

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 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 March 31, 2025

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 0-23621

**MKS INSTRUMENTS, INC.**

(Exact name of registrant as specified in its charter)

**Massachusetts**  
(State or other jurisdiction  
of incorporation or organization)

**2 Tech Drive, Suite 201, Andover, Massachusetts**  
(Address of principal executive offices)

**04-2277512**  
(I.R.S. Employer  
Identification No.)

**01810**  
(Zip Code)

**Registrant's telephone number, including area code (978) 645-5500**

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, no par value	MKSI	Nasdaq Global Select Market

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 checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of April 29, 2025, the registrant had 67,072,198 shares of common stock outstanding.

MKS INSTRUMENTS, INC.  
FORM 10-Q  
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## PART I. FINANCIAL INFORMATION

## ITEM 1. FINANCIAL STATEMENTS.

MKS INSTRUMENTS, INC.  
CONDENSED CONSOLIDATED BALANCE SHEETS  
(in millions, except per share data)  
(Unaudited)

<b>ASSETS</b>	March 31, 2025	December 31, 2024
<b>Current assets:</b>		
Cash and cash equivalents	\$ 655	\$ 714
Trade accounts receivable, net of allowance for doubtful accounts of \$6 and \$5 at March 31, 2025 and December 31, 2024, respectively	639	615
Inventories	894	893
Other current assets	238	252
<b>Total current assets</b>	<b>2,426</b>	<b>2,474</b>
Property, plant and equipment, net	774	771
Right-of-use assets	239	238
Goodwill	2,496	2,479
Intangible assets, net	2,238	2,272
Other assets	383	356
<b>Total assets</b>	<b>\$ 8,556</b>	<b>\$ 8,590</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>Current liabilities:</b>		
Short-term debt	\$ 50	\$ 50
Accounts payable	323	341
Other current liabilities	408	384
<b>Total current liabilities</b>	<b>781</b>	<b>775</b>
Long-term debt, net	4,409	4,488
Non-current deferred taxes	502	504
Non-current accrued compensation	139	141
Non-current lease liabilities	211	211
Other non-current liabilities	160	149
<b>Total liabilities</b>	<b>6,202</b>	<b>6,268</b>
Commitments and contingencies (Note 17)		
<b>Stockholders' equity:</b>		
Preferred stock, \$0.01 par value, 2 shares authorized; no shares issued and outstanding	—	—
Common stock, no par value, 200 shares authorized; 66.9 and 67.4 shares issued and outstanding at March 31, 2025 and December 31, 2024, respectively	—	—
Additional paid-in capital	2,067	2,067
Retained earnings	512	503
Accumulated other comprehensive loss	(225)	(248)
<b>Total stockholders' equity</b>	<b>2,354</b>	<b>2,322</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 8,556</b>	<b>\$ 8,590</b>

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

MKS INSTRUMENTS, INC.  
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS  
AND COMPREHENSIVE INCOME (LOSS)  
(in millions, except per share data)  
(Unaudited)

	Three Months Ended March 31,	
	2025	2024
Net revenues:		
Products	\$ 819	\$ 754
Services	117	114
Total net revenues	936	868
Cost of revenues:		
Products	437	398
Services	55	55
Total cost of revenues (exclusive of amortization shown separately below)	492	453
Gross profit	444	415
Research and development	70	70
Selling, general and administrative	185	170
Acquisition and integration costs	—	1
Restructuring and other	16	3
Fees and expenses related to amendments to the Term Loan Facility	2	3
Amortization of intangible assets	60	62
Income from operations	111	106
Interest income	(3)	(6)
Interest expense	53	87
Loss on extinguishment of debt	3	9
Other (income) expense, net	(1)	(3)
Income before income taxes	59	19
Provision for income taxes	7	4
Net income	\$ 52	\$ 15
Other comprehensive income (loss), net of tax:		
Changes in value of financial instruments designated as cash flow hedges	\$ (16)	\$ 32
Foreign currency translation adjustments	54	(114)
Change in net investment hedge	(19)	20
Unrecognized pension gain (loss)	4	1
Unrealized gain on investments	—	7
Total comprehensive income (loss)	\$ 75	\$ (39)
Net income per share:		
Basic	\$ 0.77	\$ 0.22
Diluted	\$ 0.77	\$ 0.22
Weighted average common shares outstanding:		
Basic	67.4	67.0
Diluted	67.7	67.4

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

MKS INSTRUMENTS, INC.  
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY  
(in millions, except per share data)  
(Unaudited)

	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2024	67.4	\$ 0.1	\$ 2,067	\$ 503	\$ (248)	\$ 2,322
Net issuance under stock-based plans	—		(5)			(5)
Stock-based compensation			22			22
Stock repurchase	(0.5)		(17)	(28)		(45)
Cash dividend (\$0.22 per common share)				(15)		(15)
Comprehensive income (net of tax):						
Net income				52		52
Other comprehensive income					23	23
Balance at March 31, 2025	66.9	\$ 0.1	\$ 2,067	\$ 512	\$ (225)	\$ 2,354

	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2023	66.9	\$ 0.1	\$ 2,195	\$ 373	\$ (96)	\$ 2,472
Net issuance under stock-based plans	0.2		(9)			(9)
Stock-based compensation			15			15
Cash dividend (\$0.22 per common share)				(15)		(15)
Comprehensive income (loss) (net of tax):						
Net income				15		15
Other comprehensive loss					(54)	(54)
Balance at March 31, 2024	67.1	\$ 0.1	\$ 2,201	\$ 373	\$ (150)	\$ 2,424

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

MKS INSTRUMENTS, INC.  
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS  
(in millions)  
(Unaudited)

	Three Months Ended March 31,	
	2025	2024
Cash flows from operating activities:		
Net income	\$ 52	\$ 15
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	85	88
Unrealized loss (gain) on foreign currency and derivative instruments	2	3
Amortization of debt issuance costs and original issue discount	6	8
Loss on extinguishment of debt	3	9
Stock-based compensation	22	15
Provision for excess and obsolete inventory	17	11
Deferred income taxes	(37)	(36)
Other	1	2
Changes in operating assets and liabilities, net of acquired assets and liabilities:		
Trade accounts receivable	(19)	16
Inventories	(12)	(1)
Other current and non-current assets	17	(5)
Accounts payable	(20)	(32)
Current and non-current accrued compensation	17	(30)
Income taxes payable	12	16
Other current and non-current liabilities	(5)	(12)
Net cash provided by operating activities	<u>141</u>	<u>67</u>
Cash flows from investing activities:		
Purchases of property, plant and equipment	(18)	(18)
Net cash used in investing activities	<u>(18)</u>	<u>(18)</u>
Cash flows from financing activities:		
Repurchase of common stock	(45)	—
Proceeds from borrowing	—	761
Payments of borrowings	(113)	(806)
Payments of deferred financing fees	—	(2)
Dividend payments	(15)	(15)
Net payments related to employee stock awards	(5)	(9)
Other financing activities	(2)	(1)
Net cash used in financing activities	<u>(180)</u>	<u>(72)</u>
Effect of exchange rate changes on cash and cash equivalents	(2)	(7)
Decrease in cash and cash equivalents	(59)	(30)
Cash and cash equivalents at beginning of period	714	875
Cash and cash equivalents at end of period	<u>\$ 655</u>	<u>\$ 845</u>

The accompanying notes are an integral part of the unaudited condensed consolidated financial statements

MKS INSTRUMENTS, INC.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS  
(in millions, except per share data)

**(1) Basis of Presentation**

The terms “MKS” and the “Company” refer to MKS Instruments, Inc. and its subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. The interim financial data as of March 31, 2025, and for the three months ended March 31, 2025, are unaudited; however, in the opinion of MKS, the interim data includes all adjustments, consisting of normal recurring adjustments, necessary for a fair statement of the results for the interim periods. The condensed consolidated balance sheet presented as of December 31, 2024 has been derived from the consolidated audited financial statements as of that date. The unaudited condensed consolidated financial statements presented herein have been prepared in accordance with the instructions to Form 10-Q and do not include all of the information and note disclosures required by United States generally accepted accounting principles. The unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the MKS Annual Report on Form 10-K for the year ended December 31, 2024 filed with the U.S. Securities and Exchange Commission on February 25, 2025.

The preparation of these unaudited condensed consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the unaudited condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgments, including those related to revenue recognition, inventory valuation, warranty costs, pension plan valuations, stock-based compensation expense, intangible assets, goodwill, long-lived assets, income taxes and derivatives. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. As a result of rounding, there may be immaterial differences in amounts presented and certain calculations may not sum to the total number expressed in each category or tie to a corresponding schedule.

The Company has three reportable segments: the Vacuum Solutions Division (“VSD”), the Photonics Solutions Division (“PSD”) and the Materials Solutions Division (“MSD”) as described in Note 15.

**(2) Recent Accounting Pronouncements**

Income Taxes (Topic 740): Improvements to Income Tax Disclosures

In December 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update (“ASU”) No. 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures (“ASU 2023-09”), which focuses on the rate reconciliation and income taxes paid. ASU 2023-09 requires a public business entity (“PBE”) to disclose, on an annual basis, a tabular rate reconciliation using both percentages and currency amounts, broken out into specified categories with certain reconciling items further broken out by nature and jurisdiction to the extent those items exceed a specified threshold. In addition, all entities are required to disclose income taxes paid, net of refunds received disaggregated by federal, state/local and foreign and by jurisdiction if the amount is at least 5% of total income tax payments, net of refunds received. For PBEs, the new standard is effective for annual periods beginning after December 15, 2024, with early adoption permitted. An entity may apply the amendments prospectively by providing the revised disclosures for the period ending December 31, 2025 and continuing to provide the pre-ASU disclosures for the prior periods or may apply the amendments retrospectively by providing the revised disclosures for all periods presented. The Company is currently evaluating the impact on its consolidated financial statement disclosures; however, adoption will not impact its consolidated balance sheets, cash flows or income statements.

Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses

In November 2024, the FASB issued ASU No. 2024-03, Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses (“ASU 2024-03”), which requires public companies to disclose, in interim and annual reporting periods, additional information about certain income statement expense line items in the notes to financial statements. The amendments in ASU 2024-03 are effective for annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027, with

MKS INSTRUMENTS, INC.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS  
(in millions, except per share data)

early adoption permitted. The Company is currently evaluating the impact on its consolidated financial statement disclosures; however, adoption will not impact its consolidated balance sheets, cash flows or income statements.

**(3) Revenue from Contracts with Customers**

Contract assets as of March 31, 2025 and December 31, 2024 were \$28 and \$30, respectively. A roll forward of the Company's deferred revenue and customer advances was as follows:

	Three Months Ended	
	March 31, 2025	March 31, 2024
Beginning balance, January 1 <sup>(1)</sup>	\$ 73	\$ 79
Additions to deferred revenue and customer advances	44	30
Amount of deferred revenue and customer advances recognized in income	(43)	(39)
Ending balance, March 31 <sup>(2)</sup>	\$ 74	\$ 70

- (1) Beginning deferred revenue and customer advances balances as of January 1, 2025 included \$71 of current deferred revenue and customer advances, and \$2 of long-term deferred revenue. Beginning deferred revenue and customer advances balances as of January 1, 2024 included \$77 of current deferred revenue and customer advances and \$2 of long-term deferred revenue.
- (2) Ending deferred revenue and customer advances balances as of March 31, 2025 included \$70 of current deferred revenue and customer advances and \$4 of long-term deferred revenue. Ending deferred revenue and customer advances balances as of March 31, 2024 included \$68 of current deferred revenue and customer advances and \$2 of long-term deferred revenue.

Revenue from certain custom products, including MSD plating equipment, and revenue from certain service contracts are recorded over time. Remaining product and services revenues are recorded at a point in time.

Disaggregation of Revenue

The following table summarizes revenue from contracts with customers in the Company's three end markets: Semiconductor, Electronics and Packaging, and Specialty Industrial.

	Three Months Ended March 31,	
	2025	2024
Semiconductor	\$ 413	\$ 351
Electronics and Packaging	253	208
Specialty Industrial	270	309
Total net revenues	\$ 936	\$ 868

Refer to Note 15 for revenue by reportable segment, geography and groupings of similar products.

**(4) Fair Value Measurements**

In accordance with the provisions of fair value accounting, a fair value measurement assumes that the transaction to sell an asset or transfer a liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability and defines fair value based upon an exit price model.

The fair value measurement guidance establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The guidance describes three levels of inputs that may be used to measure fair value:

- Level 1 Quoted prices in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.
- Level 2 Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments or securities or derivative contracts that are

MKS INSTRUMENTS, INC.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS  
(in millions, except per share data)

valued using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data.

Level 3 Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the Company categorizes such assets and liabilities based on the lowest level input that is significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

Assets and liabilities of the Company are measured at fair value on a recurring basis as of March 31, 2025, and are summarized as follows:

Description	March 31, 2025	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets:</b>				
Cash equivalents:				
Money market funds	\$ 243	\$ 243	\$ —	\$ —
Time deposits	5	—	5	—
Equity securities	1	1	—	—
Available-for-sale securities:				
Group insurance contracts	6	—	6	—
Derivatives				
Foreign exchange forward contracts	5	—	5	—
Interest rate swaps - non-current	20	—	20	—
Pension and deferred compensation plan assets	21	—	21	—
Total assets	<u>\$ 301</u>	<u>\$ 244</u>	<u>\$ 57</u>	<u>\$ —</u>
<b>Liabilities:</b>				
Derivatives				
Foreign exchange forward contracts-current	\$ 1	\$ —	\$ 1	\$ —
Interest rate swaps - current	6	—	6	—
Total liabilities	<u>\$ 7</u>	<u>\$ —</u>	<u>\$ 7</u>	<u>\$ —</u>
<b>Reported as follows:</b>				
<b>Assets:</b>				
Cash and cash equivalents <sup>(1)</sup>	\$ 248	\$ 243	\$ 5	\$ —
Other current assets	5	—	5	—
Total current assets	<u>\$ 253</u>	<u>\$ 243</u>	<u>\$ 10</u>	<u>\$ —</u>
Other assets	<u>\$ 48</u>	<u>\$ 1</u>	<u>\$ 47</u>	<u>\$ —</u>
<b>Liabilities:</b>				
Other current liabilities	<u>\$ 7</u>	<u>\$ —</u>	<u>\$ 7</u>	<u>\$ —</u>

(1) The cash and cash equivalents amount presented in the table above does not include cash of \$407 as of March 31, 2025.

