	19,599
Finance Lease Liabilities and Long-Term Debt	161	189
Long-Term Operating Lease Liabilities	14,666	15,240
Income Taxes Payable	1,488	1,510
Other Long-Term Liabilities	59	57
Total Liabilities	35,334	36,595
Commitments and Contingencies (Note 9)		
Shareholders' Equity		
Preferred stock; 100,000,000 shares authorized; none issued	—	—
Common stock; $0.01 par value; 100,000,000 shares authorized; shares issued and outstanding: 14,289,066 and 14,258,879 at December 31, 2024 and September 30, 2024, respectively	143	143
Additional paid-in capital	128,949	128,466
Accumulated other comprehensive loss	(1,431)	(720)
Retained deficit	(45,219)	(45,531)
Total Shareholders' Equity	82,442	82,358
Total Liabilities and Shareholders' Equity	$ 117,776	$ 118,953

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

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

	Three Months Ended December 31,	
	2024	2023
Revenues, net	$ 24,385	$ 24,920
Cost of sales	15,022	15,852
Intangible asset impairment	—	849
Gross profit	9,363	8,219
Selling, general and administrative	8,051	8,567
Research, development and engineering	876	1,588
Loss on disposal of fixed assets	24	—
Goodwill impairment	—	6,370
Intangible asset impairment	—	430
Severance expense	73	198
Operating income (loss)	339	(8,934)
Interest income	5	19
Interest expense	(7)	(198)
Foreign currency gain (loss)	401	(187)
Other	19	-
Income (loss) before income tax provision	757	(9,300)
Income tax provision	445	58
Net income (loss)	$ 312	$ (9,358)
Income (Loss) Per Share:		
Net income (loss) per basic share	$ 0.02	$ (0.66)
Net income (loss) per diluted share	$ 0.02	$ (0.66)
Weighted average shares outstanding:		
Basic	14,272	14,188
Diluted	14,300	14,188

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

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

	Three Months Ended December 31,	
	2024	**2023**
Net income (loss)	$ 312	$ (9,358)
Foreign currency translation adjustment	(711)	269
Comprehensive loss	$ (399)	$ (9,089)

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

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

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Income	Retained Deficit	Total Shareholders' Equity
	Shares	Par Value				
Balance at September 30, 2023	14,186	$ 142	$ 126,963	$ (1,695)	$ (37,045)	$ 88,365
Net loss	—	—	—	—	(9,358)	(9,358)
Translation adjustment	—	—	—	269	—	269
Stock compensation expense	—	—	317	—	—	317
Stock options exercised	5	—	28	—	—	28
Balance at December 31, 2023	14,191	$ 142	$ 127,308	$ (1,426)	$ (46,403)	$ 79,621
Balance at September 30, 2024	14,259	$ 143	$ 128,466	$ (720)	$ (45,531)	$ 82,358
Net Income	—	—	—	—	312	312
Translation adjustment	—	—	—	(711)	—	(711)
Stock compensation expense	—	—	333	—	—	333
Stock options exercised	30	—	150	—	—	150
Balance at December 31, 2024	14,289	$ 143	$ 128,949	$ (1,431)	$ (45,219)	$ 82,442

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

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

	Three Months Ended December 31, 2024	2023
Operating Activities		
Net income (loss)	$ 312	$ (9,358)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	752	852
Write-down of inventory	632	572
Goodwill impairment	—	6,370
Intangible asset impairment	—	1,279
Deferred income taxes	—	(25)
Non-cash share-based compensation expense	333	317
Loss on disposal of fixed assets	24	—
Provision for allowance for credit losses	19	(42)
Changes in operating assets and liabilities:		
Accounts receivable	1,148	5,114
Inventories	624	243
Other assets	146	1,783
Accounts payable	1,608	(1,661)
Accrued income taxes	14	(222)
Accrued and other liabilities	(438)	(1,751)
Contract liabilities	(2,307)	1,500
Net cash provided by operating activities	2,867	4,971
Investing Activities		
Purchases of property, plant and equipment	(143)	(756)
Net cash used in investing activities	(143)	(756)
Financing Activities		
Proceeds from the exercise of stock options	150	28
Payments on long-term debt	(24)	(556)
Net cash provided by (used in) financing activities	126	(528)
Effect of Exchange Rate Changes on Cash and Cash Equivalents	(722)	213
Net Increase in Cash and Cash Equivalents	2,128	3,900
Cash and Cash Equivalents, Beginning of Period	11,086	13,133
Cash and Cash Equivalents, End of Period	$ 13,214	$ 17,033
Supplemental Cash Flow Information:		
Income tax payments, net	$ 431	$ 280
Interest paid	$ 5	$ 195

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

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
THREE MONTHS ENDED DECEMBER 31, 2024 AND 2023
(UNAUDITED)

1. Basis of Presentation and Significant Accounting Policies

Nature of Operations and Basis of Presentation – Amtech provides equipment, consumables and services for semiconductor wafer fabrication and device packaging. Our products are used in fabricating semiconductor devices, such as silicon carbide (SiC) and silicon (Si) power devices, digital and analog devices, power electronic packages, advanced semiconductor packages and electronic assemblies. 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, our 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.

