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

FORM 10-Q

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

For the quarterly period ended June 30, 2024

or

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

For the transition period from ____ to ____

Commission File Number: 000-26966

ADVANCED ENERGY INDUSTRIES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**84-0846841**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1595 Wynkoop Street, Suite 800, Denver, Colorado	**80202**
(Address of principal executive offices)	(Zip Code)

(970) 407-6626
(Registrant's telephone number, including area code)

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, $0.001 par value	**AEIS**	**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 ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

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

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

As of July 26, 2024, there were 37,672,536 shares of the registrant's common stock, par value $0.001 per share, outstanding.

ADVANCED ENERGY INDUSTRIES, INC.
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PART I FINANCIAL INFORMATION

ITEM 1. UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

ADVANCED ENERGY INDUSTRIES, INC.
Unaudited Consolidated Balance Sheets
(In thousands, except per share amounts)

	June 30, 2024	December 31, 2023
ASSETS		
Current assets:		
Cash and cash equivalents	$ 986,148	$ 1,044,556
Accounts receivable, net	262,419	282,430
Inventories	383,141	336,137
Other current assets	46,131	48,771
Total current assets	1,677,839	1,711,894
Property and equipment, net	180,624	167,665
Operating lease right-of-use assets	103,522	95,432
Other assets	130,782	136,448
Intangible assets, net	151,763	161,478
Goodwill	297,329	283,840
TOTAL ASSETS	$ 2,541,859	$ 2,556,757
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 157,523	$ 141,850
Accrued payroll and employee benefits	53,559	73,595
Other accrued expenses	46,977	66,662
Customer deposits and other	12,479	15,997
Current portion of long-term debt	20,000	20,000
Current portion of operating lease liabilities	16,299	17,744
Total current liabilities	306,837	335,848
Long-term debt, net	887,309	895,679
Operating lease liabilities	97,251	89,330
Pension benefits	47,843	49,135
Other long-term liabilities	37,543	42,583
Total liabilities	1,376,783	1,412,575
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock, $0.001 par value, 1,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.001 par value, 70,000 shares authorized; 37,671 and 37,318 issued and outstanding at June 30, 2024 and December 31, 2023, respectively	38	37
Additional paid-in capital	169,686	148,300
Accumulated other comprehensive income (loss)	(6,823)	6,114
Retained earnings	1,002,175	989,731
Total stockholders' equity	1,165,076	1,144,182
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 2,541,859	$ 2,556,757

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

ADVANCED ENERGY INDUSTRIES, INC.
Unaudited Consolidated Statements of Operations
(In thousands, except per share amounts)

	Three Months Ended June 30, 2024	Three Months Ended June 30, 2023	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
Revenue, net	$ 364,947	$ 415,508	$ 692,422	$ 840,548
Cost of revenue	237,206	268,428	451,852	538,357
Gross profit	127,741	147,080	240,570	302,191
Operating expenses:				
Research and development	52,335	51,413	102,171	103,023
Selling, general, and administrative	55,013	55,613	110,137	110,971
Amortization of intangible assets	6,800	7,075	13,747	14,137
Restructuring, asset impairments, and other charges	625	3,154	870	4,197
Total operating expenses	114,773	117,255	226,925	232,328
Operating income	12,968	29,825	13,645	69,863
Interest income	12,119	4,301	24,764	7,886
Interest expense	(6,956)	(2,858)	(14,083)	(5,588)
Other income (expense), net	638	982	2,017	(423)
Income from continuing operations, before income tax	18,769	32,250	26,343	71,738
Income tax provision	3,165	4,795	4,952	12,531
Income from continuing operations	15,604	27,455	21,391	59,207
Loss from discontinued operations, net of income tax	(575)	(315)	(1,146)	(1,146)
Net income	$ 15,029	$ 27,140	$ 20,245	$ 58,061
Basic weighted-average common shares outstanding	37,474	37,573	37,417	37,524
Diluted weighted-average common shares outstanding	37,777	37,803	37,733	37,804
Earnings per share:				
Continuing operations:				
Basic earnings per share	$ 0.42	$ 0.73	$ 0.57	$ 1.58
Diluted earnings per share	$ 0.41	$ 0.73	$ 0.57	$ 1.57
Discontinued operations:				
Basic loss per share	$ (0.02)	$ (0.01)	$ (0.03)	$ (0.03)
Diluted loss per share	$ (0.02)	$ (0.01)	$ (0.03)	$ (0.03)
Net income:				
Basic earnings per share	$ 0.40	$ 0.72	$ 0.54	$ 1.55
Diluted earnings per share	$ 0.40	$ 0.72	$ 0.54	$ 1.54

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

ADVANCED ENERGY INDUSTRIES, INC.
Unaudited Consolidated Statements of Comprehensive Income
(In thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Net income	$ 15,029	$ 27,140	$ 20,245	$ 58,061
Other comprehensive loss, net of income tax				
Foreign currency translation	(2,561)	(1,533)	(9,150)	(1,729)
Change in fair value of cash flow hedges	(2,356)	(201)	(3,736)	(2,018)
Defined employee benefit plan	(51)	(292)	(51)	(292)
Comprehensive income	$ 10,061	$ 25,114	$ 7,308	$ 54,022

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

ADVANCED ENERGY INDUSTRIES, INC.
Unaudited Consolidated Statements of Stockholders' Equity
(In thousands, except per share amounts)

	Common Stock					
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
Balances, December 31, 2022	37,429	$ 37	$ 134,640	$ 16,320	$ 915,270	$ 1,066,267
Stock issued from equity plans	100	—	(1,991)	—	—	(1,991)
Stock-based compensation	—	—	6,543	—	—	6,543
Dividends declared ($0.10 per share)	—	—	—	—	(3,814)	(3,814)
Other comprehensive loss	—	—	—	(2,013)	—	(2,013)
Net income	—	—	—	—	30,921	30,921
Balances, March 31, 2023	37,529	37	139,192	14,307	942,377	1,095,913
Stock issued from equity plans	121	1	606	—	—	607
Stock-based compensation	—	—	7,423	—	—	7,423
Dividends declared ($0.10 per share)	—	—	—	—	(3,778)	(3,778)
Other comprehensive loss	—	—	—	(2,026)	—	(2,026)
Net income	—	—	—	—	27,140	27,140
Balances, June 30, 2023	37,650	$ 38	$ 147,221	$ 12,281	$ 965,739	$ 1,125,279
Balances, December 31, 2023	37,318	$ 37	$ 148,300	$ 6,114	$ 989,731	$ 1,144,182
Stock issued from equity plans	116	—	(5,327)	—	—	(5,327)
Stock-based compensation	—	—	10,591	—	—	10,591
Dividends declared ($0.10 per share)	—	—	—	—	(3,810)	(3,810)
Other comprehensive loss	—	—	—	(7,969)	—	(7,969)
Deferred compensation	—	—	79	—	(79)	—
Net income	—	—	—	—	5,216	5,216
Balances, March 31, 2024	37,434	37	153,643	(1,855)	991,058	1,142,883
Stock issued from equity plans	93	—	(173)	—	—	(173)
Stock issuance (Note 2. Acquisition)	144	1	4,463	—	—	4,464
Stock-based compensation	—	—	10,720	—	—	10,720
Dividends declared ($0.10 per share)	—	—	—	—	(3,848)	(3,848)
Other comprehensive loss	—	—	—	(4,968)	—	(4,968)
Deferred compensation	—	—	1,033	—	(64)	969
Net income	—	—	—	—	15,029	15,029
Balances, June 30, 2024	37,671	$ 38	$ 169,686	$ (6,823)	$ 1,002,175	$ 1,165,076

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

ADVANCED ENERGY INDUSTRIES, INC.
Unaudited Consolidated Statements of Cash Flows
(In thousands)

