Fourth Quarter and Full Year 2023 Financial Results

MKS Instruments, Inc.
February 8, 2024

Safe Harbor for Forward-Looking Statements

This presentation 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 to be 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 need to generate sufficient cash flows to service and repay the substantial indebtedness we incurred in connection with our acquisition of Atotech Limited (“Atotech” and such transaction, the “Atotech Acquisition”), which we completed in August 2022; the terms of our existing credit facilities under which we incurred such debt; our entry into the chemicals technology business through the Atotech Acquisition, in which we did not have previous experience; legal, reputational, financial and contractual risks resulting from the ransomware incident we identified in February 2023, and other 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 and the businesses of Atotech and Electro Scientific Industries, Inc., which we acquired in February 2019, and financial risks associated with those 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 and the impact of COVID-19 or any other widespread health crises, including with respect to such supply chain disruptions, component shortages and price increases; risks associated with doing business internationally, including geopolitical conflicts, such as the Israel-Hamas war, trade compliance, 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 in MKS’ Annual Report on Form 10-K for the year ended December 31, 2022 and any subsequent Quarterly Reports on Form 10-Q, as filed with the U.S. Securities and Exchange Commission. MKS is under no obligation to, and expressly disclaims any obligation to, update or alter these forward-looking statements, whether as a result of new information, future events or otherwise after the date of this presentation. Amounts reported in this presentation are preliminary and subject to finalization prior to the filing of our Annual Report on Form 10-K for the year ended December 31, 2023.

Notes on Presentation

Use of Non-GAAP Financial Measures

This presentation includes financial measures that are not in accordance with U.S. generally accepted accounting principles ("Non-GAAP financial measures"). These Non-GAAP financial measures should be viewed in addition to, and not as a substitute for, MKS' reported results under U.S. generally accepted accounting principles ("GAAP"), and may be different from Non-GAAP financial measures used by other companies. In addition, these Non-GAAP financial measures are not based on any comprehensive set of accounting rules or principles. MKS management believes the presentation of these Non-GAAP financial measures is useful to investors for comparing prior periods and analyzing ongoing business trends and operating results.

MKS is not providing a quantitative reconciliation of forward-looking Non-GAAP gross margin, operating expenses, operating income, operating margin, interest expense, net, income tax rate, net earnings, net earnings per diluted share and Adjusted EBITDA to their most directly comparable GAAP financial measures because it is unable to estimate with reasonable certainty the ultimate timing or amount of certain significant items without unreasonable efforts. These items include, but are not limited to, acquisition and integration costs, amortization of intangible assets, ransomware remediation costs, restructuring expense, goodwill and intangible asset impairments, excess and obsolescence inventory charges, amortization of debt issuance costs, debt refinancing fee, loss on extinguishment of debt, and the income tax effect of these items. These items are uncertain, depend on various factors, including, but not limited to, our acquisition of Atotech Limited ("Atotech") in August 2022 (the "Atotech Acquisition"), timing of ransomware remediation, and interest rate and refinancing environment, and could have a material impact on GAAP reported results for the relevant period.

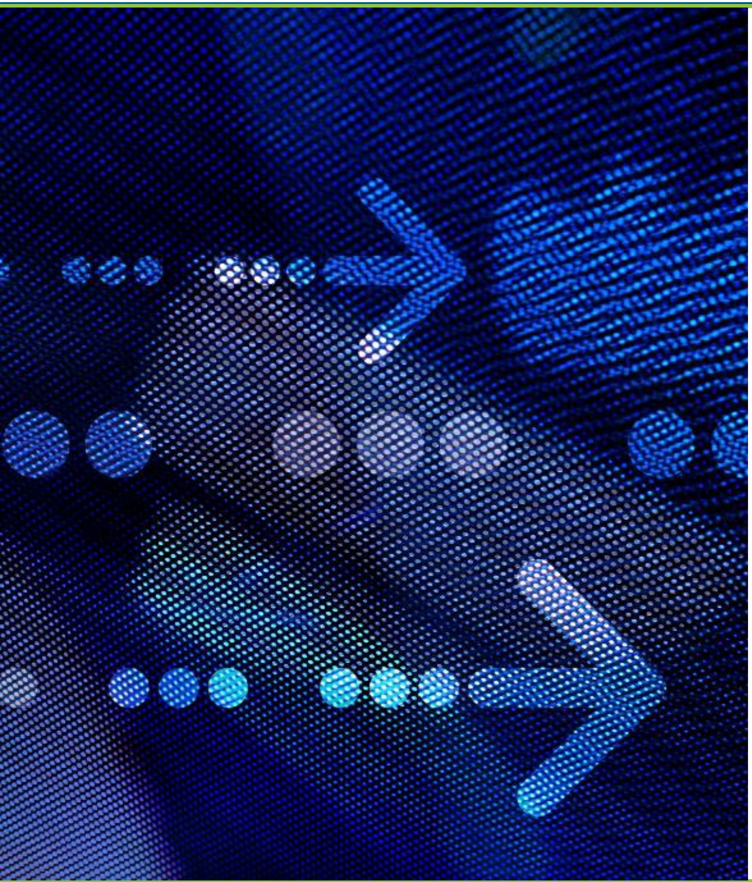
Combined Company Financial Information

All references to "combined company" financial measures in the appendix at the end of this presentation reflect the combined results of MKS and Atotech but are not calculated in accordance with Article 11 of Regulation S-X. In addition, except as otherwise indicated, Atotech financial information for periods up until the Atotech Acquisition has been adjusted from International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS") to GAAP and includes adjustments to conform to the accounting policies of MKS.