MKS INSTRUMENTS, INC.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS  
(in millions, except per share data)

Assets and liabilities of the Company are measured at fair value on a recurring basis as of December 31, 2024, and are summarized as follows:

Description	December 31, 2024	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets:</b>				
<b>Cash equivalents:</b>				
Money market funds	\$ 289	\$ 289	\$ —	\$ —
Time deposits	5	—	5	—
Equity securities	1	1	—	—
<b>Available-for-sale securities:</b>				
Group insurance contracts	6	—	6	—
<b>Derivatives</b>				
Foreign exchange forward contracts	9	—	9	—
Interest rate swaps - current	3	—	3	—
Interest rate swaps - non-current	35	—	35	—
Pension and deferred compensation plan assets	22	—	22	—
<b>Total assets</b>	<b>\$ 370</b>	<b>\$ 290</b>	<b>\$ 80</b>	<b>\$ —</b>
<b>Liabilities:</b>				
<b>Derivatives</b>				
Foreign exchange forward contracts-current	\$ 3	\$ —	\$ 3	\$ —
Interest rate swaps - current	4	—	4	—
<b>Total liabilities</b>	<b>\$ 7</b>	<b>\$ —</b>	<b>\$ 7</b>	<b>\$ —</b>
<b>Reported as follows:</b>				
<b>Assets:</b>				
Cash and cash equivalents <sup>(1)</sup>	\$ 294	\$ 289	\$ 5	\$ —
Other current assets	12	—	12	—
<b>Total current assets</b>	<b>\$ 306</b>	<b>\$ 289</b>	<b>\$ 17</b>	<b>\$ —</b>
Other assets	\$ 64	\$ 1	\$ 63	\$ —
<b>Liabilities:</b>				
Other current liabilities	\$ 7	\$ —	\$ 7	\$ —

<sup>(1)</sup> The cash and cash equivalents amount presented in the table above does not include cash of \$420 as of December 31, 2024.

**Other Fair Value Disclosures**

The estimated carrying value and fair value of the Company's debt were as follows:

	March 31, 2025		December 31, 2024	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Term Loan Facility	\$ 3,162	\$ 3,170	\$ 3,249	\$ 3,262
Convertible Notes	1,400	1,263	1,400	1,357
<b>Total</b>	<b>\$ 4,562</b>	<b>\$ 4,433</b>	<b>\$ 4,649</b>	<b>\$ 4,619</b>

The estimated fair value of the Company's Term Loan Facility, as defined and further described in Note 8, was determined using available market information based on recent trades or activity of debt instruments with substantially similar risks, terms and maturities, which fall within Level 2 under the fair value hierarchy. The estimated fair value of the Company's Convertible Notes, as defined and further described in Note 8, was determined based on the last traded price of the Convertible Notes for the period ended March 31, 2025, and falls under Level 2 of the fair value hierarchy.

**Money Market Funds**

Money market funds are cash and cash equivalents and are classified within Level 1 of the fair value hierarchy.

MKS INSTRUMENTS, INC.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS  
(in millions, except per share data)

Pension and Deferred Compensation Plan Assets

The pension and deferred compensation plan assets represent investments in mutual funds, exchange traded funds, government securities and other time deposits. These investments are set aside for retirement benefits of certain of the Company's subsidiaries.

Derivatives

As a result of the Company's global operating activities and variable interest rate borrowings, the Company is exposed to market risks from changes in foreign currency exchange rates and interest rates, which may adversely affect its operating results and financial position. When deemed appropriate, the Company minimizes its risks from foreign currency exchange rate and interest rate fluctuations through the use of derivative financial instruments. The principal market in which the Company executes its foreign currency and interest rate contracts is the institutional market in an over-the-counter environment with a relatively high level of price transparency. The market participants are typically large commercial banks. The contracts are valued using broker quotations or market transactions.

**(5) Derivatives and Net Investment Hedge**

Foreign Exchange Forward Contracts

The Company hedges a portion of its forecasted foreign currency-denominated intercompany sales of inventory and certain of its foreign subsidiaries' operating expenses, over a maximum period of twenty-four months, using foreign exchange forward contracts accounted for as cash-flow hedges. To the extent these derivatives are effective in offsetting the variability of the hedged cash flows, and otherwise meet the hedge accounting criteria, changes in the derivatives' fair value are not included in current earnings but are included in other comprehensive income ("OCI") in stockholders' equity. These changes in fair value will subsequently be reclassified into earnings as applicable, when the forecasted transaction occurs. To the extent that a previously designated hedging transaction is no longer an effective hedge, any ineffectiveness measured in the hedging relationship is recorded in earnings in the period it occurs. The cash flows resulting from foreign exchange forward contracts are classified in the condensed consolidated statements of cash flows as part of cash flows from operating activities.

The Company also enters into foreign exchange forward contracts to hedge against certain monetary asset and liability accounts on the condensed consolidated balance sheet to mitigate the risk associated with certain foreign currency transactions in the ordinary course of business. These derivatives are not designated as cash flow hedging instruments and gains or losses from these derivatives are recorded immediately in other (income) expense, net.

The following table summarizes the net notional values of foreign exchange forward contracts outstanding:

	March 31, 2025	December 31, 2024
<i>Derivatives designated as hedging instruments:</i>		
Foreign exchange forward contracts-cash flow hedges	\$ 60	\$ 74
<i>Derivatives not designated as hedging instruments:</i>		
Foreign exchange forward contracts-balance sheet hedges	\$ 188	\$ 154

As of March 31, 2025, the South Korean won, Canadian dollar and Japanese yen were the largest notional contracts for designated cash flow hedges. As of December 31, 2024, the Japanese yen and South Korean won were the largest notional contracts for designated cash flow hedges.

As of both periods presented, the Chinese yuan and British pound were the largest notional contracts for balance sheet hedges not designated as a hedging instrument.

Net Investment Hedge

On January 1, 2023, the Company designated certain Euro-denominated debt as a net investment hedge to hedge a portion of its net investments in certain of its entities with functional currencies denominated in the Euro. On January 22, 2024, the Company prepaid its USD Tranche A in full using, in part, a €250 incremental borrowing under its Euro Tranche B, each as defined and further described in Note 8. On January 22, 2024, the Company designated the additional €250 of its Euro Tranche B as a net investment hedge. As of March 31, 2025, the total principal amount outstanding under its Euro Tranche B was €594 and the entire balance was designated as a net investment hedge. As of December 31, 2024, the total principal

MKS INSTRUMENTS, INC.  
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(in millions, except per share data)

amount outstanding under its Euro Tranche B was €596 and the entire balance was designated as a net investment hedge. For these net investment hedges, the Company records foreign currency remeasurement gains and losses within a component of OCI. Recognition in earnings of amounts previously recorded in accumulated OCI is limited to circumstances such as complete or substantially complete liquidation or sale of the net investment in the hedged foreign operations.

Interest Rate Agreements

The Company has various interest rate swap agreements, which are cash-flow hedges, maturing through January 31, 2029, that exchange a one-month forward-looking term rate based on the variable secured overnight financing rate (“Term SOFR”) paid on the outstanding balance of its USD Term Loan Facility, as defined and further described in Note 8, to a fixed rate. The notional value of the agreements was \$2,100 and \$2,600 as of March 31, 2025 and December 31, 2024, respectively. The Company acquired USD London Interbank Offered Rate interest rate cap agreements as a result of its acquisition of Atotech Limited (“Atotech”) on August 17, 2022 (the “Atotech Acquisition”) and had utilized these agreements to offset Term SOFR on its Term Loan Facility. The interest rate cap agreements expired on January 31, 2024.

The interest rate swaps are recorded at fair value on the balance sheet and changes in the fair value are recognized in OCI. To the extent these arrangements are no longer effective hedges, the hedging relationship will be discontinued and changes in the fair value of the hedging instruments from the last assessment period that were effective up to the current period will be recorded immediately in earnings. Amounts previously recorded in OCI will remain in OCI and will be reclassified to earnings when the interest payments impact consolidated earnings. If the Company determines that the interest payments are unlikely to occur, amounts previously recorded in OCI will be reclassified to earnings immediately. Changes in the fair value of interest rate caps were recorded immediately in earnings, as the Company did not designate these instruments as hedges and therefore these instruments did not qualify for hedge accounting. The cash flows resulting from interest rate agreements are classified in cash flows from operating activities in the condensed consolidated statements of cash flows.

The following table summarizes the net gains (losses) on derivatives designated as cash flow hedging instruments:

	Three Months Ended March 31,	
	2025	2024
<i>Foreign exchange forward contracts-cash flow hedges:</i>		
Net (losses) gains recognized in OCI, net of tax	\$ (1)	\$ 6
Net gains (losses) reclassified from accumulated OCI into cost of revenues	\$ 2	\$ —
<i>Interest rate hedges:</i>		
Net (losses) gains recognized in OCI, net of tax	\$ (15)	\$ 26
Net gains (losses) reclassified from accumulated OCI into interest expense	\$ 8	\$ 17

The Company expects a gain of approximately \$4 to be reclassified from OCI into cost of revenues during the next twelve months related to foreign exchange forward contracts. The Company expects a gain of approximately \$11 to be reclassified from OCI into interest expense during the next twelve months related to interest rate hedges.

The following table summarizes the net gains (losses) on derivatives not designated as hedging instruments:

	Three Months Ended March 31,	
	2025	2024
Net (losses) gains recognized in other (income) expense, net	\$ 1	\$ (4)

The interest rate caps resulted in a reduction of \$3 to interest expense in the three months ended March 31, 2024.

Derivative instruments are subject to master netting arrangements. However, the Company has elected to record these contracts on a gross basis in the condensed consolidated balance sheet. The location and fair value amounts of derivative instruments reported in the condensed consolidated balance sheet is disclosed in Note 4.

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**(6) Inventories**

Inventories consist of the following:

	March 31, 2025	December 31, 2024
Raw materials	\$ 634	\$ 618
Work-in-process	107	97
Finished goods	153	178
Total	<u>\$ 894</u>	<u>\$ 893</u>

**(7) Goodwill and Intangible Assets**

Goodwill

Effective January 1, 2025, the Company reassigned goodwill to certain reporting units within PSD resulting from a reorganization of the business. The goodwill was reassigned to the new reporting units using the relative fair value approach. The Company also concluded that the fair value of each reporting unit immediately before and after the reorganization exceeded its respective carrying value.

Goodwill associated with each of the Company's reportable segments was as follows:

	VSD	PSD	MSD	Total
Reportable segment:				
Gross goodwill at December 31, 2024	\$ 358	\$ 1,003	\$ 2,951	\$ 4,312
Foreign currency translation and measurement period adjustments	—	3	14	17
Gross goodwill at March 31, 2025	358	1,006	2,965	4,329
Accumulated goodwill impairment at December 31, 2024	(141)	(390)	(1,302)	(1,833)
Impairment charge	—	—	—	—
Accumulated goodwill impairment at March 31, 2025	(141)	(390)	(1,302)	(1,833)
Goodwill, net of accumulated impairment and foreign currency translation at March 31, 2025	<u>\$ 217</u>	<u>\$ 616</u>	<u>\$ 1,663</u>	<u>\$ 2,496</u>

Intangible Assets

The Company's intangible assets were comprised of the following:

	Gross	Accumulated Impairment Charges	Accumulated Amortization	Foreign Currency Translation	Net
As of March 31, 2025					
Completed technology	\$ 1,268	\$ (152)	\$ (518)	\$ (25)	\$ 573
Customer relationships	2,072	(1)	(513)	(68)	1,490
Patents, trademarks, trade names and other	381	(63)	(132)	(11)	175
	<u>\$ 3,721</u>	<u>\$ (216)</u>	<u>\$ (1,163)</u>	<u>\$ (104)</u>	<u>\$ 2,238</u>
As of December 31, 2024					
Completed technology	\$ 1,268	\$ (152)	\$ (496)	\$ (31)	\$ 589
Customer relationships	2,072	(1)	(477)	(86)	1,508
Patents, trademarks, trade names and other	381	(63)	(130)	(13)	175
	<u>\$ 3,721</u>	<u>\$ (216)</u>	<u>\$ (1,103)</u>	<u>\$ (130)</u>	<u>\$ 2,272</u>

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Aggregate amortization expense related to acquired intangible assets for the three months ended March 31, 2025 and 2024 was \$60 and \$62, respectively.

Aggregate amortization expense related to acquired intangible assets for future years is as follows:

Year	Amount
2025 (remaining)	181
2026	238
2027	237
2028	237
2029	235
2030	228
Thereafter	826

The Company excluded from the above table intangible assets of \$56 of indefinite-lived trademarks and trade names, which were not subject to amortization.

**(8) Debt**

The Company's outstanding debt was as follows:

	March 31, 2025	December 31, 2024
<b>Short-term debt:</b>		
Term Loan Facility	\$ 50	\$ 50
<b>Long-term debt:</b>		
Term Loan Facility	\$ 3,111	\$ 3,199
Debt issuance costs - Term Loan Facility	(77)	(85)
Term Loan Facility, net	3,034	3,114
Convertible Notes	1,400	1,400
Debt issuance costs - Convertible Notes	(25)	(26)
Convertible Notes, net	1,375	1,374
Total long-term debt, net	\$ 4,409	\$ 4,488

Credit Facilities

In connection with the completion of the Atotech Acquisition, on August 17, 2022 (the "Effective Date") the Company entered into a credit agreement with JPMorgan Chase Bank, N.A., as administrative agent and collateral agent, Barclays Bank PLC, and the lenders from time to time party thereto (the "Credit Agreement"). The Credit Agreement initially provided for (i) a senior secured term loan facility comprised of three tranches: a \$1,000 loan (as further refinanced and otherwise modified as described herein, the "USD Tranche A"), a \$3,600 loan (as further refinanced and otherwise modified as described herein, the "USD Tranche B") and a €600 loan (as further refinanced and otherwise modified as described herein, the "Euro Tranche B" and together with the USD Tranche A and the USD Tranche B, the "Term Loan Facility"), each of which were borrowed in full on the Effective Date, and (ii) a senior secured revolving credit facility of \$500 (as further increased and otherwise modified as described herein, the "Revolving Facility" and, together with the Term Loan Facility, the "Credit Facilities"), with the commitments under each of the foregoing facilities subject to increase from time to time subject to certain conditions. The proceeds of the Term Loan Facility were used on the Effective Date, among other things, to fund a portion of the consideration payable in connection with the Atotech Acquisition and to refinance the existing term loan and revolving credit facilities of the Company and certain indebtedness of Atotech. The Company has entered into five amendments to the Credit Agreement since the Effective Date (as amended, the "Amended Credit Agreement"), including most recently the Fifth Amendment (as defined below).