	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	$ 20,245	$ 58,061
Less: loss from discontinued operations, net of income tax	(1,146)	(1,146)
Income from continuing operations, net of income tax	21,391	59,207
Adjustments to reconcile net income to net cash from operating activities:		
Depreciation and amortization	33,918	32,966
Stock-based compensation	22,389	14,738
Amortization of debt issuance costs and debt discount	1,630	254
Deferred income tax benefit	(42)	(786)
Loss (gain) on disposal and sale of assets	(16)	192
Unrealized gain on investment	(567)	—
Changes in operating assets and liabilities, net of assets acquired		
Accounts receivable, net	18,390	46,044
Inventories	(49,255)	(17,688)
Other assets	5,008	2,859
Accounts payable	14,331	(17,448)
Other liabilities and accrued expenses	(52,304)	(64,834)
Net cash from operating activities from continuing operations	14,873	55,504
Net cash from operating activities from discontinued operations	(876)	(3,090)
Net cash from operating activities	13,997	52,414
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of long-term investments	(2,401)	(3,128)
Purchases of property and equipment	(31,406)	(33,623)
Acquisitions, net of cash acquired	(13,762)	—
Net cash from investing activities	(47,569)	(36,751)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments on long-term borrowings	(10,000)	(10,000)
Dividend payments	(7,658)	(7,592)
Net payments related to stock-based awards	(5,500)	(1,384)
Net cash from financing activities	(23,158)	(18,976)
EFFECT OF CURRENCY TRANSLATION ON CASH AND CASH EQUIVALENTS	(1,678)	(253)
NET CHANGE IN CASH AND CASH EQUIVALENTS	(58,408)	(3,566)
CASH AND CASH EQUIVALENTS, beginning of period	1,044,556	458,818
CASH AND CASH EQUIVALENTS, end of period	$ 986,148	$ 455,252

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

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS
(In thousands, except per share data)

NOTE 1. DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Advanced Energy Industries, Inc., a Delaware corporation, and its consolidated subsidiaries ("we," "us," "our," "Advanced Energy," or the "Company") provides highly engineered, critical, precision power conversion, measurement, and control solutions to our global customers. We design, manufacture, sell and support precision power products that transform, refine, and modify the raw electrical power coming from either the utility or the building facility and convert it into various types of highly controllable, usable power that is predictable, repeatable, and customizable to meet the necessary requirements for powering a wide range of complex equipment. Many of our products enable customers to reduce or optimize their energy consumption through increased power conversion efficiency, power density, power coupling, and process control across a wide range of applications.

In management's opinion, the accompanying unaudited consolidated financial statements contain all adjustments, consisting of normal, recurring adjustments, necessary to present fairly Advanced Energy's financial position as of June 30, 2024, and the results of our operations and cash flows for the three and six months ended June 30, 2024 and 2023.

The unaudited consolidated financial statements included herein have been prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") have been omitted pursuant to such rules and regulations. These unaudited consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2023 and other financial information filed with the SEC.

Use of Estimates in the Preparation of the Consolidated Financial Statements

The preparation of our consolidated financial statements in conformity with U.S. GAAP requires us to make estimates, assumptions, and judgments that affect the reported amounts of assets and liabilities, the disclosure of contingent liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. The significant estimates, assumptions, and judgments include, but are not limited to, excess and obsolete inventory, income taxes and other provisions, and acquisitions and asset valuations.

Significant Accounting Policies

Our accounting policies are described in *Note 1. Summary of Operations and Significant Accounting Policies and Estimates* to our audited consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2023.

New Accounting Standards

From time to time, the Financial Accounting Standards Board ("FASB") or other standards setting bodies issue new accounting pronouncements. Updates to the FASB Accounting Standards Codification ("ASC") are communicated through issuance of an Accounting Standards Update ("ASU"). Unless otherwise discussed, we believe that the impact of recently issued guidance, whether adopted or to be adopted in the future, will not have a material impact on the consolidated financial statements upon adoption.

New Accounting Standards Issued But Not Yet Adopted

In November 2023, the FASB issued ASU 2023-07 "Segment Reporting (Topic 280) Improvements to Reportable Segment Disclosures." ASU 2023-07 expands disclosure requirements to require additional information about significant segment expenses. In addition, the ASU enhances interim disclosures, clarifies circumstances in which an entity can disclose multiple segment measures of profit or loss, and provides new disclosures requirements for entities with a single reportable segment. This guidance will be effective for us in our Annual Report on Form 10-K for the year ending December 31, 2024. We do not expect the above guidance to materially impact our consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09 "Improvements to Income Tax Disclosures." ASU 2023-09 requires disaggregated information about a reporting entity's effective tax rate reconciliation as well as additional disclosure on income taxes paid. This guidance will be effective for us on January 1, 2025. We do not expect the above guidance to materially impact our consolidated financial statements.

In March 2024, the SEC issued climate-related disclosure rules. These rules do not change accounting treatment, but they significantly expand the climate-related information companies are required to disclose. Several petitions were filed challenging these climate-related disclosure rules and, in April 2024, the SEC voluntarily stayed the rules, pending completion of judicial review. We do not expect the above disclosure requirement to materially impact our consolidated financial statements. We are evaluating the disclosure requirements and changes to our business processes, systems, and controls to support the additional disclosures.

(In thousands, except per share data)

NOTE 2. ACQUISITIONS

On June 20, 2024, we acquired 100% of the issued and outstanding shares of capital stock of Airity Technologies, Inc. (“Airity”), which is based in Redwood City, California. We accounted for this transaction as a business combination. This acquisition adds high voltage power conversion technologies and products, which broadens our range of targeted applications within our Semiconductor Equipment and Industrial and Medical markets.

The following table summarizes the consideration paid:

	Consideration
Cash paid at closing	$ 14,301
Advanced Energy common stock	4,463
Settlement of payables	(654)
Indemnity holdback payable on the one-year anniversary	1,500
Total fair value of purchase consideration	$ 19,610

We are still evaluating the fair value of the assets acquired and liabilities assumed, inclusive of the acquired intangible assets, including their estimated useful lives, related tax impacts, and resulting goodwill. Our preliminary allocation of the fair value of purchase consideration was as follows:

	Fair Value
Cash	$ 539
Current assets and liabilities, net	372
Property and equipment	42
Deferred tax and other liabilities	(2,144)
Intangible assets	4,200
Goodwill (not deductible for tax purposes)	16,601
Total fair value of net assets acquired	$ 19,610

We included Airity’s results of operations in our consolidated financial statements from the date of acquisition.

In connection with the acquisition, we entered into agreements with certain former Airity employees. On the closing date, these individuals received a total of 0.1 million shares of Advanced Energy common stock valued at $15.6 million based on the June 20, 2024 closing price, of which $4.5 million was allocated to purchase consideration and $11.1 million will be future compensation. We will record the $11.1 million as stock-based compensation expense over the three-year expected vesting period.

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(In thousands, except per share data)

NOTE 3. REVENUE

Disaggregation of revenue

The following tables present additional information regarding our revenue:

Revenue by Market

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Semiconductor Equipment	$ 188,321	$ 173,177	$ 368,224	$ 367,386
Industrial and Medical	79,104	127,603	162,522	250,623
Data Center Computing	72,964	59,076	114,866	118,735
Telecom and Networking	24,558	55,652	46,810	103,804
Total	$ 364,947	$ 415,508	$ 692,422	$ 840,548

Revenue by Region

	Three Months Ended June 30,				Six Months Ended June 30,			
	2024		2023		2024		2023	
North America	$ 172,794	47.4 %	$ 171,516	41.3 %	$ 306,873	44.3 %	$ 352,458	42.0 %
Asia	151,955	41.6	186,498	44.9	303,898	43.9	365,681	43.5
Europe	39,813	10.9	56,213	13.5	80,366	11.6	118,779	14.1
Other	385	0.1	1,281	0.3	1,285	0.2	3,630	0.4
Total	$ 364,947	100.0 %	$ 415,508	100.0 %	$ 692,422	100.0 %	$ 840,548	100.0 %

Revenue by Significant Countries

	Three Months Ended June 30,				Six Months Ended June 30,			
	2024		2023		2024		2023	
United States	$ 129,495	35.5 %	$ 147,109	35.4 %	$ 237,311	34.4 %	$ 300,615	35.8 %
Mexico	42,934	11.8	23,617	5.7	68,815	9.9	50,489	6.0
Taiwan	39,108	10.7	29,345	7.1	78,581	11.3	65,706	7.8
China	22,682	6.2	53,192	12.8	41,573	6.0	90,648	10.8
All others	130,728	35.8	162,245	39.0	266,142	38.4	333,090	39.6
Total	$ 364,947	100.0 %	$ 415,508	100.0 %	$ 692,422	100.0 %	$ 840,548	100.0 %

We attribute revenue to individual countries and regions based on the customer’s ship to location. Apart from the specific countries listed above, no individual country exceeded 10% of our total consolidated revenues during the periods presented.