The accompanying unaudited condensed consolidated financial statements have been prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission (the "SEC"), and consequently do not include all disclosures normally required by accounting principles generally accepted in the United States of America ("GAAP"). In the opinion of management, the accompanying unaudited interim condensed consolidated financial statements contain all adjustments necessary, all of which are of a normal and recurring nature, to present fairly our financial position, results of operations and cash flows. Certain information and note disclosures normally included in financial statements have been condensed or omitted pursuant to the rules and regulations of the SEC. The condensed consolidated balance sheet at September 30, 2024, has been derived from the audited consolidated financial statements at that date but does not include all of the information and footnotes required by GAAP for complete financial statements. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the fiscal year ended September 30, 2024.

Our fiscal year is from October 1 to September 30. Unless otherwise stated, references to particular years, quarters, months or periods refer to our fiscal years ending or ended September 30, and the associated quarters, months, and periods of those fiscal years.

The consolidated results of operations for the three months ended December 31, 2024, are not necessarily indicative of the results to be expected for the full fiscal year.

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 GAAP 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 the breakout of contract liability activity, had no effect on the previously reported consolidated financial statements for any period.

Accounts Receivable and Allowance for Credit Losses – Accounts receivable are recorded at the sales price of products sold to customers on trade credit terms. We establish a valuation allowance to reflect our best estimate of expected losses inherent in our accounts receivable balance. The allowance is based on our evaluation of the aging of the receivables, historical write-offs, the current economic environment and communications with the customer. We write off individual accounts against the allowance when we no longer believe that it is probable that we will collect the receivable because we become aware of a customer's inability to meet its financial obligations.

Intangible Assets – Intangible assets acquired in business combinations are capitalized and subsequently amortized on a straight-line basis over their estimated useful life. We review our intangible assets for impairment when events or circumstances indicate the carrying value 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. Additional information on impairment testing of intangible assets can be found in Notes 1 and 9 of our Annual Report on Form 10-K for the year ended September 30, 2024.

In the first quarter of fiscal year 2024, we recorded an impairment of definite lived intangible assets in our Semiconductor Fabrication Solutions segment. See Note 6 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). Additional information on impairment testing of goodwill can be found in Notes 1 and 10 of our Annual Report on Form 10-K for the year ended September 30, 2024.

In the first quarter of fiscal year 2024, we recorded an impairment of goodwill in our Semiconductor Fabrication Solutions segment. See Note 6 for a description of the facts and circumstances leading to goodwill impairment.

Contract Liabilities – Contract liabilities are reflected in current liabilities on the Condensed Consolidated Balance Sheets as all performance obligations are expected to be satisfied within the next 12 months. 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. Contract liabilities consist of customer deposits and deferred revenue as of December 31, 2024 and September 30, 2024.

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

	Three Months Ended December 31,	
	2024	2023
Beginning balance	$ 8,965	$ 8,018
Acquired deposits	—	—
New deposits	4,974	2,823
Deferred revenue	(36)	3
Refunds of deposits	—	—
Revenue recognized	(7,245)	(1,326)
Adjustment	—	—
Ending balance	$ 6,658	$ 9,518

As of December 31, 2024, we had approximately $19.0 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, 2024, we had approximately $25.3 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 December 31, 2024, we cannot guarantee that we will continue to experience a similar level of predictability regarding 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:

	Three Months Ended December 31,	
	2024	2023
Beginning balance	$ 602	$ 965
Additions for warranties issued during the period	26	22
Costs incurred during the period	(8)	(8)
Changes in estimate for pre-existing warranties	(107)	(188)
Ending balance	$ 513	$ 791

Shipping Expense – Shipping and handling fees associated with outbound freight are expensed as incurred and included in selling, general and administrative expenses. Shipping expense was $0.5 million in the three months ended December 31, 2024 and 2023, respectively.

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 December 31, 2024, one Thermal Processing Solutions customer represented 20% of accounts receivable. As of September 30, 2024, one Thermal Processing Solutions customer represented 12% of accounts receivable.

We maintain our cash and cash equivalents in multiple financial institutions. Balances in the United States, which account for approximately 63% and 66% of total cash balances as of December 31, 2024 and September 30, 2024, 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, the United Kingdom, Singapore, the UK and Malaysia. We maintain cash in bank accounts in amounts which at times may exceed federally insured limits. At December 31, 2024 and September 30, 2024 Amtech's balances exceeded insured limits by approximately $6.7 million and $5.7 million, respectively. We have not experienced any losses on such accounts.

Refer to Note 11 to Condensed Consolidated Financial Statements for information regarding major customers, foreign sales and revenue 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 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 and Cash Equivalents – Included in cash and cash equivalents 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 – Our Loan Agreement with UMB Bank was fully repaid in the fourth quarter of fiscal 2024, and was subsequently terminated effective September 11, 2024. The carrying value of debt under our Loan Agreement was based on fixed interest rates. The fair value for the amended 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.