MKS has not identified material differences in Atotech's net revenue under GAAP and Atotech's historical reported net revenue under IFRS. Net revenues by end market for Atotech are based on MKS' understanding of end market uses for Atotech products and services.

For further information regarding Non-GAAP financial measures, including a change to how we define Adjusted EBITDA, and the calculation of certain combined company financial information, please refer to the appendix at the end of this presentation. In addition, for a detailed breakout of reported and combined company revenues by end-market, please visit the Net Revenues by End Market presentation available under Events & Presentation on the Investor Relations section of MKS' website at investor.mks.com.

2023 Results: Resilience, Execution, Profitability



FY 2023	FY 2023	FY 2023
$3.6B	**$863M**	**$4.43**
REVENUE	ADJUSTED EBITDA	NON-GAAP NET EARNINGS PER DILUTED SHARE

- Faced headwinds from a softer demand environment in our Semiconductor and Electronics & Packaging markets
- Generated solid profitability due to a combination of prudent cost controls and underlying strength of our broad proprietary product portfolio
- On track with Atotech integration and cost synergies

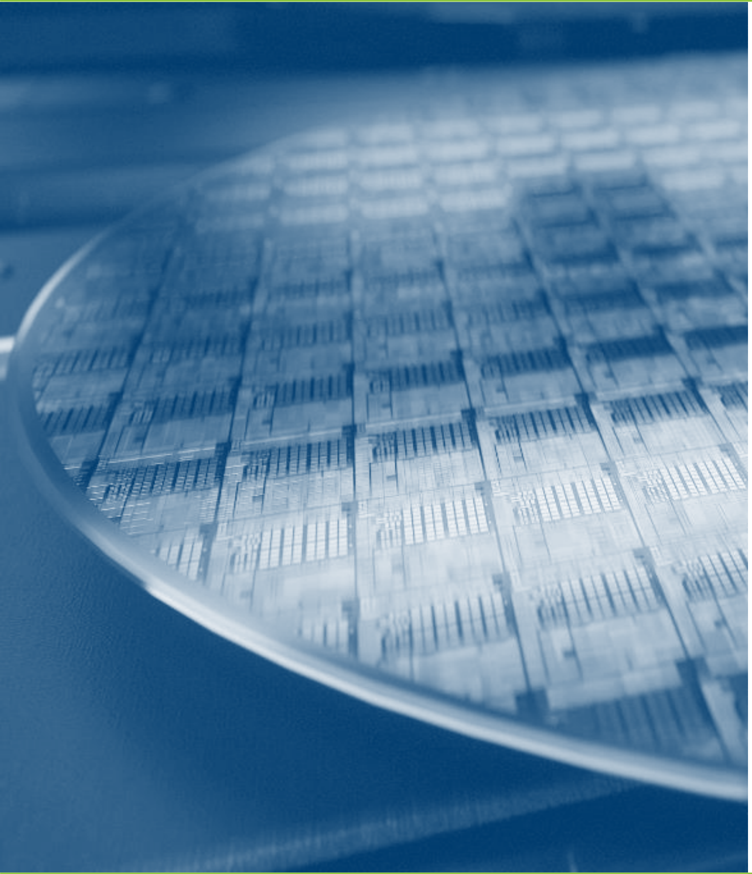
Q4 2023: Performance Above Expectations

Q4 2023
$893M
REVENUE

Q4 2023
$218M
ADJUSTED EBITDA

Q4 2023
$1.17
NON-GAAP NET EARNINGS PER DILUTED SHARE

Q4'23 Market Highlights: Semiconductor



Q4 2023

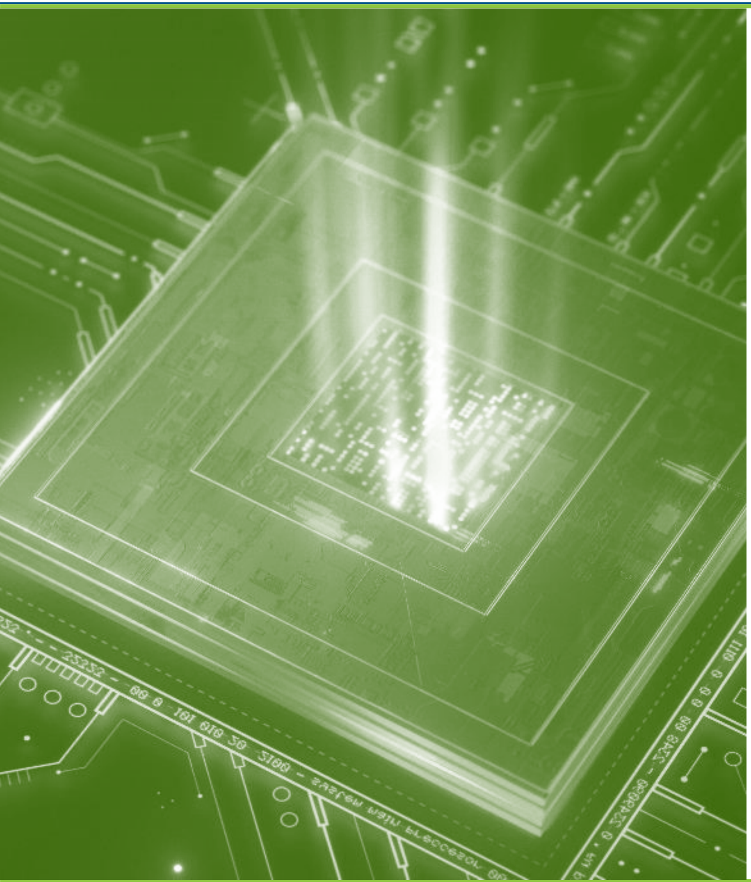
$362M

REVENUE

Q/Q CHANGE	-1%
Y/Y CHANGE	-28%

- Better than expected Q/Q demand in Plasma and Reactive Gas and Analytical Controls solutions
- Overall muted demand for our critical vacuum solutions for deposition and etch – mainly due to downturn in NAND
- Photonics Solutions for lithography, metrology and inspection applications remained robust – exited year at more than 20% of overall Semiconductor revenue