Revenue by Category

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Product	$ 325,368	$ 369,881	$ 611,632	$ 749,155
Services and other	39,579	45,627	80,790	91,393
Total	$ 364,947	$ 415,508	$ 692,422	$ 840,548

Other revenue includes certain spare parts and products sold by our service group.

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(In thousands, except per share data)

Significant Customers

During the three months ended June 30, 2024, Applied Materials, Inc. and Lam Research Corporation accounted for 26% and 10%, respectively, of our total revenue. During the six months ended June 30, 2024, Applied Materials, Inc. and Lam Research Corporation accounted for 28% and 10%, respectively, of our total revenue. During the three and six months ended June 30, 2023, Applied Materials Inc. accounted for 19% and 20%, respectively, of our total revenue. No other customer's revenue exceeded 10% of our total revenue in the periods presented.

As of June 30, 2024, the account receivable balance from Applied Materials, Inc. and Lam Research Corporation accounted for 31% and 10%, respectively, of our total accounts receivable. As of December 31, 2023, the account receivable balance from Applied Materials, Inc. accounted for 26% of our total accounts receivable. No other customer's account receivable exceeded 10% of our total accounts receivable in the periods presented.

NOTE 4. INCOME TAX

The following table summarizes tax expense and the effective tax rate for our income from continuing operations:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Income from continuing operations, before income tax	$ 18,769	$ 32,250	$ 26,343	$ 71,738
Income tax provision	$ 3,165	$ 4,795	$ 4,952	$ 12,531
Effective tax rate	16.9 %	14.9 %	18.8 %	17.5 %

Our effective tax rates differ from the U.S. federal statutory rate of 21% primarily due to the benefit of earnings in foreign jurisdictions which are subject to lower tax rates, as well as tax credits, partially offset by net U.S. tax on foreign operations.

For both the three and six months ended June 30, 2024, our effective tax rate for 2024 was higher than the same period in the prior year primarily due to the impact of smaller beneficial discrete items in the current period relative to the larger beneficial discrete items in the prior period.

As of January 1, 2024, the Pillar II minimum global effective tax rate of 15% enacted by the Organization for Economic Cooperation and Development ("OECD") was effectuated. More than 140 countries agreed to enact the Pillar II global minimum tax. However, the timing of the implementation for each country varies. To date, we have determined that there was an immaterial global minimum tax liability as a result of Pillar II, as certain tax jurisdictions either will not have Pillar II enacted until after December 31, 2024 or satisfied the safe harbor test to prevent any minimum tax under Pillar II. We continue to monitor the jurisdictions for any changes and include any appropriate minimum tax throughout the year.

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(In thousands, except per share data)

NOTE 5. STOCKHOLDERS' EQUITY AND EARNINGS PER SHARE

Accumulated Other Comprehensive Income (Loss)

The following table summarizes the components of, and changes in, accumulated other comprehensive income (loss), net of income taxes.

	Foreign Currency Translation	Change in Fair Value of Cash Flow Hedges	Defined Employee Benefit Plan	Total
Balance at December 31, 2022	$ (12,823)	$ 11,848	$ 17,295	$ 16,320
Other comprehensive income (loss) prior to reclassifications	(196)	595	—	399
Amounts reclassified from accumulated other comprehensive income (loss)	—	(2,412)	—	(2,412)
Balance at March 31, 2023	(13,019)	10,031	17,295	14,307
Other comprehensive income (loss) prior to reclassifications	(1,533)	2,555	—	1,022
Amounts reclassified from accumulated other comprehensive income (loss)	—	(2,756)	(292)	(3,048)
Balance at June 30, 2023	$ (14,552)	$ 9,830	$ 17,003	$ 12,281

	Foreign Currency Translation	Change in Fair Value of Cash Flow Hedges	Defined Employee Benefit Plan	Total
Balance at December 31, 2023	$ (10,796)	$ 5,474	$ 11,436	$ 6,114
Other comprehensive income (loss) prior to reclassifications	(6,589)	1,405	—	(5,184)
Amounts reclassified from accumulated other comprehensive income (loss)	—	(2,785)	—	(2,785)
Balance at March 31, 2024	(17,385)	4,094	11,436	(1,855)
Other comprehensive income (loss) prior to reclassifications	(2,561)	395	—	(2,166)
Amounts reclassified from accumulated other comprehensive income (loss)	—	(2,751)	(51)	(2,802)
Balance at June 30, 2024	$ (19,946)	$ 1,738	$ 11,385	$ (6,823)

Amounts reclassified from accumulated other comprehensive income (loss) to the specific caption within the Consolidated Statements of Operations were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,		To Caption on Consolidated Statements of Operations
	2024	2023	2024	2023	
Cash flow hedges	$ (2,751)	$ (2,756)	$ (5,536)	$ (5,168)	Interest expense
Defined employee benefit plan	(51)	(292)	(51)	(292)	Other income (expense), net
Total reclassifications	$ (2,802)	$ (3,048)	$ (5,587)	$ (5,460)	

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(In thousands, except per share data)

Earnings Per Share

The following table summarizes our earnings per share (“EPS”):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Income from continuing operations	$ 15,604	$ 27,455	$ 21,391	$ 59,207
Basic weighted-average common shares outstanding	37,474	37,573	37,417	37,524
Dilutive effect of stock awards	303	230	316	280
Diluted weighted-average common shares outstanding	37,777	37,803	37,733	37,804
EPS from continuing operations				
Basic EPS	$ 0.42	$ 0.73	$ 0.57	$ 1.58
Diluted EPS	$ 0.41	$ 0.73	$ 0.57	$ 1.57
Anti-dilutive shares not included above				
Stock awards	—	144	55	121
Warrants	3,166	—	3,183	—
Total anti-dilutive shares	3,166	144	3,238	121

We compute basic earnings per share of common stock (“Basic EPS”) by dividing income available to common stockholders by the weighted-average number of common shares outstanding during the period.

See *Note 18. Long-Term Debt* in our Annual Report on Form 10-K for the year ended December 31, 2023 for information regarding our Convertible Notes, Note Hedges, and Warrants. For diluted earnings per share of common stock (“Diluted EPS”), we increase the weighted-average number of common shares outstanding during the period, as needed, to include the following:

- Additional common shares that would have been outstanding if our outstanding stock awards had been converted to common shares using the treasury stock method. We exclude any stock awards that have an anti-dilutive effect;
- Dilutive impact associated with the Convertible Notes using the if-converted method. The Convertible Notes are repayable in cash up to par value and in cash or shares of common stock for the excess over par value. When the stock price is lower than the strike price, there is no dilutive or anti-dilutive impact. Prior to conversion, we do not consider the Note Hedges for purposes of Diluted EPS as their effect would be anti-dilutive. Upon conversion, we expect the Note Hedges to offset the dilutive effect of the Convertible Notes when the stock price is above $137.46 but below $179.76; and
- Dilutive effect of the Warrants issued concurrently with the Convertible Notes using the treasury stock method. For all periods presented, the Warrants did not increase the weighted-average number of common shares outstanding because the $179.76 exercise price of the Warrants exceeded the average market price of our common stock.

Share Repurchase

At June 30, 2024, the remaining amount authorized by the Board of Directors for future share repurchases was $199.2 million with no time limitation. There were no share repurchases during any periods presented.