Impact of Recently Issued Accounting Pronouncements

In November 2024, the FASB issued ASU 2024-03, "Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses" ("ASU 2023-07"), which requires disclosure of additional information about specific expense categories underlying certain income statement expense line items. This ASU is effective for our annual periods beginning October 1, 2027, and interim periods beginning October 1, 2028, and requires either prospective or retrospective application. We are currently evaluating the impact of this ASU on our disclosures.

In December 2023, the FASB issued ASU 2023-09, "Income Taxes (Topic 740): Improvements to Income Tax Disclosures" ("ASU 2023-09"), which enhances the transparency and decision usefulness of income tax disclosures. Adjustments to the annual disclosure of income taxes include: a tabular rate reconciliation comprised of eight specific categories. Incomes taxes paid, disaggregated between significant federal, state, and foreign jurisdictions. Eliminating requirements to disclose the nature and estimate of reasonably possible changes to unrecognized tax benefits in the next 12 months or that an estimated range cannot be made. Adds a requirement to disclose income (or loss) from continuing operations before income tax expense (or benefit) and income tax expense (or benefit) from continuing operations disaggregated between domestic and foreign. The ASU is effective for public business entities for fiscal years beginning on or after December 15, 2024, with early adoption permitted. The amendments in ASU 2023-09 should be applied on a prospective basis. Retrospective application is permitted. We are currently evaluating the impact of this ASU on our disclosures.

In November 2023, the FASB issued ASU 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures" ("ASU 2023-07"), which improves reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The ASU is effective for public business entities for fiscal years beginning after December 15, 2023, and for interim reporting periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. The amendments in ASU 2023-07 should be applied retrospectively to all prior periods presented in the financial statements. We are currently evaluating the impact of this ASU on our disclosures.

There were no other new accounting pronouncements issued or effective as of December 31, 2024 that had or are expected to have a material impact on our consolidated financial statements.

2. Long-Term Debt

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

	December 31, 2024	September 30, 2024
Finance leases	$ 263	$ 290
Less: current portion of finance lease liabilities and long-term debt	(102)	(101)
Finance Lease Liabilities and Long-Term Debt	$ 161	$ 189

Interest expense on finance lease liabilities and long-term debt was $5,000 and $195,000 for the three months ended December 31, 2024 and 2023, respectively.

Loan and Security Agreement

On January 17, 2023, we entered into a Loan and Security Agreement (the "Loan Agreement") among Amtech, its U.S. based wholly owned subsidiaries Bruce Technologies, Inc., BTU International, Inc., Intersurface Dynamics, Incorporated, P.R. Hoffman Machine Products, Inc., and Entrepix, Inc. (collectively the "Borrowers"), and UMB Bank, N.A., national banking association (the "Lender"). The Loan Agreement provided 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, each of which were secured by a first priority lien on substantially all of our assets. The recorded amount of the Term Loan had an interest rate of 6.38% and the Revolver had a floating per annum rate of interest equal to the Prime Rate, adjusted daily.

The Loan Agreement was fully repaid in the fourth quarter of 2024 and was subsequently terminated effective September 11, 2024. See the disclosure in our prior filings with the SEC for a discussion of the financial covenants that were in effect under the Loan Agreement, our failure to comply with the Debt to EBITDA and Fixed Charge Coverage Ratio covenants thereunder, and the Forbearance and Modification Agreement that we operated under prior to terminating this credit facility.

Finance Lease Obligations

Our finance lease obligations totaled $0.3 million as of December 31, 2024 and September 30, 2024, respectively.

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 Condensed Consolidated Balance Sheets as of December 31, 2024 and September 30, 2024. See Note 5 for additional information.

3. Earnings Per Share

Basic earnings per share ("EPS") is computed by dividing net income 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 restricted stock units ("RSUs") and stock options. In the case of a net loss, diluted earnings per share is calculated in the same manner as basic EPS.

For the three months ended December 31, 2024 and 2023, options for 919,637 and 489,000 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 components of the basic and diluted EPS calculations follows, in thousands, except per share amounts:

	Three Months Ended December 31,	
	2024	2023
Numerator:		
Net income (loss)	$ 312	$ (9,358)
Denominator:		
Weighted-average shares used to compute basic EPS	14,272	14,188
Dilutive potential common shares due to stock options (1)	9	—
Dilutive potential common shares due to RSUs (1)	19	—
Weighted-average shares used to compute diluted EPS	14,300	14,188
Income (loss) per share:		
Net income (loss) per basic share	$ 0.02	$ (0.66)
Net income (loss) per diluted share	$ 0.02	$ (0.66)

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

4. Inventories

The components of inventories are as follows, in thousands:

	December 31, 2024	September 30, 2024
Purchased parts and raw materials	$ 16,813	$ 17,958
Work-in-process	7,183	6,934
Finished goods	1,615	1,975
	$ 25,611	$ 26,867

5. Leases

The following table provides information about the financial statement classification of our lease balances reported within the Condensed Consolidated Balance Sheets, in thousands:

	December 31, 2024	September 30, 2024
Assets		
Right-of-use assets - operating	$ 15,978	$ 16,596
Right-of-use assets - finance	204	227
Total right-of-use assets	$ 16,182	$ 16,823
Liabilities		
Current		
Operating lease liabilities	$ 2,098	$ 2,041
Finance lease liabilities	102	101
Total current portion of long-term lease liabilities	2,200	2,142
Long-term		
Operating lease liabilities	14,666	15,240
Finance lease liabilities	161	189
Total long-term lease liabilities	14,827	15,429
Total lease liabilities	$ 17,027	$ 17,571