As of March 31, 2025, after giving effect to all amendments and repayments prior to such date, the Amended Credit Agreement provided for (i) the Term Loan Facility comprised of two tranches: the USD Tranche B in an outstanding principal amount of \$2,519 and the Euro Tranche B in an outstanding principal amount of €594 and (ii) the Revolving Facility with aggregate commitments of \$675.

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As of March 31, 2025, borrowings under the Credit Facilities bore interest at a rate per annum equal to, at the Company's option, any of the following, plus, in each case, an applicable margin: (a) with respect to the Revolving Facility and the USD Tranche B, (x) a base rate determined by reference to the highest of (1) the federal funds effective rate plus 0.50%, (2) the prime rate quoted in The Wall Street Journal, or (3) a forward-looking term rate based on Term SOFR (plus an applicable credit spread adjustment) for an interest period of one month, plus 1.00%; and (y) a Term SOFR rate (plus an applicable credit spread adjustment) for the interest period relevant to such borrowing, subject to a rate floor of (I) with respect to the USD Tranche B, 0.50% and (II) with respect to the Revolving Facility, 0.0%; and (b) with respect to the Euro Tranche B, a Euro Interbank Offered Rate ("EURIBOR") rate determined by reference to the costs of funds for Euro deposits for the interest period relevant to such borrowing adjusted for certain additional costs, subject to a EURIBOR rate floor of 0.0%. As of March 31, 2025, the applicable margins for borrowings under the Credit Facilities were (i) under the USD Tranche B, 1.00% with respect to base rate borrowings and 2.00% with respect to Term SOFR borrowings, (ii) under the Euro Tranche B, 3.00% and (iii) under the Revolving Facility, 1.50% with respect to base rate borrowings and 2.50% with respect to Term SOFR borrowings.

In addition to paying interest on outstanding principal under the Credit Facilities, the Company is required to pay a commitment fee in respect of the unutilized commitments under the Revolving Facility. The commitment fee is subject to adjustment based on the Company's first lien net leverage ratio as of the end of the preceding fiscal quarter. The Company must also pay customary letter of credit fees and agency fees. As of March 31, 2025, the commitment fee was 0.25% per annum.

On January 24, 2025 (the "Fifth Amendment Effective Date"), the Company entered into the Fifth Amendment to Credit Agreement (the "Fifth Amendment"), pursuant to which the Company (i) refinanced its existing USD Tranche B loan and Euro Tranche B loan with a new \$2,529 USD Tranche B loan and a new €596 Euro Tranche B loan, (ii) decreased the applicable margin for the USD Tranche B from 2.25% to 2.00% with respect to Term SOFR borrowings and from 1.25% to 1.00% with respect to base rate borrowings and (iii) decreased the applicable margin for the Euro Tranche B from 2.75% to 2.50%. The repriced USD Tranche B loan and Euro Tranche B loan were issued without original issue discount. In connection with the execution of the Fifth Amendment, the Company paid customary fees and expenses to JPMorgan Chase Bank, N.A.

On January 24, 2025, concurrently with the effectiveness of the Fifth Amendment, the Company made a voluntary prepayment of \$100 principal amount to the USD Tranche B loan, reducing the principal from \$2,629 to \$2,529.

Under the Amended Credit Agreement, the Company is required to prepay outstanding term loans, subject to certain exceptions, with portions of its annual excess cash flow as well as with the net cash proceeds of certain of its asset sales, certain casualty and condemnation events and the incurrence or issuances of certain debt. If at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and undrawn letters of credit under the Revolving Facility exceeds the aggregate commitments under the Revolving Facility, the Company is required to repay outstanding loans and/or cash collateralize letters of credit, with no reduction of the commitment amount.

The Company may voluntarily prepay outstanding loans under the Credit Facilities from time to time, subject to certain conditions, without premium or penalty other than customary "breakage" costs with respect to Term SOFR or EURIBOR loans; provided, however, that subject to certain exceptions, if on or prior to the date that is six months after the Fifth Amendment Effective Date, the Company prepays any loans under the USD Tranche B or the Euro Tranche B in connection with a repricing transaction, the Company must pay a prepayment premium of 1.00% of the aggregate principal amount of the loans so prepaid. Additionally, the Company may voluntarily reduce the unutilized portion of the commitment amount under the Revolving Facility.

The Company is required to make scheduled quarterly payments each equal to approximately \$10 with respect to the USD Tranche B and approximately €2 with respect to the Euro Tranche B, in each case with the balance due thereunder on the seventh anniversary of the Effective Date. There is no scheduled amortization under the Revolving Facility. Any principal amount outstanding under the Revolving Facility is due and payable in full on the fifth anniversary of the Effective Date.

All obligations under the Credit Facilities are guaranteed by certain of the Company's wholly-owned domestic subsidiaries and are required to be guaranteed by certain of the Company's future wholly-owned domestic subsidiaries, and are secured by substantially all of the Company's assets and the assets of such subsidiaries, subject to certain exceptions and exclusions.

The USD Tranche B and the Euro Tranche B are not subject to financial maintenance covenants.

The Amended Credit Agreement contains customary representations and warranties, covenants and provisions relating to events of default. If an event of default occurs, the lenders under the Credit Facilities will be entitled to take various actions,

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including the acceleration of amounts due under the Credit Facilities and all actions permitted to be taken by a secured creditor. As of March 31, 2025, the Company was in compliance with all covenants under the Amended Credit Agreement.

As of March 31, 2025, the weighted average interest rate of the Term Loan Facility was 6.0%. The Revolving Facility has a maturity date in August 2027 while the USD Tranche B and Euro Tranche B have a maturity date in August 2029. As of March 31, 2025, there were no borrowings under the Revolving Facility.

#### Convertible Notes

On May 16, 2024, the Company completed a private offering of \$1,400 aggregate principal amount of its convertible senior notes due 2030 (the “Convertible Notes”).

The net proceeds from the offering were approximately \$1,374 after deducting the initial purchasers’ discounts and commissions and estimated offering expenses paid by the Company. The Company used approximately \$167 of the net proceeds from the offering to pay the cost of the capped call transactions described below. The Company used the remaining net proceeds from the offering to repay approximately \$1,206 in borrowings outstanding under the USD Tranche B, together with accrued interest, as well as for general corporate purposes. As a result of the repayment, the Company recorded a \$38 loss on extinguishment of debt in the three months ended June 30, 2024.

#### *Indenture and the Convertible Notes*

On May 16, 2024, the Company entered into an indenture (the “Indenture”) with respect to the Convertible Notes with U.S. Bank Trust Company, National Association, as trustee (the “Trustee”). Under the Indenture, the Convertible Notes are senior unsecured obligations of the Company and bear interest at a coupon rate of 1.25% per annum, with interest payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2024. The Convertible Notes will mature on June 1, 2030, unless earlier converted, redeemed or repurchased in accordance with their terms.

Subject to certain conditions, on or after June 5, 2027, the Company may redeem for cash all or any portion of the Convertible Notes at a redemption price equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date, if the last reported sale price of the Company’s common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on, and including, the trading day immediately preceding the date the notice of redemption is sent.

The conversion rate for the Convertible Notes is initially 6.4799 shares of the Company’s common stock per one thousand dollars principal amount of the Convertible Notes, which is equivalent to an initial conversion price of approximately \$154.32 per share. The conversion rate is subject to adjustment upon the occurrence of certain events.

Upon conversion, the Company will pay cash up to the aggregate principal amount of the Convertible Notes to be converted and pay or deliver, as the case may be, cash, shares of common stock or a combination of cash and shares of common stock, at the Company’s election, in respect of the remainder, if any, of its conversion obligation in excess of the aggregate principal amount of the Convertible Notes being converted. Prior to March 1, 2030, noteholders may convert all or any portion of their Convertible Notes only upon the occurrence of certain events and during certain periods, and thereafter, at any time until the second scheduled trading day immediately preceding the maturity date.

If the Company undergoes a fundamental change (as defined in the Indenture) prior to the maturity date of the Convertible Notes, holders may require the Company to repurchase for cash all or any portion of their Convertible Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Indenture contains customary terms and covenants, including that upon certain events of default that are occurring and continuing, either the Trustee or the holders of at least 25% in aggregate principal amount of the outstanding Convertible Notes may declare 100% of the principal of, and accrued and unpaid interest, if any, on, all the Convertible Notes to be due and payable.

As of March 31, 2025, the Convertible Notes were classified as a long-term liability, net of issuances costs, on the condensed consolidated balance sheet. The Convertible Notes were issued at par and costs associated with the issuance of the Convertible Notes are amortized to interest expense over the contractual term of the Convertible Notes. As of March 31, 2025, the effective interest rate of the Convertible Notes was 1.56%.

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*Capped Call Transactions*

On May 13, 2024, in connection with the pricing of the Convertible Notes, and on May 14, 2024, in connection with the exercise in full by the initial purchasers of their option to purchase additional Convertible Notes, the Company entered into privately negotiated capped call transactions with certain of the initial purchasers of the Convertible Notes or their respective affiliates and other financial institutions. The capped call transactions are expected generally to reduce the potential dilution to the Company's common stock upon conversion of any Convertible Notes and/or offset any cash payments that the Company is required to make in excess of the principal amount of any converted Convertible Notes, as the case may be, with such reduction and/or offset subject to a cap initially equal to \$237.42 per share, which represents a premium of 100% over the last reported sale price of \$118.71 per share of the Company's common stock on The Nasdaq Global Select Market on May 13, 2024, and is subject to customary adjustments under the terms of the capped call transactions.

The Company evaluated the capped call transactions and determined that they should be accounted for separately from the Convertible Notes. The cost of \$167 to purchase the capped call transactions was recorded as a reduction to additional paid-in capital in the condensed consolidated balance sheet as the capped call transactions are indexed to the Company's own stock and met the criteria to be classified in stockholders' equity.

The Company's interest expense was as follows:

	Three Months Ended March 31,	
	2025	2024
<b>Term Loan Facility:</b>		
Contractual interest expense	\$ 49	\$ 96
Amortization of debt issuance costs as interest expense	5	7
Total interest expense on Term Loan Facility	\$ 54	\$ 103
<b>Convertible Notes:</b>		
Contractual interest expense	\$ 4	\$ —
Amortization of debt issuance costs as interest expense	1	—
Total interest expense on Convertible Notes	\$ 5	\$ —
Other interest expense, net <sup>(1)</sup>	\$ (6)	\$ (16)
Total interest expense	\$ 53	\$ 87

<sup>(1)</sup> Other interest expense, net primarily consists of interest (income) expense related to the Company's interest rate swap and interest rate cap agreements.

Lines of Credit and Borrowing Arrangements

Certain of the Company's Japanese subsidiaries have lines of credit and a financing facility with various financial institutions, many of which generally expire and are renewed at three-month intervals with the remaining having no expiration date. The lines of credit and financing facility provided for aggregate borrowings as of March 31, 2025 and December 31, 2024 of up to an equivalent of \$13 and \$19, respectively. There were no borrowings outstanding under these arrangements at March 31, 2025 and December 31, 2024.

Contractual maturities of the Company's debt obligations as of March 31, 2025 are as follows:

Year	Amount
2025 (remaining)	38
2026	50
2027	50
2028	50
2029	2,973
2030	1,400

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**(9) Product Warranties**

The Company provides for the estimated costs to fulfill customer warranty obligations upon the recognition of the related revenue. The Company's warranty obligations are affected by shipment volume, product failure rates, utilization levels, material usage and supplier warranties on parts delivered to the Company. Should actual product failure rates, utilization levels, material usage, or supplier warranties on parts differ from the Company's estimates, revisions to the estimated warranty liability would be required. The Company engages in extensive product quality programs and processes, including actively monitoring and evaluating the quality of its component suppliers.

Product warranty activities were as follows:

	Three Months Ended March 31,	
	2025	2024
Beginning of period	\$ 22	\$ 22
Provision for product warranties	6	5
Charges to warranty liability	(5)	(6)
End of period	<u>\$ 23</u>	<u>\$ 21</u>

Short-term product warranties of \$15 and long-term product warranties of \$8, each as of March 31, 2025, are included within other current liabilities and other non-current liabilities, respectively, within the accompanying condensed consolidated balance sheet. Short-term product warranties of \$16 and long-term product warranties of \$5, each as of March 31, 2024, are included within other current liabilities and other non-current liabilities, respectively, within the accompanying condensed consolidated balance sheet.

**(10) Other Current Liabilities**

Other current liabilities consisted of the following:

	March 31, 2025	December 31, 2024
Accrued compensation and other employee-related obligations	\$ 143	\$ 124
Deferred revenue and customer advances	70	71
Income taxes payable	66	64
Lease liabilities	31	31
Other	98	94
Total other current liabilities	<u>\$ 408</u>	<u>\$ 384</u>

**(11) Income Taxes**

The Company's effective tax rate for the three months ended March 31, 2025 was 12.3%. The Company's effective tax rate for the three months ended March 31, 2025 was lower than the U.S. statutory tax rate primarily due to the U.S. deduction for foreign derived intangible income ("FDII") and research and development credits, partially offset by an expected increase in foreign withholding taxes and a waiver of deductions related to U.S. base erosion payments.

The Company's effective tax rate for the three months ended March 31, 2024 was 23.1%. The Company's effective tax rate for the three months ended March 31, 2024 was higher than the U.S. statutory tax rate mainly due to an expected increase in foreign withholding taxes and U.S. base erosion and anti-abuse tax, partially offset by the FDII and research and development credits.