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(In thousands, except per share data)

NOTE 6. FAIR VALUE MEASUREMENTS

The following tables present information about our assets and liabilities measured at fair value on a recurring basis:

		June 30, 2024			
Description	**Balance Sheet Classification**	**Level 1**	**Level 2**	**Level 3**	**Total Fair Value**
Certificates of deposit	Other current assets	$ —	184	—	$ 184
Foreign currency forward contracts	Other accrued expenses	$ —	28	—	$ 28
Interest rate swaps	Other current assets	$ —	2,163	—	$ 2,163
Investments	Other assets	$ —	8,895	—	$ 8,895

		December 31, 2023			
Description	**Balance Sheet Classification**	**Level 1**	**Level 2**	**Level 3**	**Total Fair Value**
Certificates of deposit	Other current assets	$ —	163	—	$ 163
Interest rate swaps	Other assets	$ —	6,995	—	$ 6,995
Investments	Other assets	$ —	5,952	—	$ 5,952

NOTE 7. DERIVATIVE FINANCIAL INSTRUMENTS

Changes in foreign currency exchange rates impact our results of operations and cash flows. We may manage these risks through the use of derivative financial instruments, primarily forward contracts with banks. These forward contracts manage the exchange rate risk associated with assets and liabilities denominated in nonfunctional currencies. Typically, we execute these derivative instruments for one-month periods and do not designate them as hedges; however, they do partially offset the economic fluctuations of certain of our assets and liabilities due to foreign exchange rate changes.

At June 30, 2024 we have $172.0 million foreign currency forward contracts outstanding. There were no foreign currency forward contracts outstanding at December 31, 2023.

Gains and losses related to foreign currency exchange contracts were offset by corresponding gains and losses on the revaluation of the underlying assets and liabilities. Both are included as a component of other income (expense), net in our Consolidated Statements of Operations.

We have executed interest rate swap contracts that fix a portion of the interest payments related to the outstanding principal balance on our Term Loan Facility to a total interest rate of 1.172%. The interest rate swap contracts expire on September 10, 2024 and are accounted for as cash flow hedging instruments. See *Note 16. Long-Term Debt* for information regarding the Term Loan Facility.

The following table summarizes the notional amount of our qualified hedging instruments:

	June 30, 2024	**December 31, 2023**
Interest rate swap contracts	$ 211,969	$ 220,719

(In thousands, except per share data)

The following table summarizes the amounts, net of tax, recorded in accumulated other comprehensive income (loss) on the Consolidated Balance Sheets for qualifying hedges.

	June 30, 2024	December 31, 2023
Interest rate swap contract gains	$ 1,738	$ 5,350

See *Note 6. Fair Value Measurements* for information regarding fair value of derivative instruments.

As a result of using derivative financial instruments, we are exposed to the risk that counterparties to contracts could fail to meet their contractual obligations. We manage this credit risk by reviewing counterparty creditworthiness on a regular basis and limiting exposure to any single counterparty.

NOTE 8. ACCOUNTS RECEIVABLE, NET

We record accounts receivable at net realizable value. Our accounts receivable, net balance on the Consolidated Balance Sheets was $262.4 million at June 30, 2024. The following table summarizes the changes in expected credit losses related to receivables:

December 31, 2023	$ 1,762
Additions	94
Deductions - write-offs, net of recoveries	(160)
June 30, 2024	$ 1,696

NOTE 9. INVENTORIES

We value inventories at the lower of cost or net realizable value, computed on a first-in, first-out basis. Components of inventories were as follows:

	June 30, 2024	December 31, 2023
Parts and raw materials	$ 278,269	$ 249,698
Work in process	17,710	14,595
Finished goods	87,162	71,844
Total	$ 383,141	$ 336,137

(In thousands, except per share data)

NOTE 10. INTANGIBLE ASSETS AND GOODWILL

Intangible assets consisted of the following:

	June 30, 2024			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Useful Life (in years)
Technology	$ 100,257	$ (66,005)	$ 34,252	7.3
Customer relationships	169,327	(64,606)	104,721	9.0
Trademarks and other	27,102	(14,312)	12,790	5.1
Total	$ 296,686	$ (144,923)	$ 151,763	8.3

	December 31, 2023			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Useful Life (in years)
Technology	$ 97,961	$ (60,412)	$ 37,549	6.8
Customer relationships	168,685	(58,835)	109,850	9.5
Trademarks and other	27,141	(13,062)	14,079	5.6
Total	$ 293,787	$ (132,309)	$ 161,478	8.5

Amortization expense related to intangible assets is as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Amortization expense	$ 6,800	$ 7,075	$ 13,747	$ 14,137

Estimated future amortization expense related to intangibles is as follows:

Year Ending December 31,	
2024 (remaining)	$ 11,735
2025	21,541
2026	19,826
2027	17,923
2028	16,690
Thereafter	64,048
Total	$ 151,763

The following table summarizes the changes in goodwill:

December 31, 2023	$ 283,840
Additions from acquisition	16,601
Foreign currency translation and other	(3,112)
June 30, 2024	$ 297,329

(In thousands, except per share data)

NOTE 11. RESTRUCTURING, ASSET IMPAIRMENTS, AND OTHER CHARGES

Details of restructuring, asset impairments, and other charges are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Restructuring	$ 84	$ 3,154	$ 53	$ 4,197
Other charges	541	—	817	—
Total restructuring, asset impairments, and other charges	$ 625	$ 3,154	$ 870	$ 4,197

Restructuring

We have two restructuring plans in process:

2023 Plan

In 2023, we approved a plan intended to optimize and further consolidate our manufacturing operations and functional support groups as well as a general reduction-in-force to align our expenses to revenue levels (the "2023 Plan"). We expect additional charges of $1.0 million to $2.0 million to be incurred in future periods through the second quarter of 2025. We anticipate the 2023 Plan will be substantially completed by the end of 2024, with the final activities concluding in the second quarter of 2025.

On July 29, 2024, we approved actions in furtherance of our previously announced manufacturing consolidation initiatives intended to optimize our manufacturing network and cost structure. In connection with these actions, we estimate we will incur $25.0 million to $30.0 million primarily associated with employment-related charges for, among other things, one-time cash payments for severance, benefits expenses, payroll taxes, facility exit costs, and other ancillary costs. We expect to recognize the majority of these charges during calendar year 2024 with any remaining charges to be recognized in the first half of 2025.

2022 Plan

This plan was approved to further improve our operating efficiencies and drive the realization of synergies from our business combinations by consolidating our operations, optimizing our factory footprint, including moving certain production into our higher volume factories, reducing redundancies, and lowering our cost structure. We anticipate the 2022 Plan will be substantially completed by the end of 2024.

Our restructuring liabilities are included in other accrued expenses in our Consolidated Balance Sheets. Changes in restructuring liabilities were as follows:

	2023 Plan	2022 Plan	Other	Total
December 31, 2023	$ 14,224	$ 2,930	$ 188	$ 17,342
Costs incurred and charged to expense	(4)	57	—	53
Costs paid or otherwise settled	(6,994)	(2,987)	(188)	(10,169)
June 30, 2024	$ 7,226	$ —	$ —	$ 7,226

(In thousands, except per share data)

Charges related to our restructuring plans are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Severance and related charges	$ 84	$ 3,154	$ 53	$ 4,197

	Cumulative Cost Through June 30, 2024		
	2023 Plan	2022 Plan	Total
Severance and related charges	$ 17,099	$ 14,044	$ 31,143

Other Charges

Other charges relate to vacating and relocating facilities.

NOTE 12. WARRANTIES

Our sales agreements include customary product warranty provisions, which generally range from 12 to 36 months after shipment. We record the estimated warranty obligations cost when we recognize revenue. This estimate is based on historical experience by product and configuration.