The following table provides information about the financial statement classification of our lease expenses reported in the Condensed Consolidated Statements of Operations, in thousands:

Lease cost	Classification	Three Months Ended December 31, 2024	2023
Operating lease cost	Cost of sales	$ 459	$ 745
Operating lease cost	Selling, general and administrative	363	204
Operating lease cost	Research, development and engineering	3	3
Finance lease cost	Cost of sales	—	1
Finance lease cost	Selling, general and administrative	25	20
Total lease cost		$ 850	$ 973

Future minimum lease payments under non-cancelable leases as of December 31, 2024 are as follows, in thousands:

	Operating Leases	Finance Leases	Total
Remainder of 2025	$ 2,337	$ 88	$ 2,425
2026	2,867	117	2,984
2027	2,286	77	2,363
2028	2,326	5	2,331
2029	2,370	—	2,370
Thereafter	10,007	—	10,007
Total lease payments	22,193	287	22,480
Less: Interest	5,429	24	5,453
Present value of lease liabilities	$ 16,764	$ 263	$ 17,027

Operating lease payments include $2.3 million related to options to extend lease terms that are reasonably certain of being exercised.

The following table provides information about the remaining lease terms and discount rates applied:

	December 31, 2024	September 30, 2024
Weighted average remaining lease term		
Operating leases	8.32 years	8.47 years
Finance leases	2.48 years	2.73 years
Weighted average discount rate		
Operating leases	6.61%	6.58%
Finance leases	6.43%	6.43%

6. Goodwill and Intangible Assets

The Company accounts for goodwill at acquisition-date fair value and other finite intangibles at acquisition-date fair value less accumulated amortization. See Note 1 for a summary of the Company's policies relating to goodwill and intangible assets.

Intangible Assets

The Company's intangible assets, net consists of the following, in thousands:

	Amortization Period	December 31, 2024	September 30, 2024
Backlog	1 year	$ 2,100	$ 2,100
Customer relationships	6-10 years	4,409	4,409
Developed technology	1.75 years	6,700	6,700
Noncompetition agreements	5 years	200	200
Trade names	3-15 years	2,679	2,679
		16,088	16,088
Accumulated amortization		(5,744)	(5,616)
Less asset impairments:			
Backlog		(425)	(425)
Customer relationships		(339)	(339)
Developed technology		(5,494)	(5,494)
Noncompetition agreements		(160)	(160)
Trade names		(50)	(50)
Intangible assets, net		$ 3,876	$ 4,004

The estimated aggregate amortization expense for each of the five succeeding fiscal years as of December 31, 2024 is as follows, in thousands:

Year ending September 30:	Amount
2025	$ 383
2026	511
2027	511
2028	511
2029	511
Thereafter	1,449
Total	$ 3,876

The aggregate amortization expense during the three months ended December 31, 2024 and 2023 was $0.1 million and $0.3 million, respectively.

We review our intangible assets for impairment when events or circumstances indicate the carrying value may not be recoverable. At the end of December 2023, we identified a triggering event. As a result of the decline in our stock price as of December 31, 2023, our book value materially exceeded our market value. As discussed in the Goodwill section below, this resulted in a triggering event for impairment of goodwill. The results of the goodwill impairment test indicated that the book value of our Semiconductor Fabrication Solutions reporting unit was in excess of the fair value, and, thus, was impaired. Prior to recognizing any impairment of goodwill, we tested the related long-lived assets for impairment in our Semiconductor Fabrication Solutions segment. We tested each identified asset group within our Semiconductor Fabrication Solutions 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 Semiconductor Fabrication

Solutions segment of $1.3 million during the quarter ended December 31, 2023. This impairment charge relates to developed technology, trade name, customer relationships and non-competition agreements at Entrepix.

Goodwill

The Company evaluates goodwill at the reporting unit level, which, for the Company, is at the level of the reportable segments, Thermal Processing Solutions and Semiconductor Fabrication Solutions. The changes in carrying amount of goodwill allocated to each of the reporting units for the three months ended December 31, 2024 is as follows, in thousands:

	Thermal Processing Solutions	Semiconductor Fabrication Solutions	Total Goodwill
Goodwill	$ 5,905	$ 21,726	$ 27,631
Accumulated impairment losses	—	(6,370)	(6,370)
Balance at September 30, 2024	5,905	15,356	21,261
Goodwill acquired	—	—	—
Impairment of goodwill	—	—	—
Balance at December 31, 2024	5,905	15,356	21,261
Goodwill	$ 5,905	$ 15,356	$ 21,261
Accumulated impairment losses	—	—	—
Balance at December 31, 2024	$ 5,905	$ 15,356	$ 21,261

On January 17, 2023, we acquired Entrepix, which has been integrated into our Semiconductor Fabrication Solutions 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 Semiconductor Fabrication Solutions 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.