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**(12) Net Income Per Share**

The following table sets forth the computation of basic and diluted net income per share:

	Three Months Ended March 31,	
	2025	2024
<b>Numerator:</b>		
Net income	\$ 52	\$ 15
<b>Denominator:</b>		
Shares used in net income per common share – basic	67.4	67.0
Effect of dilutive securities	0.3	0.4
Shares used in net income per common share – diluted	67.7	67.4
<b>Net income per common share:</b>		
Basic	\$ 0.77	\$ 0.22
Diluted	\$ 0.77	\$ 0.22

Basic earnings per share is computed by dividing net income available to common shareholders by the weighted-average number of common shares outstanding during the period.

Diluted net income per common share is computed by dividing the diluted net income available to common shareholders by the weighted-average number of shares of common stock and potentially dilutive shares of common stock outstanding during the period. The dilutive effect of equity awards is calculated based on the average stock price for the relevant period, using the treasury stock method. In periods in which a net loss is recognized, the impact of restricted stock units (“RSUs”) is not included as they are antidilutive. The dilutive effect of the Convertible Notes is calculated under the if-converted method.

For the three months ended March 31, 2025 and 2024, the Company had an immaterial quantity of RSUs that were antidilutive and excluded from the computation of diluted weighted-average shares. Shares of common stock that would have been issued if the Convertible Notes had been converted are not included in the calculation of diluted net income per common share as the Company’s share price during these periods was below the initial conversion price and inclusion would be antidilutive.

**(13) Stock-Based Compensation**

Equity Incentive Plans

Stock-based awards include (i) time-based RSUs, (ii) performance-based RSUs based on the achievement of adjusted EBITDA targets, (iii) performance-based RSUs based on the Company’s total shareholder return relative to a group of peers over a three-year performance period and (iv) employee stock purchase plan rights. The Company grants RSUs to employees and directors under the 2022 Stock Incentive Plan and issues shares of common stock under the 2014 Employee Stock Purchase Plan pursuant to its employee stock purchase program.

The following tables present the activity for the RSUs:

	Three Months Ended March 31, 2025	
	Quantity	Weighted Average Grant Date Fair Value Per Share
RSUs – beginning of period	0.9	\$ 104.83
Granted	0.2	\$ 106.64
Vested or forfeited	(0.1)	\$ 107.72
RSUs – end of period	1.0	\$ 104.73

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	Three Months Ended March 31, 2024	
	Quantity	Weighted Average Grant Date Fair Value Per Share
RSUs – beginning of period	1.0	\$ 98.36
Granted	0.1	\$ 129.92
Vested or forfeited	(0.2)	\$ 112.27
RSUs – end of period	0.9	\$ 99.09

Stock-Based Compensation Expense

The pre-tax effect of stock-based compensation expense included in the Company’s condensed consolidated statements of operations and comprehensive income (loss) was as follows:

	Three Months Ended March 31,	
	2025	2024
Cost of revenues	\$ 1	\$ 1
Research and development expense	2	2
Selling, general and administrative expense	19	12
Total pre-tax stock-based compensation expense	\$ 22	\$ 15

**(14) Stockholders’ Equity**

Share Repurchase Program

On July 25, 2011, the Company’s Board of Directors approved a share repurchase program for the repurchase of up to an aggregate of \$200 of its outstanding common stock from time to time in open market purchases, privately negotiated transactions or through other appropriate means. The timing and quantity of any shares repurchased will depend upon a variety of factors, including business conditions, stock market conditions and business development activities, including, but not limited to, merger and acquisition opportunities. These repurchases may be commenced, suspended or discontinued at any time without prior notice. Any repurchased shares are held by the Company as authorized but unissued shares.

During the three months ended March 31, 2025, the Company repurchased approximately 0.5 shares of its common stock for total consideration of \$45. During the three months ended March 31, 2024, there were no repurchases of common stock. The Company has repurchased approximately 3.1 shares of common stock for approximately \$172 pursuant to the program since its adoption.

Cash Dividends

Holders of the Company’s common stock are entitled to receive dividends when they are declared by the Company’s Board of Directors. During each of the first quarters of 2025 and 2024, the Company’s Board of Directors declared a cash dividend of \$0.22 per share, each of which totaled \$15.

Future dividend declarations, if any, as well as the record and payment dates for such dividends, are subject to the final determination of the Company’s Board of Directors.

**(15) Business Segment, Geographic Area and Product Information**

Reportable Segments and Products

The Company’s Chief Operating Decision Maker (the “CODM”), which is the Company’s Chief Executive Officer, utilizes financial information to make decisions about allocating resources and assessing performance for the entire Company, which is used in the decision-making process to assess performance. The Company has a diverse base of customers across its three end markets, semiconductor, electronics and packaging, and specialty industrial. Segment gross margin is the primary

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measure used by the CODM to assess segment performance and allocate resources. Gross margin, among other measures, is utilized when making decisions about capital and personnel allocations across segments.

The Company has three reporting segments, VSD, PSD and MSD as described below.

VSD delivers foundational technology solutions to semiconductor manufacturing, electronics and packaging and specialty industrial applications. VSD products are derived from the Company's core competencies in vacuum technologies, including pressure measurement and control, flow measurement and control, gas and vapor delivery, gas composition analysis, electronic control technology, reactive gas generation and delivery, power generation and delivery, and fiber optic temperature and position sensing.

PSD provides a broad range of solutions including lasers, beam measurement and profiling, precision motion control, vibration isolation systems, photonics instruments, opto-mechanical components, optical elements, laser-based systems for flexible printed circuit board ("PCB") laser processing, laser-based systems for high-density interconnect PCB and package substrate manufacturing.

MSD develops leading process and manufacturing technologies for advanced surface modification, electroless and electrolytic plating, and surface finishing. Applying a comprehensive systems-and-solutions approach, MSD's portfolio includes chemistry, equipment and services for innovative and high-technology applications in the electronics and packaging and specialty industrial markets.

The Company derives its segment results directly from the manner in which results are reported in its management reporting system. The accounting policies that the Company uses to derive reportable segment results are substantially the same as those used for external reporting purposes. The Company groups its product offerings by its reportable segments, VSD, PSD, and MSD. For each reportable segment, the Company also provides services relating to the maintenance and repair of its products, installation services and training. Unallocated corporate expenses represent those costs not specifically related to the operations of each segment and are managed separately at the corporate level and primarily relate to labor costs of global functions such as supply chain, quality control and operations.

The following tables set forth the details of gross profit by reportable segment and the reconciliation to income before income taxes:

	Three Months Ended March 31, 2025			
	VSD	PSD	MSD	Total
Product	\$ 317	\$ 226	\$ 276	\$ 819
Services	69	37	11	117
Revenues by segment	<u>386</u>	<u>263</u>	<u>287</u>	<u>936</u>
Total cost of revenues (exclusive of amortization shown separately below) <sup>(1)</sup>	211	147	131	489
Segment gross profit	<u>175</u>	<u>116</u>	<u>156</u>	<u>447</u>
Segment gross profit percentage	45.3%	44.0%	54.5%	47.8%
<i>Reconciliation to income before income taxes</i>				
Operating expenses:				
Research and development				70
Selling, general and administrative				185
Restructuring and other				16
Fees and expenses related to amendments to the Term Loan				
Facility				2
Amortization of intangible assets				60
Unallocated corporate expenses				3
Income from operations				<u>111</u>
Interest income				(3)
Interest expense				53
Loss on extinguishment of debt				3
Other (income) expense, net				(1)
Income before income taxes				<u>\$ 59</u>

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	Three Months Ended March 31, 2024			
	VSD	PSD	MSD	Total
Product	\$ 274	\$ 214	\$ 266	\$ 754
Services	58	40	16	114
Revenues by segment	<u>332</u>	<u>254</u>	<u>282</u>	<u>868</u>
Total cost of revenues (exclusive of amortization shown separately below) <sup>(1)</sup>	188	136	125	449
Segment gross profit	<u>144</u>	<u>118</u>	<u>157</u>	<u>419</u>
Segment gross profit percentage	43.5%	46.4%	55.6%	48.3%
<i>Reconciliation to income before income taxes</i>				
Operating expenses:				
Research and development				70
Selling, general and administrative				170
Acquisition and integrated costs				1
Restructuring and other				3
Fees and expenses related to amendments to the Term Loan Facility				3
Amortization of intangible assets				62
Unallocated corporate expenses				4
Income from operations				106
Interest income				(6)
Interest expense				87
Loss on extinguishment of debt				9
Other (income) expense, net				(3)
Income before income taxes				<u>\$ 19</u>

(1) The significant expense category and amount align with the segment-level information that is regularly provided to the CODM.

The following table sets forth capital expenditures by reportable segment:

	Three Months Ended March 31,	
	2025	2024
VSD	\$ 8	\$ 5
PSD	2	8
MSD	8	5
Total capital expenditures	<u>\$ 18</u>	<u>\$ 18</u>

The following table sets forth depreciation and amortization by reportable segment:

	Three Months Ended March 31,	
	2025	2024
VSD	\$ 11	\$ 11
PSD	12	13
MSD	62	64
Total depreciation and amortization	<u>\$ 85</u>	<u>\$ 88</u>

The following tables set forth segment assets by reportable segment:

March 31, 2025	Accounts receivable, net			Inventories	Total
	VSD	PSD	MSD		
VSD	\$ 213	\$ 490	\$ 703		703
PSD	187	257	444		444
MSD	239	147	386		386
Total segment assets	<u>\$ 639</u>	<u>\$ 894</u>	<u>\$ 1,533</u>		<u>\$ 1,533</u>

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December 31, 2024	Accounts receivable, net	Inventories	Total
VSD	\$ 200	\$ 488	\$ 688
PSD	168	260	428
MSD	247	145	392
Total segment assets	<u>\$ 615</u>	<u>\$ 893</u>	<u>\$ 1,508</u>

The following table reconciles total segment assets to total assets:

	March 31, 2025	December 31, 2024
Total segment assets	\$ 1,533	\$ 1,508
Cash and cash equivalents	655	714
Other current assets	238	252
Property, plant and equipment, net	774	771
Right-of-use assets, net	239	238
Goodwill and intangible assets, net	4,734	4,751
Other assets	383	356
Total assets	<u>\$ 8,556</u>	<u>\$ 8,590</u>

#### Geographic Area

Information about the Company's operations by geographic area is presented in the tables below. Net revenues from unaffiliated customers are based on the shipped-to location of the end customer. Starting in the second quarter of 2024, the Company changed its basis of reporting geographical net revenues from the location in which the sale originated to the shipped-to location of the end customer. Prior periods have been recast to reflect this change, which was made to better align with how management reviews geographic net revenues. Intercompany sales between geographic areas are at tax transfer prices and have been eliminated from consolidated revenues.

	Three Months Ended March 31,	
	2025	2024
Net revenues:		
United States	\$ 177	\$ 220
China	219	170
South Korea	103	88
Japan	68	57
Singapore	63	56
Taiwan	60	47
Other	246	230
	<u>\$ 936</u>	<u>\$ 868</u>

#### (16) **Restructuring and Other**

The Company recorded restructuring charges of \$16 during the three months ended March 31, 2025, related to severance costs incurred as a result of a cost saving initiative implemented during the first quarter of 2025, primarily in the general metal finishing business within MSD. The Company recorded restructuring charges of \$3 during the three months ended March 31, 2024, primarily related to severance costs incurred as a result of a global cost saving initiative implemented in the fourth quarter of 2023.

The activity related to the Company's restructuring accrual is shown below:

	Three Months Ended March 31,	
	2025	2024
Restructuring accrual, beginning of period	\$ 3	\$ 9
Charged to expense	16	3
Payments and adjustments	(3)	(5)
Restructuring accrual, end of period	<u>\$ 16</u>	<u>\$ 7</u>

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(in millions, except per share data)

**(17) Commitments and Contingencies**

Legal Proceedings

The Company is subject to various legal proceedings and claims that have arisen in the ordinary course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on the Company's results of operations, financial condition or cash flows.

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

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 regarding the future financial performance, business prospects and growth of MKS Instruments, Inc. ("MKS," the "Company," "our," or "we"). These statements are only predictions based on current assumptions and expectations. Any statements that are not statements of historical fact (including statements containing the words "will," "projects," "intends," "believes," "plans," "anticipates," "expects," "estimates," "forecasts," "continues" and similar expressions) should be considered forward-looking statements. Actual events or results may differ materially from those in the forward-looking statements set forth herein.

Among the important factors that could cause actual events to differ materially from those in the forward-looking statements that we make are the level and terms of our substantial indebtedness and our ability to service such debt; our entry into the chemicals technology business through our acquisition of Atotech Limited ("Atotech") in August 2022 (the "Atotech Acquisition") which has exposed us to significant additional liabilities; the risk that we are unable to realize the anticipated benefits of the Atotech Acquisition; risks related to cybersecurity, data privacy and intellectual property; competition from larger, more advanced or more established companies in our markets; the ability to successfully grow our business, including through growth of the Atotech business and financial risks associated with that acquisition and potential future acquisitions, including goodwill and intangible asset impairments; manufacturing and sourcing risks, including those associated with limited and sole source suppliers and the impact and duration of supply chain disruptions, component shortages, and price increases; changes in global demand; risks associated with doing business internationally, including geopolitical conflicts, such as the conflict in the Middle East, trade compliance, trade protection measures, such as import tariffs by the United States or retaliatory actions taken by other countries, regulatory restrictions on our products, components or markets, particularly the semiconductor market, and unfavorable currency exchange and tax rate fluctuations, which risks become more significant as we grow our business internationally and in China specifically; conditions affecting the markets in which we operate, including fluctuations in capital spending in the semiconductor, electronics manufacturing and automotive industries, and fluctuations in sales to our major customers; disruptions or delays from third-party service providers upon which our operations may rely; the ability to anticipate and meet customer demand; the challenges, risks and costs involved with integrating or transitioning global operations of the companies we have acquired; risks associated with the attraction and retention of key personnel; potential fluctuations in quarterly results; dependence on new product development; rapid technological and market change; acquisition strategy; volatility of stock price; risks associated with chemical manufacturing and environmental regulation compliance; risks related to defective products; financial and legal risk management; and the other important factors described under the heading "Risk Factors" in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2024 filed with the U.S. Securities and Exchange Commission on February 25, 2025 ("Annual Report"), Part II, Item 1A of this Quarterly Report on Form 10-Q and any subsequent Quarterly Reports on Form 10-Q. We are under no obligation to, and expressly disclaim any obligation to, update or alter these forward-looking statements, whether as a result of new information, future events or otherwise, even if subsequent events cause our views to change.