We include warranty obligation in other accrued expenses in our Consolidated Balance Sheets. Changes in our product warranty obligation were as follows:

December 31, 2023	$ 4,007
Net increases to accruals	1,295
Warranty expenditures	(1,265)
Effect of changes in exchange rates	137
June 30, 2024	$ 4,174

ADVANCED ENERGY INDUSTRIES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(In thousands, except per share data)

NOTE 13. LEASES

Components of total operating lease cost were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Operating lease cost	$ 5,856	$ 5,656	$ 11,717	$ 11,336
Short-term and variable lease cost	910	987	1,577	2,070
Total operating lease cost	$ 6,766	$ 6,643	$ 13,294	$ 13,406

Estimated future payments on our operating lease liabilities are as follows:

Year Ending December 31,	
2024 (remaining)	$ 11,473
2025	20,492
2026	17,902
2027	15,494
2028	15,102
Thereafter	62,966
Total lease payments	143,429
Less: Interest	(29,879)
Present value of lease liabilities	$ 113,550

In addition to the above, we have lease agreements with total payments of $36.0 million that commence on various dates in 2024 and 2025 and extend through 2040.

The following tables present additional information about our lease agreements:

	June 30, 2024	December 31, 2023
Weighted average remaining lease term (in years)	8.5	8.3
Weighted average discount rate	5.3 %	5.0 %

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Cash paid for operating leases	$ 5,844	$ 5,824	$ 11,564	$ 11,668
Right-of-use assets obtained in exchange for operating lease liabilities	$ 1,579	$ 2,420	$ 18,417	$ 2,628

(In thousands, except per share data)

NOTE 14. STOCK-BASED COMPENSATION

The Compensation Committee of our Board of Directors administers our stock plans. As of June 30, 2024, we had two active stock-based incentive compensation plans: the Amended and Restated 2023 Omnibus Incentive Plan (the "2023 Incentive Plan") and the Employee Stock Purchase Plan ("ESPP"). The 2023 Incentive Plan was approved by stockholders on April 27, 2023 and amended and restated on November 2, 2023. We issue all new equity compensation grants under these two plans; however, outstanding awards previously issued under now inactive plans will continue to vest and remain exercisable in accordance with the terms of the respective plans.

The 2023 Incentive Plan provides for the grant of awards including stock options, stock appreciation rights, performance stock units, performance units, stock, restricted stock, restricted stock units, and cash incentive awards.

The following table summarizes information related to our stock-based incentive compensation plans:

	June 30, 2024
Shares available for future issuance under the 2023 Incentive Plan	1,817
Shares available for future issuance under the ESPP	556

Stock-based Compensation Expense

We recognize stock-based compensation expense based on the fair value of the awards issued and the functional area of the employee receiving the award. During the six months ended June 30, 2024, stock-based compensation expense includes $1.8 million related to a modification for accounting purposes of prior awards. Stock-based compensation was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Stock-based compensation expense	$ 11,384	$ 7,937	$ 22,389	$ 14,738

See *Note 2. Acquisitions* for information regarding future stock-based compensation expense related to the Airity acquisition.

Restricted Stock Units

Generally, we grant restricted stock units ("RSUs") with a three year time-based vesting schedule. Certain RSUs contain performance-based or market-based vesting conditions in addition to the time-based vesting requirements. RSUs are generally granted with a grant date fair value based on the market price of our stock on the date of grant.

Changes in our RSUs were as follows:

	Six Months Ended June 30, 2024	
	Number of RSUs	Weighted-Average Grant Date Fair Value
RSUs outstanding at beginning of period	917	$ 85.96
RSUs granted	529	$ 104.71
RSUs vested	(256)	$ 87.78
RSUs forfeited	(78)	$ 76.18
RSUs outstanding at end of period	1,112	$ 95.14

(In thousands, except per share data)

Stock Options

Generally, we grant stock option awards with an exercise price equal to the market price of our stock at the date of grant and with either a three or four-year vesting schedule or performance-based vesting. Stock option awards generally have a term of ten years.

Changes in our stock options were as follows:

	Six Months Ended June 30, 2024	
	Number of Options	Weighted-Average Exercise Price per Share
Options outstanding at beginning of period	89	$ 76.69
Options exercised	(10)	$ 26.32
Options outstanding at end of period	79	$ 83.05

NOTE 15. COMMITMENTS AND CONTINGENCIES

We are involved in disputes and legal actions arising in the normal course of our business. While we currently believe that the amount of any ultimate loss would not be material to our financial position, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate loss could have a material adverse effect on our financial position or reported results of operations. An unfavorable decision in intellectual property litigation also could require material changes in production processes and products or result in our inability to ship products or components found to have violated third party intellectual property rights. We accrue loss contingencies in connection with our commitments and contingencies, including litigation, when it is probable that a loss has occurred, and the amount of such loss can be reasonably estimated. We are not currently a party to any legal action that we believe would have a material adverse impact on our business, financial condition, results of operations or cash flows.

We maintain defined benefit pension plans for certain of our non-U.S. employees, including the United Kingdom. In light of the United Kingdom’s High Court ruling in the case of Virgin Media Ltd v. NTL Pension Trustees II Ltd & Ors, which was recently upheld on appeal, we are reviewing past amendments made to our United Kingdom pension plans to evaluate whether any changes were implemented in conflict with section 37 of the United Kingdom Pension Schemes Act 1993. Should there be a challenge to any previous amendments to our pension plan in the United Kingdom, we could face potential litigation and compliance risks. We continue to account for our United Kingdom pension arrangements in accordance with the plan agreements and amendments, as we believe they represent a mutual understanding and agreement among all parties.

(In thousands, except per share data)

NOTE 16. LONG-TERM DEBT

Long-term debt on our Consolidated Balance Sheets consists of the following:

	June 30, 2024	December 31, 2023
Convertible Notes due 2028	$ 575,000	$ 575,000
Term Loan Facility due 2026	345,000	355,000
Gross long-term debt, including current maturities	920,000	930,000
Less: debt discount	(12,691)	(14,321)
Net long-term debt, including current maturities	907,309	915,679
Less: current maturities	(20,000)	(20,000)
Net long-term debt	$ 887,309	$ 895,679

For all periods presented, we were in compliance with the covenants under all debt agreements. Contractual maturities of our gross long-term debt, including current maturities, are as follows:

Year Ending December 31,	
2024 (remaining)	$ 10,000
2025	20,000
2026	315,000
2027	—
2028	575,000
Total	$ 920,000

The following table summarizes our borrowings:

	June 30, 2024	
	Balance	Interest Rate
Convertible Notes due 2028	$ 575,000	2.50%
Term Loan Facility due 2026 at fixed interest rate due to interest rate swap	211,969	1.17%
Term Loan Facility due 2026 at variable interest rate	133,031	6.19%
Total borrowings	$ 920,000	

The interest rate swap contracts expire on September 10, 2024. After that date, this portion of our Term Loan Facility will be subject to a variable interest rate. For more information, see *Note 7. Derivative Financial Instruments*. The Term Loan Facility and Revolving Facility bear interest, at our option, at a rate based on the Base Rate or SOFR, as defined in the Credit Agreement, plus an applicable margin.

The following table summarizes interest expense related to our debt:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Interest expense	$ 6,365	$ 2,701	$ 12,667	$ 5,290
Amortization of debt issuance costs	855	131	1,675	263
Capitalized interest	(271)	—	(271)	—
Total interest expense related to debt	$ 6,949	$ 2,832	$ 14,071	$ 5,553

(In thousands, except per share data)

Convertible Senior Notes due 2028

On September 12, 2023, we completed a private, unregistered offering of $575.0 million aggregate principal amount of 2.50% convertible senior notes due 2028 (“Convertible Notes”).

The $563.3 million remaining outstanding principal amount of the Convertible Notes, net of unamortized issuance costs, continues to be classified as long-term debt as none of the conversion triggers occurred as of June 30, 2024. The redemption price is 100% of the principal amount plus accrued and unpaid interest. The Convertible Notes mature on September 15, 2028, unless earlier repurchased, redeemed, or converted. Interest is payable semi-annually in arrears in March and September.

Concurrent with the Convertible Notes issuance, we entered into hedges and sold warrants with respect to our common stock. In combination, the hedges and warrants synthetically increase the initial conversion price on the Convertible Notes from $137.46 to $179.76, reducing the potential dilutive effect.