We review goodwill for impairment when events or circumstances indicate the carrying value may not be recoverable. We performed our annual test of goodwill impairment as of September 30, 2024. The results of the goodwill impairment test indicated that the fair value of both our Thermal Processing and Semiconductor Fabrication Solutions reporting units were in excess of the carrying value, and, thus, were not impaired. At the end of December 2023, we identified a triggering event. As a result of the decline in our stock price as of December 31, 2023, our book value materially exceeded our market value leading to a $6.4 million impairment charge in fiscal 2024. This triggering event indicated a need to test goodwill for impairment. The goodwill impairment test indicated the book value of our Semiconductor Fabrication Solutions (formerly Material and Substrate) reporting unit was in excess of fair value. As a result, we recorded a $6.4 million impairment charge in the period ended December 31, 2023. There was no goodwill impairment identified in our Thermal Processing Solutions (formerly Semiconductor) 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. The calculation of fair value falls under Level 3 of the fair value hierarchy.

If the future performance of these reporting units fall short of our expectations, if there are significant changes in operations due to changes in market conditions or if our stock price continues to decline, we could be required to recognize additional material impairment charges in future periods.

7. Income Taxes

Our effective tax rate was 58.8% and (0.6%) for the three months ended December 31, 2024 and 2023, respectively. The effective tax rate for the three months ended December 31, 2024 differs from the U.S. statutory tax rate of 21% primarily due to foreign income taxed at a foreign rate different than 21% for permanent items, and changes in valuation allowances. For the three months ended December 31, 2024 and 2023, we recorded income tax expense of $0.4 million and $0.1 million, respectively. The quarterly income tax provision is calculated using an estimated annual effective tax rate, based upon expected annual income, permanent items, statutory rates and planned tax strategies in the various jurisdictions in which we operate. However, losses in certain jurisdictions and discrete items are excluded from the determination of the estimated annual effective tax rate.

8. Equity and Stock-Based Compensation

Stock-based compensation expense was $0.3 million in the three months ended December 31, 2024 and 2023, respectively. Stock-based compensation expense is included in selling, general and administrative expenses.

The following table summarizes our stock option activity during the three months ended December 31, 2024:

	Options	Weighted Average Exercise Price
Outstanding at beginning of period	1,087,016	$ 6.97
Granted	10,000	5.55
Exercised	(30,187)	4.97
Forfeited	(65,130)	8.90
Outstanding at end of period	1,001,699	$ 6.89
Exercisable at end of period	474,368	$ 7.72
Weighted average fair value of options granted during the period	$ 3.06	

The fair value of options was estimated at the applicable grant date using the Black-Scholes option pricing model with the following assumptions:

	Three Months Ended December 31,	
	2024	2023
Risk free interest rate	4%	4%
Expected term	5 years	5 years
Dividend rate	—%	—%
Volatility	61%	56%

The following table summarizes our RSU activity during the three months ended December 31, 2024:

	Number	Weighted Average Grant Date Fair Value
Nonvested at beginning of year	24,897	$ 4.82
Granted	—	—
Released	—	—
Forfeited	—	—
Nonvested at end of period	24,897	$ 4.82

9. Commitments and Contingencies

Purchase Obligations – As of December 31, 2024, we had unrecorded purchase obligations in the amount of $7.9 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 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.

10. 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:

Thermal Processing Solutions – 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.

Semiconductor Fabrication Solutions – We produce consumables parts and services, and equipment for producing silicon carbide, silicon and gallium nitride wafers, optical components and a variety of crystalline materials.

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

	Three Months Ended December 31,	
	2024	2023
Net Revenues:		
Thermal Processing Solutions	$ 18,684	$ 17,527
Semiconductor Fabrication Solutions	5,701	7,393
	$ 24,385	$ 24,920
Operating income (loss):		
Thermal Processing Solutions	$ 2,874	$ 1,081
Semiconductor Fabrication Solutions	(358)	(7,844)
Non-segment related	(2,177)	(2,171)
	$ 339	$ (8,934)

	December 31, 2024	September 30, 2024
Identifiable Assets:		
Thermal Processing Solutions	$ 68,638	$ 68,051
Semiconductor Fabrication Solutions	45,258	46,915
Non-segment related*	3,880	3,987
	$ 117,776	$ 118,953

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

11. Major Customers and Foreign Sales

During the three months ended December 31, 2024, one Thermal Processing Solutions segment customer represented 22% of our net revenues. During the three months ended December 31, 2023, two Thermal Processing Solutions segment customers individually represented 13% and 12% of our net revenues.

Our net revenues were from customers in the following geographic regions:

	Three Months Ended December 31,	
	2024	2023
United States	27%	43%
Canada	1%	1%
Mexico	1%	1%
Other	1%	1%
Total Americas	**30%**	**46%**
China	12%	32%
Malaysia	4%	2%
Taiwan	30%	4%
Other	5%	3%
Total Asia	**51%**	**41%**
Germany	2%	6%
Hungary	7%	0%
Czech Republic	1%	2%
Other	9%	5%
Total Europe	**19%**	**13%**
	100%	**100%**

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our "Condensed Consolidated Financial Statements" in Item 1 of this Quarterly Report on Form 10-Q ("Quarterly Report") and our consolidated financial statements and related notes included in "Item 8. Financial Statements and Supplementary Data" in our Annual Report on Form 10-K for the fiscal year ended September 30, 2024 (the "2024 Form 10-K").