The Management's Discussion and Analysis of Financial Condition and Results of Operations describes principal factors affecting the results of operations, financial condition, cash flows and liquidity, as well as our critical accounting policies and estimates that require significant judgment and thus have the most significant potential impact on our condensed consolidated financial statements, and is intended to better allow investors to view the Company from management's perspective. This section focuses on material events and uncertainties known to management that are reasonably likely to cause reported financial information not to be necessarily indicative of our future operating results or of our future financial condition. This section provides an analysis of our financial results for the three months ended March 31, 2025 compared to the three months ended December 31, 2024 and the three months ended March 31, 2024. As a result of rounding, there may be immaterial differences in amounts presented and certain calculations may not sum to the total number expressed in each category or tie to a corresponding schedule.

### Overview

We enable technologies that transform our world. We deliver foundational technology solutions to leading edge semiconductor manufacturing, electronics and packaging, and specialty industrial applications. We apply our broad science and engineering capabilities to create instruments, subsystems, systems, process control solutions and specialty chemicals technology that improve process performance, optimize productivity and enable unique innovations for many of the world's leading technology and industrial companies. Our solutions are critical to addressing the challenges of miniaturization and complexity in advanced device manufacturing by enabling increased power, speed, feature enhancement and optimized connectivity. Our solutions are also critical to addressing ever-increasing performance requirements across a wide array of specialty industrial applications.

## Recent Developments

The new U.S. administration has imposed a series of tariffs on U.S. trading partners to address trade imbalances, cross-border issues, and other foreign policy disputes that have been met with both real and threatened retaliatory measures by impacted countries. We continue to closely monitor these developments, modifications and responsive actions and are actively implementing contingency plans, including alternative sourcing strategies and supplier diversification, to support supply chain continuity, maintain operational efficiency, and help mitigate potential future impacts.

## Segments

We have three divisions, which are our reportable segments: Vacuum Solutions Division (“VSD”), Photonics Solutions Division (“PSD”) and Materials Solutions Division (“MSD”).

VSD delivers foundational technology solutions to semiconductor manufacturing, electronics and packaging and specialty industrial applications. VSD products are derived from our core competencies in vacuum technologies, including pressure measurement and control, flow measurement and control, gas and vapor delivery, gas composition analysis, electronic control technology, reactive gas generation and delivery, power generation and delivery, and fiber optic temperature and position sensing.

PSD provides a broad range of solutions including lasers, beam measurement and profiling, precision motion control, vibration isolation systems, photonics instruments, opto-mechanical components, optical elements, laser-based systems for flexible printed circuit board (“PCB”) laser processing, laser-based systems for high density interconnect PCB and package substrate manufacturing.

MSD develops leading process and manufacturing technologies for advanced surface modification, electroless and electrolytic plating, and surface finishing. Applying a comprehensive systems-and-solutions approach, MSD’s portfolio includes chemistry, equipment and services for innovative and high-technology applications in our electronics and packaging and specialty industrial markets.

## Markets

### Net Revenues by End Market

<i>(Dollars in millions)</i>	Three Months Ended					
	March 31, 2025	% Total	December 31, 2024	% Total	March 31, 2024	% Total
Semiconductor	\$ 413	44%	\$ 400	43%	\$ 351	40%
Electronics and Packaging	253	27%	254	27%	208	24%
Specialty Industrial	270	29%	281	30%	309	36%
Total net revenues	<u>\$ 936</u>	<u>100%</u>	<u>\$ 935</u>	<u>100%</u>	<u>\$ 868</u>	<u>100%</u>

### ***Semiconductor Market***

We are a critical solutions provider for semiconductor manufacturing. Our products are used in major semiconductor processing steps, such as deposition, etching, cleaning, lithography, metrology, and inspection. The semiconductor industry continually faces new challenges, as products become smaller, more powerful and highly mobile. Ultra-thin layers, smaller critical dimensions, new materials, 3D structures, and the ongoing need for higher yield and productivity drive the need for tighter process measurement and control, all of which we support. We believe we are the broadest critical subsystem provider in the wafer fabrication equipment ecosystem and address over 85% of the market. We characterize our broad and unique offering as Surround the Wafer® to reflect the technology enablement we provide across almost every major process in semiconductor manufacturing today.

The semiconductor market is subject to rapid demand shifts, which are difficult to predict, and we cannot be certain as to the timing or extent of future demand or any future softening in the semiconductor capital equipment industry. In addition to these rapid demand shifts, the semiconductor capital equipment industry has recently been subject to significant trade restrictions, especially in key markets, including China.

For the three months ended March 31, 2025, net revenues in our semiconductor market increased by \$13 million, or 3%, compared to the prior quarter primarily due to strong in-quarter demand conversion at VSD for semiconductor capital equipment and services.

For the three months ended March 31, 2025, net revenues in our semiconductor market increased by \$62 million, or 18%, compared to the same period in the prior year. The increase was mainly due to an increase in sales of our semiconductor

capital equipment related to strength in logic and foundry applications and planned upgrades to support existing NAND memory production, as well as increased services revenues.

### ***Electronics and Packaging Market***

We are a foundational solutions provider for the electronics and packaging market. Our portfolio includes photonics components, laser drilling systems, electronics chemistries and plating equipment that are critical for the manufacturing of PCBs and package substrates, and critical to wafer level packaging (“WLP”) applications. Similar to the semiconductor industry, the PCB, package substrate and WLP industries demand smaller features, greater density, and better performance. In addition, the electronics and packaging market also includes sales of our vacuum and photonics solutions for display manufacturing applications. We characterize our complementary offering of laser systems and chemistry solutions as Optimize the Interconnect®, to reflect the unique technology enablement we provide at the Interconnect level within PCBs, package substrates and WLPs.

For the three months ended March 31, 2025, net revenues in our electronics and packaging market decreased by \$1 million, or less than 1%, compared to the prior quarter primarily due to a decrease in chemistry sales in the electronics market at MSD, mainly as a result of seasonal decline due to the Lunar New Year, partially offset by an increase in PCB via drilling systems sales at PSD.

For the three months ended March 31, 2025, net revenues in our electronics and packaging market increased by \$45 million, or 22%, compared to the same period in the prior year. This increase was primarily due to higher industry demand for PCB via drilling systems at PSD and an increase in both chemistry and equipment sales in the electronics market at MSD.

### ***Specialty Industrial Market***

Our strategy in the specialty industrial market is to leverage our domain expertise and proprietary technologies across a broad array of applications in industrial, life and health sciences, and research and defense markets.

#### ***Industrial***

Industrial encompasses a wide range of diverse applications, including chemistries for functional coatings, surface finishing and wear resistance in the automobile industry, vacuum solutions for synthetic diamond manufacturing and photonics for solar manufacturing. Other applications include vacuum and photonics solutions for light emitting diode and laser diode manufacturing.

#### ***Life and Health Sciences***

Our products for life and health sciences are used in a diverse array of applications, including bioimaging, medical instrument sterilization, medical device manufacturing, analytical, diagnostic and surgical instrumentation, consumable medical supply manufacturing and pharmaceutical production.

#### ***Research and Defense***

Our products for research and defense are sold to government, university and industrial laboratories for applications involving research and development in materials science, physical chemistry, photonics, optics and electronics materials. Our products are also sold for monitoring and defense applications, including surveillance, imaging and infrastructure protection.

For the three months ended March 31, 2025, net revenues in our specialty industrial market decreased by \$11 million, or 4%, compared to the prior quarter mainly due to lower chemistry sales in the automotive market at MSD, mainly as a result of seasonal decline due to the Lunar New Year, as well as lower revenue in our general industrial market at VSD and MSD.

For the three months ended March 31, 2025, net revenues in our specialty industrial market decreased by \$39 million, or 13%, compared to the same period in the prior year. This decrease was mainly due to lower chemistry sales in the automotive market at MSD as well as lower revenue across the material processing and spectroscopy markets at PSD and the general industrial market at VSD and MSD.

### ***International Markets***

Starting in the second quarter of 2024, we changed our basis of reporting geographical net revenues from the location in which the sale originated to the shipped-to location of the end customer. Prior periods have been recast to reflect this change, which was made to better align with how management reviews geographical net revenues.

A significant portion of our net revenues is from sales to customers in international markets. For the three months ended March 31, 2025 and 2024, international net revenues accounted for approximately 81% and 75%, respectively, of our total net revenues. A significant portion of our international net revenues was from customers in China, South Korea, Japan, Singapore and Taiwan. We expect international net revenues will continue to account for a significant percentage of total net revenues for the foreseeable future.

Long-lived assets located outside of the United States accounted for approximately 60% and 59% of our total long-lived assets as of March 31, 2025 and December 31, 2024, respectively. Long-lived assets include property, plant and equipment, net, right-of-use assets, net and certain other assets.

### Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States requires management to make judgments, assumptions and estimates that affect the amounts reported. There have been no material changes in our critical accounting policies since December 31, 2024.

For further information about our critical accounting policies, please see the discussion of critical accounting policies in our Annual Report in the section captioned “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates.”

### Results of Operations

The following table sets forth, for the periods indicated, the percentage of total net revenues of certain line items included in our condensed consolidated statements of operations and comprehensive income (loss) data:

	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Net revenues:			
Product	87.5%	88.1%	86.9%
Service	12.5	11.9	13.1
Total net revenues	100.0	100.0	100.0
Cost of revenues:			
Cost of product revenues	46.7	47.4	45.9
Cost of service revenues	5.9	5.5	6.3
Total cost of revenues (exclusive of amortization shown separately below)	52.6	52.8	52.2
Gross profit	47.4	47.2	47.8
Research and development	7.5	7.0	8.1
Selling, general and administrative	19.8	18.8	19.6
Acquisition and integration costs	—	0.3	0.1
Restructuring and other	1.7	0.1	0.3
Fees and expenses related to amendments to the Term Loan Facility	0.2	—	0.3
Amortization of intangible assets	6.4	6.5	7.1
Income from operations	11.8	14.4	12.2
Interest income	(0.3)	(0.5)	(0.7)
Interest expense	5.7	5.8	10.0
Loss on extinguishment of debt	0.3	0.4	1.0
Other (income) expense, net	(0.1)	0.3	(0.3)
Income before income taxes	6.3	8.4	2.2
Provision (benefit) for income taxes	0.7	(1.2)	0.5
Net income	5.6%	9.6%	1.7%

The following table sets forth our net revenues for products and services:

## Net Revenues

(Dollars in millions)	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Product	\$ 819	\$ 824	\$ 754
Service	117	111	114
Total net revenues	\$ 936	\$ 935	\$ 868

For the three months ended March 31, 2025, net product revenues decreased \$5 million compared to the prior quarter primarily due to lower chemistry sales in the electronics and packaging and specialty industrial markets, mainly at MSD and driven by seasonality with the Lunar New Year, partially offset by increases in sales in the semiconductor market at VSD and in the electronics and packaging market related to PCB via drilling system sales at PSD.

For the three months ended March 31, 2025, net product revenues increased \$65 million compared to the same period in the prior year as a result of increases in sales in the semiconductor and electronics and packaging markets, offset by decreases in sales in our specialty industrial market and the negative impact of foreign currency exchange. The increase in product revenues in the semiconductor market was mainly due to increases in sales in semiconductor capital equipment related to deposition and etching tools for memory applications at VSD. The increase in product revenues in our electronics and packaging market was mainly due to higher PCB via drilling systems sales at PSD. The decrease in product revenues in our specialty industrial market was mainly due to lower chemistry sales in the automotive market at MSD as well as lower revenues in the general industrial market at VSD and MSD and lower revenues across the material processing and spectroscopy markets at PSD.

Net service revenues consisted mainly of fees for services related to the maintenance and repair of our products, sales of spare parts, and installation and training. For the three months ended March 31, 2025, net service revenues increased \$6 million compared to the prior quarter mainly as a result of higher demand in our semiconductor market at VSD.

For the three months ended March 31, 2025, net service revenues increased \$3 million compared to the same period in the prior year primarily due to higher demand in our semiconductor market at VSD, partially offset by lower demand in our electronics and packaging market at PSD and MSD.

The following table sets forth our net revenues by reportable segment:

(Dollars in millions)	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Vacuum Solutions Division	\$ 386	\$ 372	\$ 332
Photonics Solutions Division	263	263	254
Materials Solutions Division	287	300	282
Total net revenues	\$ 936	\$ 935	\$ 868

For the three months ended March 31, 2025, net revenues from VSD increased \$14 million compared to the prior quarter mainly due to increased product revenues in the semiconductor market as a result of in quarter demand conversion, as well as increased service revenues. For the three months ended March 31, 2025, net revenues from VSD increased \$54 million compared to the same period in the prior year mainly due to volume increases in capital equipment sales to the semiconductor market related to strength in logic and foundry applications and planned upgrades to support existing NAND memory production, as well as increased service revenues related to the semiconductor market. This was partially offset by decreases in sales in the specialty industrial market and the negative impact of foreign currency exchange.

For the three months ended March 31, 2025, net revenues from PSD remained flat compared to the prior quarter. For the three months ended March 31, 2025, net revenues from PSD increased \$9 million compared to the same period in the prior year mainly due to an increase in sales of PCB via drilling systems in our electronics and packaging market offset by decreases in sales in material processing and spectroscopy in our specialty industrial market.

For the three months ended March 31, 2025, net revenues from MSD decreased \$13 million compared to the prior quarter mainly due to a decrease in chemistry sales primarily from seasonality related to a slowdown in production as a result of the Lunar New Year. For the three months ended March 31, 2025, revenues from MSD increased \$5 million compared to the same period in the prior year mainly due to higher equipment sales in the electronics and packaging market partially offset by lower automotive manufacturing sales and lower palladium prices, which are passed through to our customers, as well as the negative impact of foreign currency exchange.

The following table sets forth gross profit as a percentage of net revenues by product and service:

## Gross Profit Excluding Amortization

	Three Months Ended				
	March 31, 2025	December 31, 2024	% Points Change	March 31, 2024	% Points Change
<i>(As a percentage of net revenues)</i>					
Product	46.6%	46.2%	0.4%	47.2%	(0.6)%
Service	52.9%	54.4%	(1.5)%	52.1%	0.8%
Total gross profit percentage	47.4%	47.2%	0.2%	47.8%	(0.4)%

Gross profit as a percentage of net product revenues increased by 0.4 percentage points for the three months ended March 31, 2025 compared to the prior quarter, primarily due to favorable product mix and lower material costs, partially offset by higher excess and obsolete inventory charges.