Credit Agreement

Our credit agreement dated as of September 10, 2019, as amended (the “Credit Agreement”) consists of a senior unsecured term loan facility (“Term Loan Facility”) and a senior unsecured revolving facility (“Revolving Facility”). Both mature on September 9, 2026.

On March 31, 2023, we executed an amendment to the Credit Agreement to transition the benchmark interest rate from LIBOR to SOFR. The impact of this transition was not material to our consolidated financial statements.

On September 7, 2023, we entered into an additional amendment to the Credit Agreement to amend certain definitions, covenants, and events of default.

The following table summarizes our availability to withdraw on the Revolving Facility:

	June 30, 2024	December 31, 2023
Available capacity on Revolving Facility	$ 200,000	$ 200,000

As part of our available capacity on the Revolving Facility, prior to the maturity date of the Credit Agreement, we may request an increase to the financing commitments in either the Term Loan Facility or Revolving Facility by an aggregate amount not to exceed $115.0 million. Any requested increase is subject to lender approval.

We use level 2 measurements to estimate the fair value of our debt. As of June 30, 2024, we estimate the fair value of our Convertible Notes to be $597.8 million, and the par value of the Term Loan Facility approximates its fair value.

(In thousands, except per share data)

NOTE 17. SUPPLEMENTAL CASH FLOW INFORMATION AND OTHER DISCLOSURES

Certain of our cash and non-cash activities were as follows:

	Six Months Ended June 30,	
	2024	2023
Non-cash investing activities:		
Capital expenditures in accounts payable and other accrued expenses	$ 8,065	$ 7,808
Common stock used as consideration in business combination	$ 4,463	$ —
Cash paid for:		
Interest expense	$ 12,397	$ 5,291
Income taxes	$ 23,568	$ 38,008
Cash received from income taxes	$ 742	$ 225
Depreciation expense	$ 20,171	$ 18,829

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

This management discussion and analysis should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2023, which was filed with the Securities and Exchange Commission (the "SEC") on February 20, 2024 (the "2023 Form 10-K").

Special Note on Forward-Looking Statements

This Quarterly Report on Form 10-Q (this "report") contains, in addition to historical information, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Statements in this report that are not historical information are forward-looking statements. For example, statements relating to our beliefs, expectations, and plans are forward-looking statements, as are statements that certain actions, conditions, events, or circumstances will continue. The inclusion of words such as "anticipate," "expect," "estimate," "can," "may," "might," "continue," "enable," "plan," "intend," "should," "could," "would," "will," "likely," "potential," "believe," and similar expressions and the negative versions thereof indicate forward-looking statements; however, not all forward-looking statements may contain such words or expressions. These forward-looking statements are based upon information available as of the date of this report and management's current estimates, forecasts, and assumptions. Although we believe that our expectations reflected in or suggested by these forward-looking statements are reasonable, we may not achieve the results, performance, plans, or objectives expressed or implied by such forward-looking statements. Forward-looking statements involve risks and uncertainties, which are difficult to predict and many of which are beyond our control.

Risks and uncertainties to which our forward-looking statements are subject include:

- volatility and business fluctuations in the industries in which we compete;
- our ability to achieve design wins with new and existing customers;
- our ability to accurately forecast and meet customer demand;
- risks related to global economic conditions, including, but not limited to, the impact of escalating global conflicts on macroeconomic conditions, economic uncertainty, market volatility, rising interest rates, inflation, or recession;
- risks inherent in our international operations, including the effect of trade and export controls, political and geographical risks, fluctuations in currency exchange rates;
- concentration of our customer base;
- risks associated with breach of our information security measures;
- our loss of or inability to attract and retain key personnel;
- disruptions to our manufacturing operations or those of our customers or suppliers;
- risks associated with our manufacturing footprint optimization and movement of manufacturing locations for certain products;
- our ability to successfully identify, close, integrate and realize anticipated benefits from our acquisitions;
- quality issues or unanticipated costs in fulfilling our warranty obligations (including our discontinued solar inverter product line), and adequacy of our warranty reserves;
- our ability to enforce, protect and maintain our proprietary technology and intellectual property rights;
- our ability to achieve cost savings, profitability, and gross margin goals;
- changes to tax laws and regulations or our tax rates;

- changes in federal, state, local and foreign regulations, including with respect to privacy and data protection, and environmental regulation;
- effect of our debt obligations and restrictive covenants on our ability to operate our business;
- customer price sensitivity;
- risks related to our unfunded pension obligations;
- restructuring and severance activities;
- legal matters, claims, investigations, and proceedings;
- our estimates of the fair value of intangible assets; and
- the potential impact of dilution related to our convertible debt, hedge, and warrant transactions.

Actual results could differ materially and adversely from those expressed in any forward-looking statements, and readers are cautioned not to place undue reliance on forward-looking statements. Factors that could contribute to these differences or prove our forward-looking statements, by hindsight, to be overly optimistic or unachievable include, but are not limited to, the risks and uncertainties listed above and described in Part I, Item 1A in the 2023 Form 10-K. We assume no obligation to update any forward-looking statement or provide the reasons why our actual results might differ.

BUSINESS AND MARKET OVERVIEW

Company Overview

Advanced Energy provides highly engineered, critical, precision power conversion, measurement, and control solutions to our global customers. We design, manufacture, sell and support precision power products that transform, refine, and modify the raw electrical power coming from either the utility or the building facility and convert it into various types of highly controllable, usable power that is predictable, repeatable, and customizable to meet the necessary requirements for powering a wide range of complex equipment. Many of our products enable customers to reduce or optimize their energy consumption through increased power conversion efficiency, power density, power coupling, and process control across a wide range of applications.

We are organized on a global, functional basis and operate as a single segment of power electronics conversion products. Within this segment, our products are sold into the Semiconductor Equipment, Industrial and Medical, Data Center Computing, and Telecom and Networking markets.

Recent Acquisitions

On June 20, 2024, we acquired Airity Technologies, Inc. ("Airity"), which is based in Redwood City, California. This acquisition adds high voltage power conversion technologies and products, which broadens our range of targeted applications within our Semiconductor Equipment and Industrial and Medical markets. See *Note 2. Acquisitions* in Part I, Item 1 "Unaudited Consolidated Financial Statements."

Product and Services

Our precision power products and solutions are designed to enable new process technologies, improve productivity, lower the cost of ownership, and provide critical power capabilities for our customers. These products are designed to meet our customers' demanding requirements in efficiency, flexibility, performance, and reliability. The majority of Advanced Energy's products are capable of meeting various customer requirements. We also provide repair and maintenance services for our products.

Our plasma power products offer solutions to enable innovation in complex semiconductor and thin film plasma processes such as dry etch and deposition. Our broad portfolio of high and low voltage power products are used in a wide range of applications, such as semiconductor equipment, industrial production, medical and life science equipment, data center computing, networking, and telecommunications. We also supply related sensing, controls, and instrumentation products primarily for advanced measurement and calibration of power and temperature for multiple industrial markets. Our network of global service support centers provides repair services, calibration, conversions, upgrades, refurbishments, and used equipment to companies using our products.

Our service group offers warranty and after-market repair services, providing our customers with preventive maintenance opportunities to support a lower cost of ownership and higher utilization for their capital equipment. We offer comprehensive repair service and customer support through our worldwide support organization. Support services include warranty and non-warranty repair services, calibration, upgrades, and refurbishments of our products.

End Markets Summary

The demand environment in each of our markets is impacted by macroeconomic conditions, various market trends, customer buying patterns, design wins, and other factors. Although we are currently experiencing a lower demand environment in certain markets, we continue to believe that the long-term market growth drivers support our long-term strategy, research and development efforts, and capital investments. However, in the short-term it is unclear how certain macroeconomic conditions, including the effect of higher interest rates impacting end customers' capital investment, the timing of inventory digestion, and customer buying patterns related to timing of inventory, will affect customer demand and our revenue.