Overview

We provide equipment, consumables and services for semiconductor wafer fabrication and device packaging. Our products are used in fabricating semiconductor devices, such as silicon carbide (SiC) and silicon (Si) power devices, digital and analog devices, power electronic packages, advanced semiconductor packages and electronic assemblies. 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) Thermal Processing Solutions and (ii) Semiconductor Fabrication Solutions. Our thermal processing solutions include reflow equipment for chip packaging and electronic assembly, diffusion furnaces and furnaces used to produce ceramic based power semiconductor packages and passive electronic components. Our semiconductor fabrication solutions include consumables, equipment and services for wafer polishing, cleaning, slicing and dicing.

The markets we serve are historically cyclical, but not seasonal, with constantly evolving technical requirements and can be subject to tariffs and sourcing restrictions driven by geopolitical tensions. Our revenue is impacted by these broad industry trends.

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 electric vehicle (EV) and hybrid electric vehicles (HEV), as well as advanced automotive electronics including Advanced Driver Assistance Systems (ADAS), infotainment and telematics. Our products intersect these markets in multiple ways: CMP consumables and wafer cleaning systems for the SiC substrates used in the EV power investors; thermal processing systems for producing EV battery cooling systems and ceramic substrates for HEV power semiconductor packaging; and reflow ovens for ADAS, infotainment and telematics component assemblies.
- ***Supply Chain Resiliency*** - There is a global trend of creating supply chain resiliency by expanding and/or relocating operations outside of mainland China. We believe these 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, including the introduction of 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 Thermal Processing Solutions and Semiconductor Fabrication Solutions industries: 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. 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 will continue to pursue acquisitions to supplement organic growth and have added market development resources globally to accelerate organic growth.

In March 2024, we completed the sale of our corporate headquarters real property in Arizona. The sale resulted in a net cash inflow of approximately $2.5 million, after settlement of related sale expenses. Following the closing of this transaction, we entered into a lease agreement for a new office for our corporate headquarters, which commenced during the third quarter of fiscal year 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.

Results of Operations

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

	Three Months Ended December 31,	
	2024	2023
Revenues, net	100%	100%
Cost of sales	62%	64%
Intangible asset impairment	—%	3%
Gross margin	38%	33%
Selling, general and administrative	33%	34%
Research, development and engineering	4%	6%
Loss on disposal of fixed assets	—%	—%
Goodwill impairment	—%	26%
Intangible asset impairment	—%	2%
Severance expense	—%	1%
Operating income (loss)	1%	(36)%
Interest income	—%	—%
Interest expense	—%	(1)%
Foreign currency gain (loss)	2%	(1)%
Other	—%	—%
Income (loss) before income taxes	3%	(38)%
Income tax provision	2%	—%
Net income (loss)	1%	(38)%

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 was as follows, dollars in thousands:

	Three Months Ended December 31,			
Segment	2024	2023	Change	% Change
Thermal Processing Solutions	18,684	$ 17,527	$ 1,157	7%
Semiconductor Fabrication Solutions	5,701	7,393	(1,692)	(23)%
Total net revenue	$ 24,385	$ 24,920	$ (535)	(2)%

Total net revenue for the three months ended December 31, 2024 and 2023 was $24.4 million and $24.9 million, respectively, a decrease of approximately $0.5 million or 2%. Our Thermal Processing Solutions results for the first quarter of fiscal 2025 reflect increases in shipments of our horizontal diffusion and high-temperature furnaces,

partially offset by decreases in parts and service and packaging equipment shipments. Semiconductor Fabrication Solutions revenue decreased due primarily to lower sales of our wafer cleaning equipment.

Orders and Backlog

New orders booked by reportable segment were as follows, dollars in thousands:

	Three Months Ended December 31,			
Segment	**2024**	**2023**	**Change**	**% Change**
Thermal Processing Solutions	$ 13,167	$ 17,129	$ (3,962)	(23)%
Semiconductor Fabrication Solutions	4,903	5,976	(1,073)	(18)%
Total new orders	$ 18,070	$ 23,105	$ (5,035)	(22)%

Our backlog by reportable segment was as follows, dollars in thousands:

	December 31,			
Segment	**2024**	**2023**	**Change**	**% Change**
Thermal Processing Solutions	$ 15,328	$ 44,835	$ (29,507)	(66)%
Semiconductor Fabrication Solutions	3,670	5,144	(1,474)	(29)%
Total backlog	$ 18,998	$ 49,979	$ (30,981)	(62)%

As of December 31, 2024, one of our Thermal Processing Solutions segment customers individually accounted for 18% of our backlog. Additionally, one customer of both our Thermal Processing Solutions and Semiconductor Fabrication Solutions segments accounted for 27% of our backlog. No other customer accounted for more than 10% of our backlog as of December 31, 2024. 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 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. During the three months ended December 31, 2024, the improvement in lead times across all of our product lines favorably contributed to the decline in our backlog.