Q4’23 Market Highlights: Electronics & Packaging



Q4 2023

$226M

REVENUE

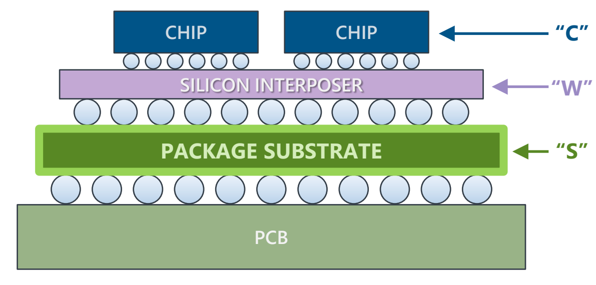
Q/Q CHANGE	-7%
Y/Y CHANGE	-15%
Y/Y CHANGE[1] Excluding FX and Palladium	-9%

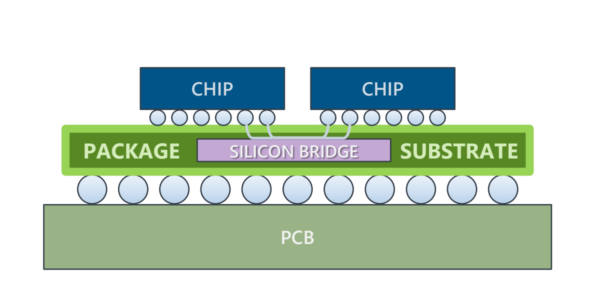
- Slightly better than expected Q/Q due to lumpiness of laser drilling equipment sales
- Overall demand remands stable but muted amidst challenging PC, smartphone and server markets

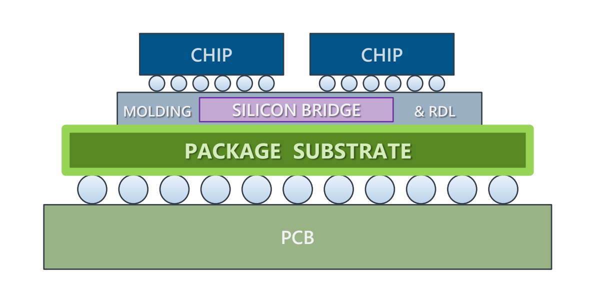
[1] For further information regarding estimated impact of FX and Palladium, refer to the appendix at the end of this presentation.

Package Substrate: Key Building Block of Advanced Packaging

Chip-on-Wafer-on-Substrate (CoWoS®)[1]	Embedded Multi-Die Interconnect Bridge (EMIB)[2]	Elevated Fanout Bridge (EFB)







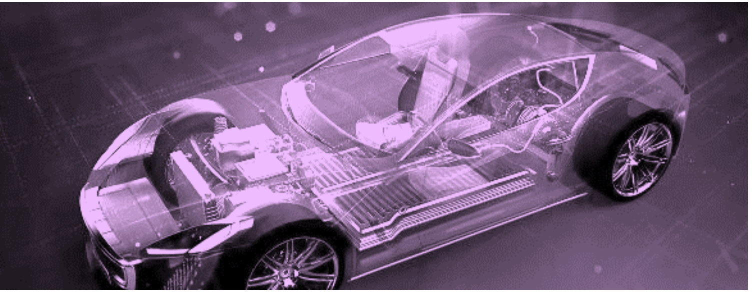
Greater complexity to deliver higher performance substrates at optimal yields:

- Lines/spaces and interconnecting vias are getting smaller
- Size of substrate is getting larger
- Layer count is growing

MKS' unique combination of laser drilling, chemistry & plating equipment addresses more than 70% of the critical steps to manufacture PACKAGE SUBSTRATES[3]

[1] *CoWoS is a registered trademark of Taiwan Semiconductor Manufacturing Company Limited* [2] *EMIB is an Intel Corporation packaging technology* [3] *Internal Company estimate*

Q4'23 Market Highlights: Specialty Industrial



Q4 2023

$305M

REVENUE

Q/Q CHANGE	-5%
Y/Y CHANGE	-3%
Y/Y CHANGE[1] Excluding FX and Palladium	-3%

- Slightly weaker Q/Q due to modest softness across Research and Defense applications
- Leverage expertise and R&D in Semiconductor and Electronics & Packaging to drive incremental opportunities

[1] For further information regarding estimated impact of FX and Palladium, refer to the appendix at the end of this presentation.