Semiconductor Equipment Market

The Semiconductor Equipment market is slowly recovering from a cyclical downturn, which began in the fourth quarter of 2022. A number of external factors continued to limit the market in the first half of 2024, including unfavorable macroeconomic conditions, overcapacity in NAND flash wafer fabs, prolonged weakness in demand for consumer electronics, the buildup of inventory that resulted from falling manufacturing utilization, and U.S. export restrictions to China for certain semiconductor equipment.

We continue to believe the long-term growth drivers for this market will resume as more manufacturing capacity is needed to support increasing demand for semiconductor devices and related capital equipment.

Industrial and Medical Market

Beginning in the second half of 2023, the impact of weaker macroeconomic conditions started to impact demand for our products in the Industrial and Medical Market. In addition, in the first half of 2024, elevated inventory levels of our products following the supply chain crisis and extended lead times resulted in high levels of inventory rebalancing by our customers. We expect these factors will continue to limit our revenue levels in the near term, but we believe the long-term growth drivers will enable growth to return to this market after end markets recover and our customer inventories return to normal levels.

Data Center Computing Market

The Data Center Computing Market went through five quarters of weak demand starting in the first quarter of 2023, driven by reduced investments of our hyperscale customers, slowed demand for Enterprise systems and the timing impact of large customer orders on our revenues. Starting in the second quarter of 2024, demand rebounded from both our hyperscale and enterprise customers, driven by accelerated investments in artificial intelligence and improved demand in the traditional server market, which we expect to continue for several quarters.

Telecom and Networking Market

Starting in 2023, leading companies in both the telecom and networking markets reported weakening demand. However, an improved supply of critical components in 2023 drove higher customer orders, more than offset the weakening market condition, which continued in 2024. As lead times shorten and customers rebalance their elevated inventory levels of our products, demand for our products declined meaningfully in the first half of 2024, which we expect to continue throughout the year.

Results of Continuing Operations

The analysis presented below is organized to provide the information we believe will be helpful for understanding of our historical performance and relevant trends going forward and should be read in conjunction with our "Unaudited Consolidated Financial Statements" in Part I, Item 1 of this report, including the notes thereto. Also included in the following analysis are measures that are not prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). A reconciliation of the non-GAAP measures to U.S. GAAP is provided below.

The following table sets forth certain data derived from our Consolidated Statements of Operations (in thousands):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2024		2023		2024		2023	
Revenue	$ 364,947	100.0 %	$ 415,508	100.0 %	$ 692,422	100.0 %	$ 840,548	100.0 %
Gross profit	127,741	35.0	147,080	35.4	240,570	34.7	302,191	36.0
Operating expenses	114,773	31.4	117,255	28.2	226,925	32.8	232,328	27.6
Operating income from continuing operations	12,968	3.6	29,825	7.2	13,645	2.0	69,863	8.3
Interest income	12,119	3.3	4,301	1.0	24,764	3.6	7,886	0.9
Interest expense	(6,956)	(1.9)	(2,858)	(0.7)	(14,083)	(2.0)	(5,588)	(0.7)
Other income (expense), net	638	0.2	982	0.2	2,017	0.3	(423)	(0.1)
Income from continuing operations, before income tax	18,769	5.1	32,250	7.8	26,343	3.8	71,738	8.5
Income tax provision	3,165	0.9	4,795	1.2	4,952	0.7	12,531	1.5
Income from continuing operations	$ 15,604	4.3 %	$ 27,455	6.6 %	$ 21,391	3.1 %	$ 59,207	7.0 %

Revenue

The following tables summarize net sales and percentages of net sales, by markets (in thousands):

	Three Months Ended June 30,				Change 2024 v. 2023	
	2024		2023		Dollar	Percent
Semiconductor Equipment	$ 188,321	51.6 %	$ 173,177	41.7 %	$ 15,144	8.7 %
Industrial and Medical	79,104	21.7	127,603	30.7	(48,499)	(38.0)%
Data Center Computing	72,964	20.0	59,076	14.2	13,888	23.5 %
Telecom and Networking	24,558	6.7	55,652	13.4	(31,094)	(55.9)%
Total	$ 364,947	100.0 %	$ 415,508	100.0 %	$ (50,561)	(12.2)%

	Six Months Ended June 30,				Change 2024 v. 2023	
	2024		2023		Dollar	Percent
Semiconductor Equipment	$ 368,224	53.2 %	$ 367,386	43.7 %	$ 838	0.2 %
Industrial and Medical	162,522	23.5	250,623	29.8	(88,101)	(35.2)%
Data Center Computing	114,866	16.6	118,735	14.1	(3,869)	(3.3)%
Telecom and Networking	46,810	6.7	103,804	12.4	(56,994)	(54.9)%
Total	$ 692,422	100.0 %	$ 840,548	100.0 %	$ (148,126)	(17.6)%

Total revenues in the three month period decreased from the same period in the prior year due to customer inventory rebalancing, resulting in lower demand in our Industrial and Medical and Telecom and Networking markets. This offset a modest revenue recovery in the Semiconductor Equipment market from the trough level a year ago and a demand recovery in the Data Center Computing market.

Total revenues in the six month period decreased from the same periods in the prior year due primarily to inventory rebalancing, resulting in lower demand in our Industrial and Medical and Telecom and Networking markets. The Semiconductor Equipment market has not fully recovered from the cyclical downturn, and revenue in the Data Center Computing market was impacted by timing of several large programs in first quarter.

Revenue by Market

	Three Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Semiconductor Equipment	$ 188,321	$ 173,177	$ 15,144	8.7 %

	Six Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Semiconductor Equipment	$ 368,224	$ 367,386	$ 838	0.2 %

The increase in Semiconductor Equipment revenue for the three month period was primarily due to improved demand for our products compared to quarterly trough in the same period in the prior year. The revenue for the six month period remained constant due to an ongoing cyclical downturn in this market.

	Three Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Industrial and Medical	$ 79,104	$ 127,603	$ (48,499)	(38.0)%

	Six Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Industrial and Medical	$ 162,522	$ 250,623	$ (88,101)	(35.2)%

The decrease in Industrial and Medical revenues for both the three and six month periods was primarily due to lower demand and customers working down their elevated inventories compared to a record year in 2023 and shortened lead times following the supply chain crisis.

	Three Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Data Center Computing	$ 72,964	$ 59,076	$ 13,888	23.5 %

	Six Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Data Center Computing	$ 114,866	$ 118,735	$ (3,869)	(3.3)%

The increase in Data Center Computing revenue for the three month period was due to investments at several large hyperscale customers mostly driven by artificial intelligence adoption, and, to a lesser degree, a recovery in demand for traditional enterprise servers. The decline during the six month period was due to lower revenue in the first quarter of 2024 from slow demand and minimal large hyperscale orders.

	Three Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Telecom and Networking	$ 24,558	$ 55,652	$ (31,094)	(55.9)%

	Six Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
		(in thousands)		
Telecom and Networking	$ 46,810	$ 103,804	$ (56,994)	(54.9)%

The decrease in Telecom and Networking revenues for both the three and six month periods was due to the prior year benefit of improved supply of critical components. This enabled fulfillment of outstanding orders in 2023, which was not expected to continue in 2024 and beyond. In addition, we experienced a slow demand environment and inventory rebalancing from our customers.

Gross Profit and Gross Margin

	Three Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
	(in thousands)			
Gross profit	$ 127,741	$ 147,080	$ (19,339)	(13.1)%
Gross margin	35.0 %	35.4 %		

	Six Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
	(in thousands)			
Gross profit	$ 240,570	$ 302,191	$ (61,621)	(20.4)%
Gross margin	34.7 %	36.0 %		

For both the three and six month periods, the decrease in gross profit was largely due to the decline in revenue and higher operating costs based on investments made in 2023. Gross margin declined in both periods due to the decline in volume, which drove manufacturing utilization lower. This was partially offset by more favorable product mix, savings realized from our 2023 restructuring program, and lower premiums paid for scarce parts.