Gross Profit and Gross Margin

Gross profit is the difference between net revenue and cost of goods sold and intangible asset impairment. 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 business segment were as follows, dollars in thousands:

	Three Months Ended December 31,				
Segment	**2024**	**Gross Margin**	**2023**	**Gross Margin**	**Change**
Thermal Processing Solutions	$ 7,329	39%	$ 6,159	35%	$ 1,170
Semiconductor Fabrication Solutions	2,034	36%	2,060	28%	(26)
Total gross profit	$ 9,363	38%	$ 8,219	33%	$ 1,144

Our gross margins can be affected by capacity utilization, material costs, and the type and volume of machines and consumables sold each quarter. Gross profit for the three months ended December 31, 2024 and 2023 was $9.4 million (38% of net revenue) and $8.2 million (33% of net revenue), respectively, an increase of $1.1 million. Gross margin on products from our Thermal Processing Solutions segment increased compared to the three months ended December 31, 2023, due to changes in our product mix and lower costs. Gross margin on products from our Semiconductor Fabrication Solutions segment increased compared to the three months ended December 31, 2023, primarily due to an $0.8 million intangible asset impairment during the period ended December 31, 2023. We are working with contract manufacturers, who can leverage their buying power on a larger scale to reduce costs. Throughout fiscal 2024, we made targeted labor reductions as a result of the shift to contract manufacturing amid the slowdown in the broader semiconductor industry.

Selling, General and Administrative

Selling, general and administrative ("SG&A") expenses 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.

SG&A expenses for the three months ended December 31, 2024 and 2023 were $8.1 million and $8.6 million, respectively. SG&A decreased compared to the prior year quarter primarily due to fixed cost reductions.

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. Occasionally, we receive reimbursements through governmental research and development grants which are netted against these expenses when certain conditions have been met.

RD&E expense, net of grants earned, for the three months ended December 31, 2024 and 2023 was $0.9 million and $1.6 million, respectively. The decrease in RD&E is due to the timing of purchases related to specific strategic-development projects at our Thermal Processing Solutions and Semiconductor Fabrication Solutions segments. Additionally, the prior year period included expenditures related to new product development projects at our Semiconductor Fabrication Solutions segment, which have not recurred. Grants earned are immaterial in all periods presented.

Goodwill Impairment

During the quarter ended December 31, 2024, we recognized no impairment of our goodwill as a result of no triggering event identified at the end of the first quarter.

During the quarter ended December 31, 2023, we recognized impairment of our goodwill of $6.4 million at our Semiconductor Fabrication Solutions segment as a result of a triggering event identified at the end of the quarter. See Note 6 for a description of the facts and circumstances leading to the goodwill impairment.

Intangible Asset Impairment

During the quarter ended December 31, 2024, we recognized no impairment of our definite lived intangible assets.

During the quarter ended December 31, 2023, we recognized impairment of our definite lived intangible assets of $1.3 million at our Semiconductor Fabrication Solutions segment. As stated above, $0.8 million of this impairment was recorded in cost of goods sold, and the remainder was recorded within operating expenses in the Condensed Consolidated Statement of Operations. See Note 6 for a description of the facts and circumstances leading to the intangible asset impairments.

Severance Expense

Severance expense was $0.1 million and $0.2 million for the three months ended December 31, 2024 and 2023, respectively. For the three months ended December 31, 2024, the amount relates to staff reductions at our Thermal Processing Solutions segment. Severance expense for the three months ended December 31, 2023 relates to staff reductions in our Thermal Processing Solutions and Semiconductor Fabrication Solutions segments.

Income Taxes

Our effective tax rate was 58.8% and (0.6%) for the three months ended December 31, 2024 and 2023, respectively. The effective tax rate for the three months ended December 31, 2024 differs from the U.S. statutory tax rate of 21% primarily due to foreign income taxed at a foreign rate different than 21% for permanent items, and changes in valuation allowances. For the three months ended December 31, 2024 and 2023, we recorded income tax expense of $0.4 million and an income tax expense of $58,000, respectively. The quarterly income tax provision is calculated using an estimated annual effective tax rate, based upon expected annual income, permanent items, statutory rates and planned tax strategies in the various jurisdictions in which we operate. However, losses in certain jurisdictions and discrete items are excluded from the determination of the estimated annual effective tax rate.

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-tax deductible expenses incurred as a percent of pre-tax income and the effectiveness of our tax planning strategies.

Liquidity and Capital Resources

Cash and Cash Flow

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

	Three Months Ended December 31,	
	2024	2023
Net cash provided by operating activities	$ 2,867	$ 4,971
Net cash used in investing activities	(143)	(756)
Net cash provided by (used in) financing activities	126	(528)
Effect of exchange rate changes on cash and cash equivalents	(722)	213
Net increase in cash and cash equivalents	2,128	3,900
Cash and cash equivalents, beginning of period	11,086	13,133
Cash and cash equivalents, end of period	$ 13,214	$ 17,033

A summary of our cash position as of December 31, 2024 and September 30, 2024, is as follows, in thousands, except the current ratio:

	December 31, 2024	September 30, 2024
Cash and cash equivalents	$ 13,214	$ 11,086
Restricted cash	$ —	$ —
Working capital	$ 45,307	$ 44,777
Current ratio (current assets to current liabilities)	3.4:1	3.3:1

The increase in cash and cash equivalents from September 30, 2024 of $2.1 million was primarily due to increased collections from customers and reduced inventory. 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. The $0.5 million increase in working capital from September 30, 2024, was primarily due to a decrease in current liabilities.