Reflections on 2023

- Maintained focus on innovation to position Company for recovery in end markets
- Strong cost control and cost synergy execution
- Fully recovered from ransomware event in February 2023
- Proud to be recognized:

America's Most Responsible Companies

Newsweek and Statista

Best Companies To Work For

US News and World Report

Q4 '23 Revenue & Select Financial Measures

	Q4'23	Q3'23	Q4'22	2023	2022[1]
Semiconductor	$362M	$367M	$503M	$1,479M	$2,041M
Electronics & Packaging	$226M	$243M	$266M	$916M	$541M
Specialty Industrial	$305M	$322M	$316M	$1,227M	$964M
Revenue	$893M	$932M	$1,085M	$3,622M	$3,547M
Non-GAAP Financial Measures					
Gross Margin	46.0%	47.1%	45.9%	45.7%	45.1%
Operating Margin	20.3%	21.8%	23.6%	19.5%	24.5%
Interest Expense, Net	$76M	$83M	$75M	$315M	$122M
Income Tax Rate	15.6%	14.2%	19.9%	18.9%	18.4%
Net Earnings	$78M	$98M	$133M	$297M	$597M
Net Earnings per Diluted Share	$1.17	$1.46	$2.00	$4.43	$9.97
Adjusted EBITDA	$218M	$241M	$297M	$863M	$980M
Adjusted EBITDA Margin	24.4%	25.8%	27.4%	23.8%	27.6%
GAAP Financial Measures					
Gross Margin	46.0%	45.7%	44.7%	45.3%	43.6%
Operating Margin	2.7%	12.6%	15.0%	(42.9)%	17.4%
Interest Expense, net	$83M	$89M	$83M	$339M	$173M
Income Tax Rate	14.2%	(75.3%)	17.1%	4.5%	23.1%
Net (Loss) Income	$(68)M	$39M	$54M	$(1,841)M	$333M
Net (Loss) Income per Diluted Share	$(1.02)	$0.58	$0.81	$(27.54)	$5.56

Q4'23 SUMMARY

- Revenue exceeded high end of guidance range due to stronger than expected revenue from our Semiconductor and Electronics & Packaging markets
- Non-GAAP gross margin exceeded midpoint of guidance range due to better-than-expected volumes and favorable product mix
- Non-GAAP operating margin and Adjusted EBITDA margin exceeded expectations due to strong gross margin and cost control
- On track to achieve Atotech cost synergy target, exiting Q4 at an almost $50 million annual run rate

[1] *Amounts for 2022 are reported actuals rather than Combined Company.*

Balance Sheet & Cash Flow

	Q4'23	Q4'22
Cash & Short-Term Investments	$875M	$910M
Accounts Receivable	$603M	$720M
Inventories	$991M	$977M
Total Current Assets	$2,773M	$2,794M
Total Assets	$9,196M	$11,495M
Term Loan Principal	$4,953M	$5,121M
Total Liabilities	$6,724M	$7,012M
Stockholders' Equity	$2,472M	$4,483M
Operating Cash Flow	$180M	$184M
Free Cash Flow	$146M	$130M
Unlevered Free Cash Flow	$194M	$187M

Q4'23 SUMMARY

- Liquidity of $1.3 billion, consisting of $875 million of cash and short-term investments and an undrawn revolving credit facility of $500 million
- Net leverage ratio of 4.7x at December 31, 2023
- Voluntary debt prepayment of $100 million in the fourth quarter
- Issued cash dividend of $15 million or $0.22 per share
- Free cash flow of $146 million and unlevered free cash flow of $194 million

2023 Revenue & Select Financial Measures

	2023	2022[1]	Total Change[1]	Change Excluding Fx & Pd[1]
Semiconductor	$1,479M	$2,041M	(28)%	(27)%
Electronics & Packaging	$916M	$1,132M	(19)%	(13)%
Specialty Industrial	$1,227M	$1,277M	(4)%	(2)%
Revenue	$3,622M	$4,450M	(19)%	(17)%

Non-GAAP Financial Measures

	2023	2022
Gross Margin	45.7%	45.1%
Operating Margin	19.5%	24.5%
Adjusted EBITDA	$863M	$980M
Adjusted EBITDA Margin	23.8%	27.6%

Cash Flow Measures

	2023	2022
Operating Cash Flow	$319M	$529M
Free Cash Flow	$232M	$365M
Unlevered Free Cash Flow	$473M	$452M

2023 SUMMARY

- The 2023 revenue split between our Semiconductor, Electronics & Packaging, and Specialty Industrial markets was 41%, 25%, and 34%, respectively.
- Semiconductor revenue impacted by decline in global semiconductor capital equipment spending, driven by a significant decline in NAND spending.
  - MKS a key enabler with certain subsystems, such as RF Power generators for high aspect ratio etching.
- Electronics and Packaging Chemistry sales[1] declined 10% when excluding the impact of foreign exchange and palladium pass-through.
- Non-GAAP gross margin and operating margin reflects the value of our proprietary and differentiated technology and our well-disciplined cost management.