Gross profit as a percentage of net product revenues decreased by 0.6 percentage points for the three months ended March 31, 2025 compared to the same period in the prior year, primarily due to higher excess and obsolete inventory charges and higher freight and duties costs, partially offset by higher revenue volumes.

Gross profit as a percentage of net services revenues decreased by 1.5 percentage points for the three months ended March 31, 2025 compared to the prior quarter, primarily due to unfavorable product mix and higher variable compensation, partially offset by lower excess and obsolete inventory charges.

Gross profit as a percentage of net services revenues increased by 0.8 percentage points for the three months ended March 31, 2025 compared to the same period in the prior year, primarily due to favorable product mix, partially offset by higher excess and obsolete inventory charges and higher variable compensation.

The following table sets forth gross profit as a percentage of net revenues by reportable segment:

	Three Months Ended				
	March 31, 2025	December 31, 2024	% Points Change	March 31, 2024	% Points Change
<i>(As a percentage of net revenues)</i>					
Vacuum Solutions Division	45.3%	42.1%	3.2%	43.5%	1.8%
Photonics Solutions Division	44.0%	45.0%	(1.0)%	46.4%	(2.4)%
Materials Solutions Division	54.5%	55.4%	(0.9)%	55.6%	(1.1)%
Total gross profit percentage	47.4%	47.2%	0.2%	47.8%	(0.4)%

Gross profit as a percentage of net revenues for VSD increased for the three months ended March 31, 2025 compared to the prior quarter, primarily due to operational efficiencies partially driven by higher revenue volumes, as well as lower material costs and favorable product mix. Gross profit as a percentage of net revenues for VSD increased for the three months ended March 31, 2025 compared to the same period in the prior year, primarily due to higher revenue volumes and favorable overhead absorption partially offset by higher freight and duty costs, and higher excess and obsolete charges.

Gross profit as a percentage of net revenues for PSD decreased for the three months ended March 31, 2025 compared to the prior quarter, primarily due to higher excess and obsolete inventory charges and unfavorable production variances. Gross profit as a percentage of net revenues for PSD decreased for the three months ended March 31, 2025 compared to the same period in the prior year, primarily due to unfavorable product mix, higher warranty costs and higher freight and duty costs, partially offset by operational efficiencies due in part to higher revenue volumes compared to the same period in the prior year.

Gross profit as a percentage of net revenues for MSD decreased for the three months ended March 31, 2025 compared to the prior quarter and compared to the same period in the prior year. The decrease for both periods was primarily due to higher excess and obsolete charges and unfavorable product mix.

The above gross profit percentages by division exclude an immaterial amount of unallocated corporate expense included in the total gross profit percentage.

## Research and Development

	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
<i>(Dollars in millions)</i>			
Research and development	\$ 70	\$ 65	\$ 70

Research and development expenses increased \$5 million for the three months ended March 31, 2025 compared to the prior quarter, mainly due to an increase of \$4 million in compensation-related costs, including fringe and variable compensation.

Research and development expenses were flat for the three months ended March 31, 2025 compared to the same period in the prior year.

Our research and development efforts are primarily focused on developing and improving our instruments, components, chemistry, subsystems, systems and process control solutions to improve process performance and productivity. We have thousands of products, and our research and development efforts primarily consist of a large number of projects related to these products, none of which is individually material. Projects typically have a duration of 3 to 36 months but may be extended for development of new products.

We continue to make product advancements designed to meet our customers' evolving needs. We have developed, and continue to develop, new products designed to address industry trends, such as the rising demand for more complex hardware architecture related to increasing investments in artificial intelligence, the shrinking of integrated circuit critical dimensions and technology inflections, and, in the flat panel display and solar markets, the transition to larger substrate sizes, which require more advanced processing and process control technology, the continuing drive toward more complex and accurate components and devices within the handset and tablet market, the transition to 5G for both devices and infrastructure, the growth in units and via counts in the high density interconnect PCB drilling market, and the transition from internal combustion to electric vehicles. In addition, we have developed, and continue to develop, products that support the migration to new classes of materials, ultra-thin layers, and 3D structures that are used in small geometry manufacturing. In our chemistry and equipment plating businesses, a majority of our research and development investment supports existing customers' product improvement needs and their short-term research and development goals, which enables us to pioneer new high-value solutions while limiting commercial risk. Research and development expenses consist primarily of salaries and related expenses for personnel engaged in research and development, fees paid to consultants, material costs for prototypes and other expenses related to the design, development, testing and enhancement of our products.

We believe that the continued investment in research and development and ongoing development of new products are essential to the expansion of our markets. We expect to continue to make significant investment in research and development activities. We are subject to risks from products not being developed in a timely manner, as well as from rapidly changing customer requirements and competitive threats from other companies and technologies. Our success depends on many of our products being designed into new generations of equipment for the semiconductor, electronics and packaging, and specialty industrial markets. We seek to develop products that are technologically advanced so that they are positioned to be chosen for use in each successive generation of semiconductor capital equipment and advanced markets applications. If our products are not chosen to be designed into our customers' products, our net revenues may be reduced during the lifespan of those products.

#### Selling, General and Administrative

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Selling, general and administrative	\$ 185	\$ 176	\$ 170

Selling, general and administrative expenses increased \$9 million for the three months ended March 31, 2025 compared to the prior quarter, primarily due to an increase of \$19 million in compensation-related costs mainly related to stock and other variable incentive compensation offset primarily by decreases of \$3 million in consulting and professional fees, \$3 million in employee travel costs and \$1 million in information technology costs.

Selling, general and administrative expenses increased \$15 million for the three months ended March 31, 2025 compared to the same period in the prior year, primarily due to an increase of \$13 million in compensation-related costs mainly related to stock and other variable incentive compensation.

#### Acquisition and Integration Costs

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Acquisition and integration costs	\$ —	\$ 3	\$ 1

Acquisition and integration costs incurred during 2024 were related to consulting and professional fees related to the Atotech Acquisition.

## Restructuring and Other

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Restructuring and other	\$ 16	\$ 1	\$ 3

Restructuring and other charges during the three months ended March 31, 2025 related to severance costs incurred as a result of a cost saving initiative primarily in the general metals finishing business within MSD implemented in the first quarter of 2025. Restructuring and other charges during the three months ended December 31, 2024 and March 31, 2024, primarily related to severance costs incurred as a result of a global cost-saving initiative implemented in the fourth quarter of 2023.

## Fees and Expenses Related to Amendments to the Term Loan Facility

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Fees and expenses related to amendments to the Term Loan Facility	\$ 2	\$ —	\$ 3

During the three months ended March 31, 2025, we recorded fees and expenses related to the Fifth Amendment to Credit Agreement, dated as of January 24, 2025, by and among us as parent borrower, the other loan parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and each lender party thereto (the "Fifth Amendment"). During the three months ended March 31, 2024, we recorded fees and expenses related to the incremental loans under the Term Loan Facility (as defined and described further below under "Credit Facilities") incurred pursuant to the Second Amendment to Credit Agreement, dated as of January 22, 2024, by and among us as parent borrower, the other loan parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and each lender party thereto.

## Amortization of Intangible Assets

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Amortization of intangible assets	\$ 60	\$ 61	\$ 62

Amortization of intangible assets for the three months ended March 31, 2025 decreased \$1 million compared to the prior quarter and decreased \$2 million compared to the same period in the prior year.

## Interest Expense, Net

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Interest expense, net	\$ 50	\$ 49	\$ 81

Interest expense, net increased by \$1 million for the three months ended March 31, 2025 compared to the prior quarter, primarily as a result of the maturity of favorable interest rate swaps during the quarter, partially offset by the reduction of interest expense due to entering into the Fifth Amendment, which decreased the applicable margin for both the USD Tranche B loan and the EUR Tranche B loan (each as defined and described further below under "Credit Facilities") by 0.25% and the voluntary prepayment of \$100 million principal amount of USD Tranche B loans in January 2025 ("January 2025 Prepayment").

Interest expense, net decreased by \$31 million for the three months ended March 31, 2025 compared to the same period in the prior year, primarily as a result of the issuance of \$1.4 billion of Convertible Notes (as defined and described further below under "Convertible Notes,") in May 2024 at a coupon rate of 1.25%, of which \$1.2 billion of the proceeds were used to pay down our loans under the Term Loan Facility with an interest rate of approximately 7.8%. In addition, in July 2024, we entered into the Fourth Amendment to Credit Agreement, dated as of July 23, 2024 by and among us as parent borrower, the other loan parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and each lender party thereto, and in January 2025 we entered into the Fifth Amendment, each of which decreased the applicable margin for both the USD Tranche B and EUR Tranche B by 0.25%. In addition, interest expense, net was lower for the three months ended March 31, 2025 as compared to the same period in the prior year as a result of the voluntary prepayments of \$50 million in February

2024, \$50 million in April 2024, \$110 million in July 2024, \$216 million in October 2024 and \$100 million in January 2025 on loans under the Term Loan Facility.

#### Loss on Extinguishment of Debt

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Loss on extinguishment of debt	\$ 3	\$ 4	\$ 9

For the three months ended March 31, 2025, in connection with the January 2025 Prepayment and the Fifth Amendment, we recorded a loss on extinguishment of debt as a result of the acceleration of deferred financing and original issue discounts associated with our loans under the Term Loan Facility. For the three months ended December 31, 2024, in connection with voluntary prepayments under the Term Loan Facility made in October 2024, we recorded a loss on extinguishment of debt as a result of the acceleration of deferred financing and original issue discount costs. For the three months ended March 31, 2024, in connection with the amendments to our Credit Facilities, (as defined and described further below under “Credit Facilities”) we recorded losses on extinguishment of debt as a result of the acceleration of deferred financing and original issue discount costs.

#### Other (Income) Expense, Net

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Other (income) expense, net	\$ (1)	\$ 3	\$ (3)

Other (income) expense, net for the three months ended March 31, 2025, three months ended December 31, 2024 and three months ended March 31, 2024, consisted primarily of net foreign exchange and fair value gains and losses.

#### Provision (Benefit) for Income Taxes

<i>(Dollars in millions)</i>	Three Months Ended		
	March 31, 2025	December 31, 2024	March 31, 2024
Provision (benefit) for income taxes	\$ 7	\$ (11)	\$ 4

Our effective tax rates for the three months ended March 31, 2025, December 31, 2024, and March 31, 2024 were 12.3%, (14.5%), and 23.1%, respectively. Our effective tax rate for the three months ended March 31, 2025 was lower than the U.S. statutory tax rate, mainly due to the U.S. deduction for foreign derived intangible income (“FDII”) and research and development credits, partially offset by an expected increase in foreign withholding taxes and a waiver of deductions related to U.S. base erosion payments. Our effective tax rate for the three months ended December 31, 2024 was lower than the U.S. statutory tax rate primarily due to the U.S. deduction for FDII and valuation allowance release partially offset by the increase in withholding taxes. Our effective tax rate for the three months ended March 31, 2024 was higher than the U.S. statutory tax rate mainly due to an expected increase in foreign withholding taxes and U.S. base erosion and anti-abuse tax, partially offset by the FDII and research and development credits.

Our future effective tax rate depends on various factors, including the impact of tax legislation, further interpretations and guidance from U.S. federal and state governments on the impact of proposed regulations issued by the Internal Revenue Service, as well as the geographic composition of our pre-tax income and changes in income tax reserves for unrecognized tax benefits. We monitor these factors and timely adjust our estimates of the effective tax rate accordingly. While we believe we have adequately provided for all tax positions, amounts asserted by taxing authorities could materially differ from our accrued positions as a result of uncertain and complex application of tax laws and regulations. Additionally, the recognition and measurement of certain tax benefits include estimates and judgment by management. Accordingly, we could record additional provisions or benefits for U.S. federal, state, and foreign tax matters in future periods as new information becomes available.

The Organisation for Economic Co-operation and Development (“OECD”) and participating OECD member countries continue to work toward the enactment of a 15% global minimum corporate tax rate for large multinational enterprise groups, also known as “Pillar Two.” Many of the participating countries have enacted legislation that became effective beginning in 2024, while other countries continue to work on defining the underlying rules and administrative procedures. Although the enacted and effective legislation in some countries was applicable to us as of January 1, 2024, and increased our effective income tax rate, the increase did not have a material impact on our overall results of operations or cash flows. We will continue to monitor and evaluate the impacts of the developing legislation.

## Liquidity and Capital Resources

Cash and cash equivalents at March 31, 2025 and December 31, 2024 totaled \$655 million and \$714 million, respectively. The primary driver of our current and anticipated future cash flows is, and we expect will continue to be, cash generated from operations, consisting primarily of our net income, excluding non-cash charges and changes in operating assets and liabilities.

Our total cash and cash equivalents at March 31, 2025 consisted of \$106 million held in the United States and \$549 million held by our foreign subsidiaries. We believe that our current cash and investments position and available borrowing capacity, together with the cash anticipated to be generated from our operations, will be sufficient to satisfy our estimated working capital, planned capital expenditure requirements, payments of debt, and any future cash dividends declared by our Board of Directors or share repurchases through at least the next 12 months and the foreseeable future.

In periods when our sales are growing, higher sales to customers will result in increased trade receivables, and inventories will generally increase as we build products for future sales. This may result in lower cash generated from operations. Conversely, in periods when our sales are declining, our trade accounts receivable and inventory balances will generally decrease, resulting in increased cash from operations.

Net cash provided by operating activities was \$141 million for the three months ended March 31, 2025 and resulted from net income of \$52 million, which included non-cash charges of \$99 million, mainly the result of \$85 million in depreciation and amortization, offset by a net increase in working capital of \$10 million. The net increase in working capital was primarily due to a decrease in accounts payable of \$20 million and increases in trade accounts receivable of \$19 million and inventories of \$12 million. The net increase in working capital was partially offset by increases in accrued compensation of \$17 million and income taxes payable of \$12 million, and an increase in other current and non-current assets of \$17 million.