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.

Cash Flows from Operating Activities

Cash provided by our operating activities was $2.9 million for the three months ended December 31, 2024, compared to $5.0 million provided by operating activities for the three months ended December 31, 2023. Our accounts

receivable collections exceeded new accounts receivable due to the timing of shipments and collections across both time periods. Additionally, during the period ended December 31, 2023, we received more down payments from customers for future shipments.

Cash Flows from Investing Activities

Cash used in investing activities was $0.1 million for the three months ended December 31, 2024, compared to $0.8 million used in investing activities in the three months ended December 31, 2023. Both periods consist solely of capital expenditures.

Cash Flows from Financing Activities

For the three months ended December 31, 2024, cash provided by financing activities was $0.1 million, primarily comprised of proceeds from the exercise of stock options. For the three months ended December 31, 2023, cash used by financing activities was $0.5 million, comprised of $0.6 million in payments on long-term debt partially offset by less than $0.1 million of proceeds received from the exercise of stock options.

Off-Balance Sheet Arrangements

As of December 31, 2024, 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

Unrecorded purchase obligations were $7.9 million as of December 31, 2024, compared to $12.1 million as of September 30, 2024, a decrease of $4.2 million.

Other than as described in Note 2, there were no material changes to the contractual obligations included in "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of our 2024 Form 10-K.

Critical Accounting Estimates

"Part I, Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Quarterly Report discusses our condensed consolidated financial statements that have been prepared in accordance with GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the condensed consolidated financial statements, the disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenue and expenses during the reporting period.

On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue recognition, income taxes, inventory valuation, business combination, goodwill, and long-lived asset impairment. 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 Part I, Item 1A of our 2024 Form 10-K. We believe our critical accounting estimates relate to the more significant judgments and estimates used in the preparation of our consolidated financial statements.

We believe the critical accounting estimates discussed in the section entitled "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies" in our 2024 Form 10-K

represent the most significant judgments and estimates used in the preparation of our consolidated financial statements. There have been no material changes in our critical accounting estimates during the three months ended December 31, 2024.

Impact of Recently Issued Accounting Pronouncements

For discussion of the impact of recently issued accounting pronouncements, see "Part I, Item 1. Financial Information" under "Impact of Recently Issued Accounting Pronouncements."

Item 3. 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 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures.

We maintain "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Our management, including our Chief Executive Officer ("CEO") and our Chief Financial Officer ("CFO"), has carried out an evaluation of the effectiveness of our disclosure controls and procedures as of December 31, 2024, pursuant to Exchange Act Rules 13a-15(e) and 15(d)-15(e). Disclosure controls and procedures means controls and other procedures that are designed to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to management, including the principal executive and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. Based upon that evaluation, our CEO and CFO have concluded that as of such date, our disclosure controls and procedures in place were effective.

Changes in Internal Control over Financial Reporting

None.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

For discussion of legal proceedings, see Note 9 to our condensed consolidated financial statements under "Part I, Item 1. Financial Information" under "Commitments and Contingencies" of this Quarterly Report.

Item 1A. Risk Factors

We refer you to documents filed by us with the SEC, specifically "Item 1A. Risk Factors" in our 2024 Form 10-K, which identifies important risk factors that could materially affect our business, financial condition and future results. We also refer you to the factors and cautionary language set forth in the section entitled "Cautionary Statements Regarding Forward-Looking Statements" immediately preceding "Item 1. Condensed Consolidated Financial Statements" of this Quarterly Report. This Quarterly Report, including the accompanying condensed consolidated financial statements and related notes, should be read in conjunction with such risks and other factors for a full understanding of our operations and financial condition. The risks described in our 2024 Form 10-K and any described herein are not the only risks facing us. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition or operating results. There have been no material changes to the risk factors previously disclosed in our 2024 Form 10-K.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

During the three months ended December 31, 2024, none of our directors or officers (as defined in Rule 16a-1(f) promulgated under the Securities Exchange Act of 1934, as amended) adopted, terminated, or modified a Rule 10b5-1 trading arrangement or a non-Rule 10b5-1 trading arrangement (as such terms are defined in Item 408 of Regulation S-K).

Item 6. Exhibits

EXHIBIT NO.	EXHIBIT DESCRIPTION	INCORPORATED BY REFERENCE				FILED HEREWITH
		FORM	FILE NO.	EXHIBIT NO.	FILING DATE	
31.1	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended					X
31.2	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended					X
32.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
32.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					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 With Embedded Linkbase Documents					X
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)					X

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

AMTECH SYSTEMS, INC.

By /s/ Wade M. Jenke
Wade M. Jenke
Vice President and Chief Financial Officer
(Principal Financial Officer and Duly Authorized Officer)

Dated: February 5, 2025