[1]*For comparability, figures for 2022 combine the revenue of MKS and Atotech for the full period. See Slide 3 for additional information regarding the calculation of combined company results of MKS and Atotech. For further information regarding estimated impact of FX and Palladium, refer to the appendix at the end of this presentation.*

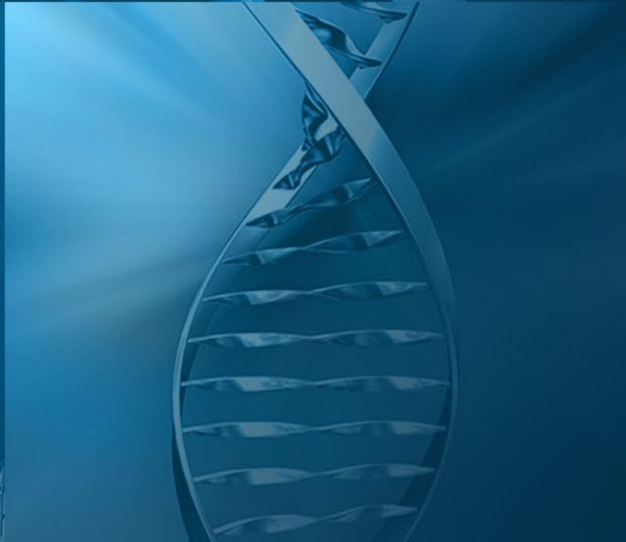
Outlook

	Q1’24	Q4’23 Actual
Revenue	$840M +/- $40M	$893M
Non-GAAP Financial Measures		
Gross Margin	45.5% +/- 100 bps	46.0%
Operating Expenses	$240M +/- $5M	$229M
Operating Income	$142M +/- $22M	$182M
Operating Margin	16.9% +/- 175 bps	20.3%
Interest Expense, Net	$78M	$76M
Income Tax Rate	24.2%	15.6%
Net Earnings	$49M +/- $17M	$78M
Net Earnings per Diluted Share	$0.72 +/- $0.25	$1.17
Adjusted EBITDA	$182M +/- $22M	$218M
Diluted Share Count	67.2M	67.1M

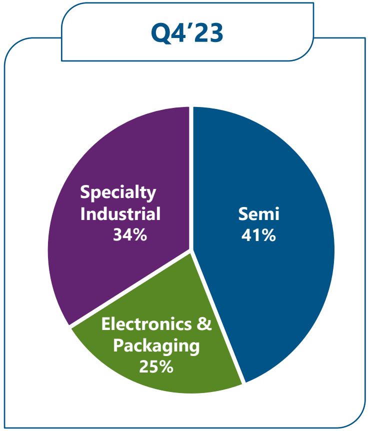
Outlook

- Q1'24 revenue outlook by end-market:
  - Semiconductor – $330M +/- $15M
  - Electronics & Packaging – $210M +/- $10M
  - Specialty Industrial – $300M +/- $15M
- Q1 '24 Non-GAAP gross margin reflects anticipated product mix and revenue levels
- Non-GAAP Opex:
  - Q1’24 Non-GAAP Opex higher for investments in the business and seasonal increase in fringe costs
  - For remainder of 2024, anticipate Non-GAAP Opex of $240M - $250M per quarter
- Q1 '24 Non-GAAP net interest expense reflects current interest rates, recent successful USD Term Loan A repricing, and $50 million voluntary debt prepayment made in February
- Non-GAAP tax rate:
  - Q1 ‘24 Non-GAAP tax rate estimated at 24%
  - Full year 2024 Non-GAAP tax rate estimated at 20%
  - Absent any changes in tax legislation, we now expect our long-term tax rate to be 19%-21% compared to the tax rate of 25%-27% presented in our long-term financial model at our 2022 Analyst Day.

Q&A



Appendix - Q4’23 Revenue



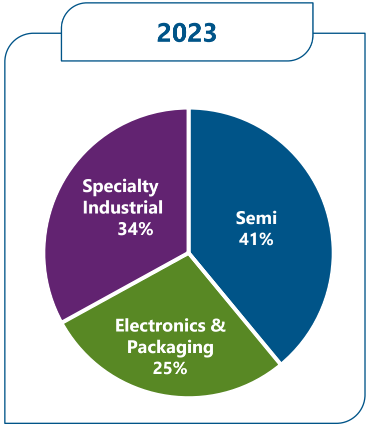
Consumables & Service 41%

	Q4'23	Q3'23	Q4'22	Q4'23 vs Q4'22 Total Change	FX	Pd	Change Excluding FX & Pd
Semiconductor	$ 362	$ 367	$ 503	-28%	0%	0%	-28%
Electronics & Packaging	226	243	266	-15%	-1%	-6%	-9%
Specialty Industrial	305	322	316	-3%	0%	-1%	-3%
	$ 893	**$ 932**	**$ 1,085**	-18%	0%	-2%	-16%