Net cash used in investing activities was \$18 million for the three months ended March 31, 2025 related to capital expenditures.

Net cash used in financing activities was \$180 million for the three months ended March 31, 2025, consisting of normal quarterly debt payments and a voluntary debt prepayment that together totaled \$113 million, as well as the repurchase of our common stock of \$45 million.

On July 25, 2011, our Board of Directors approved a share repurchase program for the repurchase of up to an aggregate of \$200 million of our outstanding common stock from time to time in open market purchases, privately negotiated transactions or through other appropriate means. The timing and quantity of any shares repurchased depends upon a variety of factors, including business conditions, stock market conditions and business development activities, including, but not limited to, merger and acquisition opportunities. These repurchases may be commenced, suspended or discontinued at any time without prior notice. Any repurchased shares are held by us as authorized but unissued shares.

During the three months ended March 31, 2025, we repurchased approximately 546,000 shares of our common stock for total consideration of \$45 million. During the three months ended March 31, 2024, we did not repurchase any shares of common stock. We have repurchased approximately 3.1 million shares of common stock for approximately \$172 million pursuant to the program since its adoption.

Holders of our common stock are entitled to receive dividends when and if they are declared by our Board of Directors. For each of the first quarters of 2025 and 2024, we paid cash dividends of \$15 million in the aggregate or \$0.22 per share, respectively. Future dividend declarations, if any, as well as the record and payment dates for such dividends, are subject to the final determination of our Board of Directors.

### Credit Facilities

In connection with the completion of the Atotech Acquisition, on August 17, 2022 (the “Effective Date”) we entered into a credit agreement with JPMorgan Chase Bank, N.A., as administrative agent and collateral agent, Barclays Bank PLC, and the lenders from time to time party thereto, which we have amended several times since including, most recently, in January 2025 (as amended, the “Amended Credit Agreement”). As of March 31, 2025, the Amended Credit Agreement provided for (i) a senior secured term loan facility comprised of two tranches: a \$2.5 billion loan (the “USD Tranche B”) and a €594 million loan (the “Euro Tranche B” and together with the USD Tranche B, the “Term Loan Facility”) and (ii) a senior secured revolving credit facility of \$675 million (the “Revolving Facility” and, together with the Term Loan Facility, the “Credit Facilities”), with the commitments under each of the foregoing facilities subject to increase from time to time subject to certain conditions. In January 2025, we made a voluntary prepayment of \$100 million principal amount to the USD Tranche B loan, which reduced the principal from \$2.6 billion to \$2.5 billion.

As of March 31, 2025, borrowings under the Credit Facilities bore interest at a rate per annum equal to, at our option, any of the following, plus, in each case, an applicable margin: (a) with respect to the USD Tranche B and the Revolving Facility, (x)

a base rate determined by reference to the highest of (1) the federal funds effective rate plus 0.50%, (2) the prime rate quoted in The Wall Street Journal, or (3) a forward-looking term rate based on the variable secured overnight financing rate (“Term SOFR”) (plus an applicable credit spread adjustment) for an interest period of one month, plus 1.00%, and (y) a Term SOFR rate (plus an applicable credit spread adjustment) for the interest period relevant to such borrowing, subject to a rate floor of (I) with respect to the USD Tranche B, 0.50% and (II) with respect to the Revolving Facility, 0.0%; and (b) with respect to the Euro Tranche B, a Euro Interbank Offered Rate (“EURIBOR”) rate determined by reference to the costs of funds for Euro deposits for the interest period relevant to such borrowing adjusted for certain additional costs, subject to a EURIBOR rate floor of 0.0%. As of March 31, 2025, the applicable margins for borrowings under the Credit Facilities were (i) under the USD Tranche B, 1.00% with respect to base rate borrowings and 2.00% with respect to Term SOFR borrowings, (ii) under the Euro Tranche B, 2.50% and (iii) under the Revolving Facility, 1.50% with respect to base rate borrowings and 2.50% with respect to Term SOFR borrowings.

In addition to paying interest on outstanding principal under the Credit Facilities, we are required to pay a commitment fee in respect of the unutilized commitments under the Revolving Facility. The commitment fee is subject to adjustment based on our first lien net leverage ratio as of the end of the preceding fiscal quarter. We must also pay customary letter of credit fees and agency fees. As of March 31, 2025, the commitment fee was 0.25% per annum.

As of March 31, 2025, the principal outstanding on the Term Loan Facility was \$3.2 billion, and the weighted average interest rate was 6.0%. The Revolving Facility has a maturity date in August 2027 while the USD Tranche B and Euro Tranche B have a maturity date in August 2029. As of March 31, 2025, there were no borrowings under the Revolving Facility.

We are required to make scheduled quarterly principal payments equal to approximately \$10 million with respect to the USD Tranche B and approximately €2 million with respect to the Euro Tranche B, in each case with the balance due thereunder on the seventh anniversary of the Effective Date. There is no scheduled amortization under the Revolving Facility. Any principal amount outstanding under the Revolving Facility is due and payable in full on the fifth anniversary of the Effective Date.

Under the Amended Credit Agreement, we are required to prepay outstanding term loans, subject to certain exceptions, with portions of our annual excess cash flow as well as with the net cash proceeds of certain of its asset sales, certain casualty and condemnation events and the incurrence or issuances of certain debt. If at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and undrawn letters of credit under the Revolving Facility exceeds the aggregate commitments under the Revolving Facility, we are required to repay outstanding loans and/or cash collateralize letters of credit, with no reduction of the commitment amount.

We may voluntarily prepay, and have voluntarily repaid, outstanding loans under the Credit Facilities from time to time, subject to certain conditions, without premium or penalty other than customary “breakage” costs with respect to Term SOFR or EURIBOR loans and any prepayment premium that might be applicable to repayments we make prior to July 24, 2025. Additionally, we may voluntarily reduce the unutilized portion of the commitment amount under the Revolving Facility.

All obligations under the Credit Facilities are guaranteed by certain of our wholly-owned domestic subsidiaries and are required to be guaranteed by certain of our future wholly-owned domestic subsidiaries, and are secured by substantially all of our assets and the assets of such subsidiaries, subject to certain exceptions and exclusions.

Under the Amended Credit Agreement, we have the ability to incur additional incremental debt facilities in an amount up to (x) the greater of (1) \$1,011 million and (2) 75% of consolidated last twelve months earnings before interest, taxes, depreciation, and amortization, plus (y) an amount equal to the sum of all voluntary prepayments of term loans under the Term Loan Facility, plus (z) an additional unlimited amount subject to pro forma compliance with certain leverage ratio tests (based on the security and priority of such incremental debt).

The Amended Credit Agreement contains customary representations and warranties, covenants and provisions relating to events of default. As of March 31, 2025, we were in compliance with all covenants under the Amended Credit Agreement. The USD Tranche B and the Euro Tranche B are not subject to financial maintenance covenants.

### Convertible Notes

On May 16, 2024, we completed a private offering of \$1.4 billion aggregate principal amount of convertible senior notes due 2030 (the “Convertible Notes”).

We used approximately \$167 million of the net proceeds from the offering to pay the cost of the capped call transactions described below. We used the remaining net proceeds from the offering to repay approximately \$1.2 billion in borrowings outstanding under the USD Tranche B, together with accrued interest, as well as for general corporate purposes.

### *Indenture and the Convertible Notes*

On May 16, 2024, we entered into an indenture (the “Indenture”) with respect to the Convertible Notes with U.S. Bank Trust Company, National Association, as trustee. Under the Indenture, the Convertible Notes are senior unsecured obligations of ours and bear interest at a coupon rate of 1.25% per annum, with interest payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2024. The Convertible Notes will mature on June 1, 2030, unless earlier converted, redeemed or repurchased in accordance with their terms.

Subject to certain conditions, on or after June 5, 2027, we may redeem for cash all or any portion of the Convertible Notes at a redemption price equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date, if the last reported sale price of our common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on, and including, the trading day immediately preceding the date the notice of redemption is sent.

The conversion rate for the Convertible Notes is initially 6.4799 shares of our common stock per one thousand dollars principal amount of the Convertible Notes, which is equivalent to an initial conversion price of approximately \$154.32 per share. The conversion rate is subject to adjustment upon the occurrence of certain events.

Upon conversion, we will pay cash up to the aggregate principal amount of the Convertible Notes to be converted and pay or deliver, as the case may be, cash, shares of common stock or a combination of cash and shares of common stock, at our election, in respect of the remainder, if any, of our conversion obligation in excess of the aggregate principal amount of the Convertible Notes being converted. Prior to March 1, 2030, noteholders may convert all or any portion of their Convertible Notes only upon the occurrence of certain events and during certain periods, and thereafter, at any time until the second scheduled trading day immediately preceding the maturity date.

If we undergo a fundamental change (as defined in the Indenture) prior to the maturity date of the Convertible Notes, holders may require us to repurchase for cash all or any portion of their Convertible Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Indenture contains customary terms and covenants, including that upon certain events of default that are occurring and continuing, either the trustee or the holders of at least 25% in aggregate principal amount of the outstanding Convertible Notes may declare 100% of the principal of, and accrued and unpaid interest, if any, on, all the Convertible Notes to be due and payable.

As of March 31, 2025, the Convertible Notes were classified as a long-term liability, net of issuances costs, on the condensed consolidated balance sheet. The Convertible Notes were issued at par and costs associated with the issuance of the Convertible Notes are amortized to interest expense over the contractual term of the Convertible Notes. As of March 31, 2025, the effective interest rate of the Convertible Notes was 1.56%.

### *Capped Call Transactions*

On May 13, 2024, in connection with the pricing of the Convertible Notes, and on May 14, 2024, in connection with the exercise in full by the initial purchasers of their option to purchase additional Convertible Notes, we entered into privately negotiated capped call transactions with certain of the initial purchasers of the Convertible Notes or their respective affiliates and other financial institutions. The capped call transactions are expected generally to reduce the potential dilution to our common stock upon conversion of any Convertible Notes and/or offset any cash payments that we are required to make in excess of the principal amount of any converted Convertible Notes, as the case may be, with such reduction and/or offset subject to a cap initially equal to \$237.42 per share, which represents a premium of 100% over the last reported sale price of \$118.71 per share of our common stock on The Nasdaq Global Select Market on May 13, 2024, and is subject to customary adjustments under the terms of the capped call transactions.

### Lines of Credit and Borrowing Arrangements

Certain of our Japanese subsidiaries have lines of credit and a financing facility with various financial institutions, many of which generally expire and are renewed at three-month intervals with the remaining having no expiration date. The lines of credit and financing facility provided for aggregate borrowings as of March 31, 2025 and December 31, 2024 of up to an equivalent of \$13 million and \$19 million, respectively. There were no borrowings outstanding under these arrangements at March 31, 2025 and December 31, 2024.

### Derivatives

We enter into derivative instruments for risk management purposes only, including derivatives designated as hedging instruments and those utilized as economic hedges. We operate internationally, and in the normal course of business, are exposed to fluctuations in interest rates and foreign exchange rates. These fluctuations can increase the costs of financing, investing and operating the business. We have used derivative instruments, such as foreign exchange forward contracts and net investment hedges, to manage certain foreign currency exposure, and interest rate swaps and caps to manage certain interest rate exposure. We do not enter into derivative instruments for trading or speculative purposes.

By nature, all financial instruments involve market and credit risks. We enter into derivative instruments with major investment grade financial institutions and no collateral is required. We have policies to monitor the credit risk of these counterparties. While there can be no assurance, we do not anticipate any material non-performance by any of these counterparties.

### Interest Rate Swap

We have various interest rate swap agreements described further in Note 5 of the condensed consolidated financial statements. These interest rate swap agreements exchange the variable Term SOFR rate to a fixed rate in order to manage the exposure to interest rate fluctuations associated with the variable Term SOFR rate paid on the outstanding balance of the Term Loan Facility.

### **Contractual Obligations**

There have been no changes outside the ordinary course of business to our contractual obligations as disclosed in our Annual Report.

### **Recent Accounting Pronouncements**

#### Income Taxes (Topic 740): Improvements to Income Tax Disclosures

In December 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures (“ASU 2023-09”), which focuses on the rate reconciliation and income taxes paid. ASU 2023-09 requires a public business entity (“PBE”) to disclose, on an annual basis, a tabular rate reconciliation using both percentages and currency amounts, broken out into specified categories with certain reconciling items further broken out by nature and jurisdiction to the extent those items exceed a specified threshold. In addition, all entities are required to disclose income taxes paid, net of refunds received disaggregated by federal, state/local and foreign and by jurisdiction if the amount is at least 5% of total income tax payments, net of refunds received. For PBEs, the new standard is effective for annual periods beginning after December 15, 2024, with early adoption permitted. An entity may apply the amendments prospectively by providing the revised disclosures for the period ending December 31, 2025 and continuing to provide the pre-ASU disclosures for the prior periods or may apply the amendments retrospectively by providing the revised disclosures for all periods presented. We are currently evaluating the impact on the consolidated financial statement disclosures; however, adoption will not impact our consolidated balance sheets, cash flows or income statements.

#### Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses

In November 2024, the FASB issued ASU No. 2024-03, Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses (“ASU 2024-03”), which requires public companies to disclose, in interim and annual reporting periods, additional information about certain income statement expense line items in the notes to financial statements. The amendments in ASU 2024-03 are effective for annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027, with

early adoption permitted. We are currently evaluating the impact on the consolidated financial statement disclosures; however, adoption will not impact our consolidated balance sheets, cash flows or income statements.

### ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Information concerning market risk is contained in the section entitled “Quantitative and Qualitative Disclosures About Market Risk” contained in our Annual Report. As of March 31, 2025, there were no material changes in our exposure to market risk from December 31, 2024.

### ITEM 4. CONTROLS AND PROCEDURES.

#### **Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2025. The term “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”), means controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission’s (“SEC”) rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer’s management, including its principal executive and principal financial officers, or persons performing similar functions as appropriate 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. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of March 31, 2025, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

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

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended March 31, 2025 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

## PART II. OTHER INFORMATION

### ITEM 1A. RISK FACTORS.

Information regarding risk factors affecting our business is discussed in the section entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2024 filed with the U.S. Securities and Exchange Commission on February 25, 2025 (the “Annual Report”). The risk factor disclosure in the Annual Report is qualified by a new risk factor disclosure set forth below related to tariffs and other trade restrictions.