“Total Change” represents the percentage change in net revenues. “FX” and “Pd” reflect the estimated impact of foreign exchange rates and palladium prices, on net revenues, respectively. “Change Excluding FX & Pd” is the difference between “Total Change” and “FX” and “Pd.”

in millions

Appendix - 2023 Revenue



Consumables & Service 41%

	2023		2022[1]		2023 vs 2022[1] Total Change	FX	Pd	Change Excluding FX & Pd
Semiconductor	$	1,479	$	2,041	-28%	0%	0%	-27%
Electronics & Packaging		916		1,132	-19%	-2%	-3%	-13%
Specialty Industrial		1,227		1,277	-4%	-1%	-1%	-2%
	$	**3,622**	**$**	**4,450**	-19%	-1%	-1%	-17%

[1] For comparability, figures for 2022 combine the revenue of MKS and Atotech for the full period. See Slide 3 for additional information regarding the calculation of combined company results of MKS and Atotech.
"Total Change" represents the percentage change in net revenues. "FX" and "Pd" reflect the estimated impact of foreign exchange rates and palladium prices, on net revenues, respectively. "Change Excluding FX & Pd" is the difference between "Total Change" and "FX" and "Pd."
in millions

Appendix – GAAP to Non-GAAP Reconciliations

	Q4'23	Q3'23	Q4'22	2023	2022
Net (loss) income	$ (68)	$ 39	$ 54	$ (1,841)	$ 333
Excess and obsolete charge from discontinued product line (Note 1)	—	13	—	13	—
Acquisition inventory step-up (Note 2)	—	—	13	—	52
Acquisition and integration costs (Note 3)	3	3	11	16	52
Restructuring (Note 4)	7	1	1	20	10
Amortization of intangible assets	70	68	69	295	146
Goodwill and intangible asset impairments (Note 5)	75	—	—	1,902	—
Gain on sale of long-lived assets (Note 6)	—	(2)	—	(2)	(7)
Amortization of debt issuance costs (Note 7)	7	6	7	24	51
Fees and expenses related to repricing of term loan (Note 8)	2	—	—	2	—
Ransomware incident (Note 9)	1	2	—	15	—
Loss on debt extinguishment (Note 10)	8	—	—	8	—
Currency hedge loss (Note 11)	—	—	—	—	(5)
Reversal of indefinite reinvestment assertion (Note 12)	—	—	—	—	30
Tax effect of Non-GAAP adjustments (Note 13)	(26)	(32)	(22)	(156)	(65)
Non-GAAP net earnings	$ 78	$ 98	$ 133	$ 297	$ 597
Non-GAAP net earnings per diluted share	$ 1.17	$ 1.46	$ 2.00	$ 4.43	$ 9.97
Weighted average diluted shares outstanding	67.1	67.1	66.7	67.0	59.9

	Q4'23	Q3'23	Q4'22	2023	2022
Gross profit	$ 411	$ 426	$ 485	$ 1,642	$ 1,547
GAAP gross margin	46.0%	45.7%	44.7%	45.3%	43.6%
Excess and obsolete charge from discontinued product line (Note 1)	—	13	—	13	—
Acquisition inventory step-up (Note 2)	—	—	13	—	52
Non-GAAP gross profit	$ 411	$ 439	$ 498	$ 1,655	$ 1,599
Non-GAAP gross margin	46.0%	47.1%	45.9%	45.7%	45.1%

in millions other than per diluted share amounts

Appendix – GAAP to Non-GAAP Reconciliations

	Q4'23	Q3'23	Q4'22	2023	2022
Operating expenses	$ 387	$ 308	$ 322	$ 3,196	$ 930
Acquisition and integration costs (Note 3)	3	3	11	16	52
Restructuring (Note 4)	7	1	1	20	10
Amortization of intangible assets	70	68	69	295	146
Goodwill and intangible asset impairments (Note 5)	75	—	—	1,902	—
Gain on sale of long-lived assets (Note 6)	—	(2)	—	(2)	(7)
Fees and expenses related to repricing of term loan (Note 8)	2	—	—	2	—
Ransomware incident (Note 9)	1	2	—	15	—
Non-GAAP operating expenses	$ 229	$ 236	$ 242	$ 948	$ 729
Income (loss) from operations	$ 24	$ 118	$ 163	$ (1,554)	$ 617
Operating margin	2.7%	12.6%	15.0%	-42.9%	17.4%
Excess and obsolete charge from discontinued product line (Note 1)	—	13	—	13	—
Acquisition inventory step-up (Note 2)	—	—	13	—	52
Acquisition and integration costs (Note 3)	3	3	11	16	52
Restructuring (Note 4)	7	1	1	20	10
Amortization of intangible assets	70	68	69	295	146
Goodwill and intangible asset impairments (Note 5)	75	—	—	1,902	—
Gain on sale of long-lived assets (Note 6)	—	(2)	—	(2)	(7)
Fees and expenses related to repricing of term loan (Note 8)	2	—	—	2	—
Ransomware incident (Note 9)	1	2	—	15	—
Non-GAAP income from operations	$ 182	$ 203	$ 257	$ 707	$ 870
Non-GAAP operating margin	20.3%	21.8%	23.6%	19.5%	24.5%
Interest expense, net	$ 83	$ 89	$ 83	$ 339	$ 173
Amortization of debt issuance costs (Note 7)	7	6	7	24	51
Non-GAAP interest expense, net	$ 76	$ 83	$ 75	$ 315	$ 122

in millions

Appendix – GAAP to Non-GAAP Reconciliations

	Q4'23	Q3'23	Q4'22	2023	2022
Net (loss) income	$ (68)	$ 39	$ 54	$ (1,841)	$ 333
Interest expense, net	83	89	83	339	173
Other expense, net (Note 14)	12	7	15	27	11
(Benefit) provision for income taxes	(11)	(17)	11	(87)	100
Depreciation	25	25	27	102	70
Amortization of intangible assets	70	68	69	295	146
Stock-based compensation	11	13	13	54	45
Excess and obsolete charge from discontinued product line (Note 1)	—	13	—	13	—
Acquisition inventory step-up (Note 2)	—	—	13	—	52
Acquisition and integration costs (Note 3)	3	3	11	16	52
Restructuring (Note 4)	7	1	1	20	10
Goodwill and intangible asset impairments (Note 5)	75	—	—	1,902	—
Gain on sale of long-lived assets (Note 6)	—	(2)	—	(2)	(7)
Fees and expenses related to repricing of term loan (Note 8)	2	—	—	2	—
Ransomware incident (Note 9)	1	2	—	15	—
Loss on debt extinguishment (Note 10)	8	—	—	8	—
Currency hedge loss (Note 11)	—	—	—	—	(5)
Adjusted EBITDA (Note 14)	$ 218	$ 241	$ 297	$ 863	$ 980
Adjusted EBITDA margin	24.4%	25.8%	27.4%	23.8%	27.6%

Term loan principal outstanding as of December 31, 2023	$ 4,953
Cash & short-term investments as of December 31, 2023	875
Net debt as of December 31, 2023	$ 4,078
Adjusted EBITDA for twelve months ended December 31, 2023 (Note 14)	$ 863
Net leverage ratio at December 31, 2023	**4.7x**

in millions

Appendix – GAAP to Non-GAAP Reconciliations

	Q4'23	Q3'23	Q4'22	2023	2022
Net cash provided by operating activities	$ 180	$ 160	$ 184	$ 319	$ 529
Purchases of property, plant and equipment	(34)	(18)	(54)	(87)	(164)
Free cash flow	$ 146	$ 142	$ 130	$ 232	$ 365

	Q4'23	Q4'22	2023	2022
Free cash flow	$ 146	$ 130	$ 232	$ 365
Cash paid for interest	61	72	305	110
Tax effect on cash paid for interest[1]	(13)	(15)	(64)	(23)
Unlevered free cash flow	$ 194	$ 187	$ 473	$ 452

[1]Tax effect of cash paid for interest was calculated at the statutory US Federal Statutory rate of 21%

in millions

Appendix – GAAP to Non-GAAP Reconciliations

	Q4'23			Q3'23		
	(Loss) Income Before Income Tax	(Benefit) Provision for Income Taxes	Effective Tax Rate	Income Before Income Tax	(Benefit) Provision for Income Taxes	Effective Tax Rate
GAAP	$ (79)	$ (11)	14.2%	$ 22	$ (17)	(75.3)%
Excess and obsolete charge from discontinued product line (Note 1)	—	—		13	—	
Acquisition and integration costs (Note 3)	3	—		3	—	
Restructuring (Note 4)	7	—		1	—	
Amortization of intangible assets	70	—		68	—	
Goodwill and intangible asset impairments (Note 5)	75	—		—	—	
Gain on sale of long-lived assets (Note 6)	—	—		(2)	—	
Amortization of debt issuance costs (Note 7)	7	—		6	—	
Fees and expenses related to repricing of term loan (Note 8)	2	—		—	—	
Ransomware incident (Note 9)	1	—		2	—	
Loss on debt extinguishment (Note 10)	8	—		—	—	
Tax effect of Non-GAAP adjustments (Note 13)	—	26		—	32	
Non-GAAP	$ 94	$ 15	15.6%	$ 114	$ 16	14.2%