***If significant tariffs or other trade restrictions on our products or components that are imported from or exported to certain countries, for example, China, continue or are expanded, our business, financial condition and operating results may be materially harmed.***

In recent years, trade tensions between the United States and China, and since early 2025 between the United States and its other trading partners, have increased substantially, resulting in broad trade restrictions. These trade restrictions include tariff increases, additional sanctions against specified entities, and the broadening of restrictions and license requirements for specified end-uses of those of our products that are subject to these restrictions, including restrictions surrounding specific product groups, applications and/or end uses.

Recently, in April 2025, following several rounds of progressive increases, the U.S. government imposed a 145% tariff on Chinese imports and China responded with a 125% tariff on U.S. goods. At the same time, the U.S. government imposed a baseline tariff of 10% on products from all other countries (with certain exceptions), along with an additional reciprocal tariff targeting countries with which the United States has the largest trade deficits. While the reciprocal tariffs are currently paused, the 10% baseline tariff remains in place. Separately, in April 2025, the U.S. Department of Commerce initiated an investigation under Section 232 of the Trade Expansion Act of 1962 into the national security implications of imports of semiconductors, semiconductor manufacturing equipment (“SME”), and their derivative products. Upon conclusion of the investigation, the President will decide whether to act in response to any identified threats, including by imposing additional tariffs, modifying or rescinding exemptions, or taking other such actions as deemed appropriate.

The U.S. government has also imposed global tariffs on certain critical raw materials, including steel and aluminum, and certain products, such as passenger vehicles and light trucks. Further, the Chinese government has imposed trade restrictions on certain rare earth elements critical to many advanced manufacturing, computing and defense application. The continuation or expansion of the scope or amount of such global raw material or product-based tariffs could significantly increase our costs or have an adverse effect on the end markets we support. Attempts to mitigate the impact of tariffs could cause us to sub-optimize operations, increasing our cost to operate. They will also increase the cost of our materials and lead us to apply surcharges or raise prices, which could reduce demand for our products. Customers and end-users may delay, reduce, or cancel spending on projects involving our products, negatively impacting demand and our financial results. Our mitigation efforts and price increases may not fully offset the impact of tariffs and may result in lowering our margin on products sold. If the U.S. government expands or adopts additional tariffs, or if other countries retaliate, the resulting trade barriers could have a significant adverse impact on our suppliers, our customers and on our business. The volatility and unpredictability of international trade policies and conditions add further complexity to our operations, making it challenging to forecast and plan effectively. We cannot predict the future trade policy of the United States or of any foreign countries in which we operate or purchase goods, or the terms of any trade agreements or their impact on our business. The continued adoption and expansion of tariffs, quotas and embargoes, the occurrence or threat of a trade war or other governmental action related to tariffs or trade agreements or policies, has the potential to adversely impact demand for our products, our costs, our customers, our suppliers and the world and U.S. economies, which in turn could have a material adverse effect on our business, operating results and financial condition.

In addition, “Entity List” designations and “military end-user” controls have been significantly expanded, as have some rules relating to items produced outside the United States that incorporate more than de minimis levels of U.S. controlled content or that are derived from (i.e., the “direct product” of) U.S. origin technologies, equipment or software. In October 2022, the U.S. Department of Commerce’s Bureau of Industry and Security (“BIS”) implemented new and novel restrictions related to end-uses in semiconductor, semiconductor manufacturing, supercomputer, and advanced computing, along with certain equipment used to develop and produce them, as well as controls around the activities of U.S. persons in certain markets, including China. These regulations, which BIS has amended several times since initial publication (as amended, the “BIS Rules”), have resulted in, and may in the future result in, loss of business, both directly to China end-customers, and indirectly through our OEM customers, as well as additional export license requirements on shipments of our products, parts and supplies, and associated increased administrative burdens. For example, as a result of the initial BIS Rules promulgated in late 2022, we experienced an annual loss in net revenues of approximately \$200 to \$250 million, most of which was realized in 2023. The extraordinary complexity of these rules, combined with their continued modification and the likelihood of further amendments from BIS, significantly increases our risk of non-compliance, which could result in fines and other penalties, and could change how these rules impact us. The U.S. government and other government agencies may promulgate

new or additional export licensing or other regulations that have the effect of further limiting our ability to provide certain products and services to customers outside the United States, including China. The U.S. government may also revise or expand existing regulations or issue guidance clarifying the scope and application of these requirements, which could change the impact of these rules on our business and manufacturing operations. While we continue to adjust our policies and practices to ensure compliance with these regulations, and seek to mitigate their impact, there can be no assurances that current or future regulations will not have a material adverse effect on our business.

Since the beginning of 2019, regulatory changes have been implemented at an unprecedented pace, which increases the resources needed to monitor and comply with regulations, while heightening the risk of non-compliance. Such regulatory changes include the addition by BIS of China-based Huawei Technologies Co., Ltd. (“Huawei”), Semiconductor Manufacturing International Corporation (“SMIC”), Yangtze Memory Technologies Corp (“YMTC”), NAURA Technology Group, Piotech, Inc. and many of their respective affiliates onto its Entity List. Accordingly, we have implemented additional monitoring processes and suspended orders from these companies as well as other designated Chinese-based customers, where those orders are subject to U.S. jurisdiction. We have also been negatively impacted by the cancellation of orders from customers who are suppliers to these firms. In addition, BIS has modified the Foreign Direct Product, De Minimis and “military end-use” rules, expanded the scope of products and technologies that would require licenses for military end-uses, primarily in China, and expanded the list of “military end users,” mostly in China, further limiting our sales. At the same time, BIS and the U.S. Department of Defense have also added numerous China-based companies, including companies with which we do business, to the “Unverified List,” and “Chinese Military Companies” list, respectively. Placement on such lists may be an indication of additional future restrictions by the U.S. government, as was the case with YMTC, which was added to the Unverified List in October 2022 and was then added to the Entity List in December 2022.

Increased restrictions on China have led to and may continue to lead to regulatory retaliation by the Chinese government and further escalate geopolitical tensions between China and Taiwan. For example, in 2019, China’s Ministry of Commerce announced an “unreliable entity list” under which non-Chinese entities that cut off supply to Chinese companies may be subject to government action. Because many of the mechanisms for being named to the list, removed from the list, and enforcement remain ill-defined and unavailable to the public, the potential impacts of the regulation remain unknown. In addition, in 2023, China adopted export curbs on crucial raw materials, including gallium, germanium, and graphite, that had both direct and indirect adverse impacts on our business and supply chain. In December 2024, the Chinese Ministry of Commerce imposed stricter export control restrictions on the export to the United States of gallium, germanium and other materials with potential dual-use applications, thereby increasing the adverse impact on our business, costs and supply chain. More recently, in April 2025, China implemented a new ban on the export of certain rare earth minerals, including yttrium, which is a critical component used in the manufacturing of our lasers. As a result, we expect to encounter challenges in sourcing this critical material, along with higher costs and potential supply chain disruptions, which may materially harm our business, financial condition and operating results.

The ongoing geopolitical tensions and economic uncertainty between the United States and its trading partners caused by recent tariffs, Entity List and “military end user” designations, foreign-made product rules and the BIS Rules, and the unknown impact of current and future trade regulations, may continue to increase costs, as well as restrict our ability to sell, or decrease demand from customers to purchase, our products, directly and indirectly, which could materially harm our business, financial condition and operating results. This trade uncertainty has caused, and may continue to cause, customers to delay or cancel orders, as they mitigate the risk to their own supply chain and cost exposure by sourcing from locally based suppliers or suppliers based in other countries. Such delays and cancellations could have a material impact on our business, financial condition and operating results. It is possible that additional trade restrictions will be imposed, and that existing tariffs will be increased on imports of our products or the components used in our products and/or that our business will be impacted by additional retaliatory tariffs, policies that favor domestic industries, or restrictions imposed and/or increased by China or other countries in response to existing or future tariffs. These developments could cause us to lose additional sales and customers, incur increased costs and lower margins, seek alternative suppliers, raise prices or make changes to our operations, any of which could materially harm our business, financial condition and operating results.

## ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

The following table sets forth certain information with respect to repurchases of our common stock during the three months ended March 31, 2025.

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs <sup>(1)(2)</sup>	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs <sup>(1)</sup> (in millions)
January 1 – January 31, 2025	—	\$ —	—	\$ 73
February 1 – February 28, 2025	—	\$ —	—	\$ 73
March 1 – March 31, 2025	546,142	\$ 82.81	546,142	\$ 28
Total	546,142	\$ 82.81	546,142	

- (1) On July 25, 2011, our Board of Directors approved a share repurchase program (the “Program”) for the repurchase of up to an aggregate of \$200 million of our common stock from time to time in open market purchases, privately negotiated transactions or through other appropriate means, which we announced on July 27, 2011. The timing and quantity of any shares repurchased will depend upon a variety of factors, including business conditions, stock market conditions, debt agreement limitations and business development activities, including but not limited to merger and acquisition opportunities. These repurchases may be commenced, suspended or discontinued at any time without prior notice. Any repurchased shares will be held by the Company as authorized but unissued shares.
- (2) We have repurchased approximately 3,134,000 shares of our common stock for approximately \$172 million pursuant to the Program since its adoption.

ITEM 5. OTHER INFORMATION.

The following table describes, for the quarterly period covered by this report, each trading arrangement for the sale or purchase of Company securities adopted or terminated by our directors and officers (as defined in Rule 16a-1(f) under the Exchange Act) that is either (1) a contract, instruction or written plan intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) (a “Rule 10b5-1 trading arrangement”) or (2) a “non-Rule 10b5-1 trading arrangement” (as defined in Item 408(c) of Regulation S-K):

Name (Title)	Action Taken (Date of Action)	Type of Trading Arrangement	Nature of Trading Arrangement	Duration of Trading Arrangement	Aggregate Number of Securities
Elizabeth A. Mora (Director)	Adoption (February 19, 2025)	Rule 10b5-1 trading arrangement	Sale	Until March 3, 2026, or such earlier date upon which all transactions are completed or expire without execution	Up to 1,200 shares
David P. Henry (Executive Vice President, Operations and Corporate Marketing)	Adoption (March 12, 2025)	Rule 10b5-1 trading arrangement	Sale	Until January 30, 2026, or such earlier date upon which all transactions are completed or expire without execution	Up to 7,000 shares
James A. Schreiner (Executive Vice President and Chief Operating Officer, Materials Solutions Division)	Adoption (March 12, 2025)	Rule 10b5-1 trading arrangement	Sale	Until October 23, 2025, or such earlier date upon which all transactions are completed or expire without execution	A number of shares with a value equal to up to \$300,000

ITEM 6. EXHIBITS.

<u>Exhibit No.</u>	<u>Exhibit Description</u>
+3.1(1)	<a href="#">Restated Articles of Organization of the Registrant</a>
+3.2(2)	<a href="#">Articles of Amendment to Restated Articles of Organization of the Registrant, as filed with the Secretary of State of Massachusetts on May 18, 2001</a>
+3.3(3)	<a href="#">Articles of Amendment to Restated Articles of Organization of the Registrant, as filed with the Secretary of State of Massachusetts on May 16, 2002</a>
+3.4(4)	<a href="#">Second Amended and Restated By-Laws of the Registrant</a>
+10.1(5)	<a href="#">Fifth Amendment to Credit Agreement, dated as of January 24, 2025, by and among the Registrant, as parent borrower, the other loan parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and each lender party thereto</a>
+10.2(6)*	<a href="#">Form of Restricted Stock Unit Agreement for Non-Employee Directors under the 2022 Stock Incentive Plan for 2025</a>
31.1	<a href="#">Certification of Principal Executive Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended</a>
31.2	<a href="#">Certification of Principal Financial Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended</a>
32.1	<a href="#">Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
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.
101.SCH	Inline XBRL Taxonomy Extension Schema with Embedded Linkbase Documents
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101)

+ Previously filed

\* Management contract or compensatory plan arrangement

- (1) Incorporated by reference to the Registration Statement on Form S-4 (File No. 333-49738), filed with the Securities and Exchange Commission on November 13, 2000.
- (2) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001 (File No. 000-23621), filed with the Securities and Exchange Commission on August 14, 2001.
- (3) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 000-23621), filed with the Securities and Exchange Commission on August 13, 2002.
- (4) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-23621), filed with the Securities and Exchange Commission on December 3, 2024.
- (5) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 000-23621), filed with the Securities and Exchange Commission on January 24, 2025.
- (6) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2024 (File No. 000-23621), filed with the Securities and Exchange Commission on February 25, 2025.

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.

MKS INSTRUMENTS, INC.

Date: May 8, 2025

By: /s/ Ramakumar Mayampurath  
Ramakumar Mayampurath  
Executive Vice President, Chief Financial Officer and Treasurer  
(Principal Financial Officer)

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER  
PURSUANT TO RULE 13a-14(a)/RULE 15d-14(a) OF THE  
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, John T.C. Lee, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MKS Instruments, Inc.;
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 the 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.

Dated: May 8, 2025

/s/ John T.C. Lee

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John T.C. Lee  
President and Chief Executive Officer  
(Principal Executive Officer)

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER  
PURSUANT TO RULE 13a-14(a)/RULE 15d-14(a) OF THE  
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Ramakumar Mayampurath, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MKS Instruments, Inc.;
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 the 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.

Dated: May 8, 2025

/s/ Ramakumar Mayampurath

Ramakumar Mayampurath  
Executive Vice President, Chief Financial Officer and Treasurer  
(Principal Financial Officer)

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER  
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 Quarterly Report on Form 10-Q of MKS Instruments, Inc. (the "Company") for the period ended March 31, 2025 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, John T.C. Lee, President and Chief Executive Officer of the Company, and Ramakumar Mayampurath, Executive Vice President, Chief Financial Officer and Treasurer of the Company, each hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, based on his knowledge:

- (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 results of operations of the Company.

Dated: May 8, 2025

/s/ John T.C. Lee  
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John T.C. Lee  
President and Chief Executive Officer  
(Principal Executive Officer)

Dated: May 8, 2025

/s/ Ramakumar Mayampurath  
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Ramakumar Mayampurath  
Executive Vice President, Chief Financial Officer and Treasurer  
(Principal Financial Officer)

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