	Q4'22		
	Income Before Income Tax	Provision for Income Taxes	Effective Tax Rate
GAAP	$ 65	$ 11	17.1%
Acquisition inventory step-up (Note 2)	13		
Acquisition and integration costs (Note 3)	11	—	
Restructuring (Note 4)	1	—	
Amortization of intangible assets	69	—	
Amortization of debt issuance costs (Note 7)	7		
Tax effect of Non-GAAP adjustments (Note 13)	—	22	
Non-GAAP	$ 166	$ 33	19.9%

in millions

Appendix – GAAP to Non-GAAP Reconciliations

	2023			2022		
	(Loss) Income Before Income Tax	(Benefit) Provision for Income Taxes	Effective Tax Rate	Income Before Income Tax	Provision for Income Taxes	Effective Tax Rate
GAAP	$ (1,928)	$ (87)	4.5%	$ 433	$ 100	23.1%
Excess and obsolete charge from discontinued product line (Note 1)	13	—		—	—	
Acquisition inventory step-up (Note 2)	—	—		52	—	
Acquisition and integration costs (Note 3)	16	—		52	—	
Restructuring (Note 4)	20	—		10	—	
Amortization of intangible assets	295	—		146	—	
Goodwill and intangible asset impairments (Note 5)	1,902	—		—	—	
Gain on sale of long-lived assets (Note 6)	(2)	—		(7)	—	
Amortization of debt issuance costs (Note 7)	24	—		51	—	
Fees and expenses related to repricing of term loan (Note 8)	2	—		—	—	
Ransomware incident (Note 9)	15	—		—	—	
Loss on debt extinguishment (Note 10)	8	—		—	—	
Currency hedge loss (Note 11)	—	—		(5)	—	
Reversal of indefinite reinvestment assertion (Note 12)	—	—		—	(30)	
Tax effect of Non-GAAP adjustments (Note 13)	—	156		—	65	
Non-GAAP	$ 366	$ 69	18.9%	$ 731	$ 134	18.4%

in millions

Appendix – GAAP to Non-GAAP Reconciliations

Non-GAAP financial measures adjust GAAP financial measures for the items listed below. These Non-GAAP financial measures should be viewed in addition to, and not as a substitute for, MKS' reported GAAP results, and may be different from Non-GAAP financial measures used by other companies. In addition, these Non-GAAP financial measures are not based on any comprehensive set of accounting rules or principles. MKS management believes the presentation of these Non-GAAP financial measures is useful to investors for comparing prior periods and analyzing ongoing business trends and operating results. Totals presented may not sum and percentages may not recalculate using figures presented due to rounding.

Note 1: We recorded an excess and obsolescence inventory charge related to a product line that is being discontinued.

Note 2: Costs of revenues included the amortization from the step-up of inventory to fair value as a result of the Atotech Acquisition.

Note 3: Acquisition and integration costs primarily related to the Atotech Acquisition.

Note 4: . Restructuring costs during the three and twelve months ended December 31, 2023 and the three months ended September 30, 2023, primarily related to severance costs due to global cost-saving initiatives. Restructuring costs during the three months ended December 31, 2022 primarily related to the closure of two facilities in Europe and movement of certain products to low cost regions. Restructuring costs during the twelve months ended December 31, 2022 primarily related to executive payments made related to the Atotech Acquisition, severance costs due to a global cost-saving initiative, the closure of two facilities in Europe and movement of certain products to low cost regions.

Note 5: During the three months ended June 30, 2023, we noted softer industry demand, particularly in the personal computer and smartphone markets and concluded there was a triggering event at our Materials Solutions Division, which represents the former Atotech business, and Equipment Solutions Business, which represents the former Electro Scientific Industries business and is a reporting unit of our Photonics Solutions Division. We performed a quantitative assessment which resulted in an impairment of $1.3 billion for our Materials Solutions Division and $0.5 billion for our Equipment Solutions Business. In addition, during the three months ended December 31, 2023, as part of our annual goodwill and intangible asset impairment analysis, we recorded additional impairment charges of $68 million for our Materials Solutions Division and $13 million for our Equipment Solutions Business.

Note 6: We recorded a gain on the sale of a minority interest investment in a private company.

Note 7: We recorded additional interest expense related to the amortization of debt issuance costs associated with our term loan facility.

Note 8: We recorded fees and expenses related to the repricing of the USD term loan B under our term loan facility.

Note 9: We recorded costs, net of recoveries, associated with the ransomware incident we identified on February 3, 2023. These costs were primarily comprised of various third-party consulting services, including forensic experts, restoration experts, legal counsel, and other information technology and accounting professional expenses, enhancements to our cybersecurity measures, and costs to restore our systems and access our data.

Appendix – GAAP to Non-GAAP Reconciliations

Note 10: We recorded a charge to write-off deferred financing fees and original issue discount costs related to the repricing of our term loan facility.

Note 11: We realized a gain in the twelve months ended December 31, 2022 from a euro currency contract used to hedge our financing in connection with the Atotech Acquisition. The contract expired on January 31, 2022.

Note 12: We no longer intend to indefinitely reinvest earnings of our foreign subsidiaries after the Atotech Acquisition. Additional income tax expense was recorded to reflect an estimate of withholding taxes that would be due on repatriation of prior period earnings.

Note 13: Non-GAAP adjustments are tax effected at applicable statutory rates resulting in a difference between the GAAP and Non-GAAP tax rates.

Note 14: In the fourth quarter of 2023, we modified our definition of Adjusted EBITDA to exclude other expense, net from this Non-GAAP measure. Other expense, net primarily relates to changes in foreign exchange rates. We believe this change enhances investor insight into our operational performance. We have applied this modified definition of Adjusted EBITDA to all periods presented.