Operating Expenses

The following table summarizes our operating expenses (in thousands) and as a percentage of revenue:

	Three Months Ended June 30,			
	2024		2023	
Research and development	$ 52,335	14.3 %	$ 51,413	12.4 %
Selling, general, and administrative	55,013	15.1	55,613	13.4
Amortization of intangible assets	6,800	1.9	7,075	1.7
Restructuring, asset impairments, and other charges	625	0.2	3,154	0.8
Total operating expenses	$ 114,773	31.4 %	$ 117,255	28.2 %

	Six Months Ended June 30,			
	2024		2023	
Research and development	$ 102,171	14.8 %	$ 103,023	12.3 %
Selling, general, and administrative	110,137	15.9	110,971	13.2
Amortization of intangible assets	13,747	2.0	14,137	1.7
Restructuring, asset impairments, and other charges	870	0.1	4,197	0.5
Total operating expenses	$ 226,925	32.8 %	$ 232,328	27.6 %

Research and Development

	Three Months Ended June 30, 2024	2023	Change 2024 v. 2023 Dollar	Percent
	(in thousands)			
Research and development	$ 52,335	$ 51,413	$ 922	1.8 %

	Six Months Ended June 30, 2024	2023	Change 2024 v. 2023 Dollar	Percent
	(in thousands)			
Research and development	$ 102,171	$ 103,023	$ (852)	(0.8)%

During the three month period we experienced a slight increase in R&D related to higher program and materials cost as well as higher stock-based compensation expense compared to the same period in the prior year. For the six month period we had decline in program and materials cost as well as a decrease in compensation costs. The decline in compensation costs was due to lower variable compensation, partially offset by higher stock-based compensation expense.

Selling, General and Administrative

	Three Months Ended June 30, 2024	2023	Change 2024 v. 2023 Dollar	Percent
	(in thousands)			
Selling, general, and administrative	$ 55,013	$ 55,613	$ (600)	(1.1)%

	Six Months Ended June 30, 2024	2023	Change 2024 v. 2023 Dollar	Percent
	(in thousands)			
Selling, general, and administrative	$ 110,137	$ 110,971	$ (834)	(0.8)%

Selling, general, and administrative expense remained constant due to actions taken to control costs, including headcount reduction and lower variable employee compensation, partially offset by higher stock-based compensation cost.

Amortization of Intangibles Assets

	Three Months Ended June 30, 2024	2023	Change 2024 v. 2023 Dollar	Percent
	(in thousands)			
Amortization of intangible assets	$ 6,800	$ 7,075	$ (275)	(3.9)%

	Six Months Ended June 30, 2024	2023	Change 2024 v. 2023 Dollar	Percent
	(in thousands)			
Amortization of intangible assets	$ 13,747	$ 14,137	$ (390)	(2.8)%

Amortization expense remained flat as the new intangible assets acquired in the Airity acquisition were the only additions, and they did not add significant expense during the three and six month periods ended June 20, 2024.

Restructuring, Asset Impairments and Other Charges

	Three Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
	(in thousands)			
Restructuring, asset impairments, and other charges	$ 625	$ 3,154	$ (2,529)	(80.2)%

	Six Months Ended June 30,		Change 2024 v. 2023	
	2024	2023	Dollar	Percent
	(in thousands)			
Restructuring, asset impairments, and other charges	$ 870	$ 4,197	$ (3,327)	(79.3)%

The decrease in restructuring, asset impairments, and other charges is primarily driven by the timing of our restructuring plan decisions. We have two restructuring plans in process, including the following:

2023 Plan

In 2023, we approved a plan intended to optimize and further consolidate our manufacturing operations and functional support groups as well as a general reduction-in-force to align our expenses to revenue levels (the “2023 Plan”). We expect additional charges of $1.0 million to $2.0 million to be incurred in future periods through the second quarter of 2025. We anticipate the 2023 Plan will be substantially completed by the end of 2024, with the final activities concluding in the second quarter of 2025.

See *Note 11. Restructuring, Asset Impairments, and Other Charges* in Part I, Item 1 “Unaudited Consolidated Financial Statements” regarding our July 29, 2024 actions.

2022 Plan

This plan was approved to further improve our operating efficiencies and drive the realization of synergies from our business combinations by consolidating our operations, optimizing our factory footprint, including moving certain production into our higher volume factories, reducing redundancies, and lowering our cost structure. We anticipate the 2022 Plan will be substantially completed by the end of 2024.

For additional information, see *Note 11. Restructuring, Asset Impairments, and Other Charges* in Part I, Item 1 “Unaudited Consolidated Financial Statements.”

Interest Income, Interest Expense, and Other Income (Expenses), net

	Three Months Ended June 30, 2024	Three Months Ended June 30, 2023	Change 2024 v. 2023 Dollar	Change 2024 v. 2023 Percent
	(in thousands)			
Interest income	$ 12,119	$ 4,301	$ 7,818	181.8 %
Interest expense	$ (6,956)	$ (2,858)	$ (4,098)	143.4 %
Other income (expense), net	$ 638	$ 982	$ (344)	35.0 %

	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023	Change 2024 v. 2023 Dollar	Change 2024 v. 2023 Percent
	(in thousands)			
Interest income	$ 24,764	$ 7,886	$ 16,878	214.0 %
Interest expense	$ (14,083)	$ (5,588)	$ (8,495)	152.0 %
Other income (expense), net	$ 2,017	$ (423)	$ 2,440	576.8 %

We experienced an increase in interest income on higher cash balances, due in part to proceeds from the issuance of the Convertible Notes in the third quarter of 2023, our ability to concentrate cash in investment accounts, and higher short term market interest rates.

Interest expense increased due to interest associated with the Convertible Notes and a higher interest rate on the portion of our Term Loan Facility subject to a variable interest rate. The interest rate swap contracts expire on September 10, 2024. After that date, the entire balance of our Term Loan Facility will be subject to a variable interest rate. In addition, should we have future borrowings under our Revolving Facility, those borrowings would be subject to a variable rate.

See *Note 16. Long-Term Debt* in Part I, Item 1 “Unaudited Consolidated Financial Statements” for information regarding our Convertible Notes.

Other income (expense), net consists primarily of foreign exchange gains and losses, gains and losses on sales of fixed assets, and other miscellaneous items. We had lower unrealized foreign exchange gains during the three months ended June 30, 2024 compared to the same period in the prior year. However, for the six months ended June 30, 2024, we had higher unrealized foreign exchange gains compared to the same period in the prior year.

Income Tax

The following table summarizes tax provision (in thousands) and the effective tax rate for our income from continuing operations:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Income from continuing operations, before income tax	$ 18,769	$ 32,250	$ 26,343	$ 71,738
Income tax provision	$ 3,165	$ 4,795	$ 4,952	$ 12,531
Effective tax rate	16.9 %	14.9 %	18.8 %	17.5 %

Our effective tax rates differ from the U.S. federal statutory rate of 21% primarily due to the benefit of earnings in foreign jurisdictions which are subject to lower tax rates, as well as tax credits, partially offset by net U.S. tax on foreign operations.

For both the three and six months ended June 30, 2024, our effective tax rate for 2024 was higher than the same period in the prior year primarily due to the impact of smaller beneficial discrete items in the current period relative to the larger beneficial discrete items in the prior period.

As of January 1, 2024, the Pillar II minimum global effective tax rate of 15% enacted by the Organization for Economic Cooperation and Development (“OECD”) was effectuated. More than 140 countries agreed to enact the Pillar II global minimum tax. However, the timing of the implementation for each country varies. To date, we have determined that there was an immaterial global minimum tax liability as a result of Pillar II, as certain tax jurisdictions either will not have Pillar II enacted until after December 31, 2024 or satisfied the safe harbor test to prevent any minimum tax under Pillar II. We continue to monitor the jurisdictions for any changes and include any appropriate minimum tax throughout the year.

Non-GAAP Results

Management uses non-GAAP operating income and non-GAAP earnings per share ("EPS") to evaluate business performance without the impacts of certain non-cash charges and other charges which are not part of our usual operations. We use these non-GAAP measures to assess performance against business objectives and make business decisions, including developing budgets and forecasting future periods. In addition, management's incentive plans include these non-GAAP measures as criteria for achievements. These non-GAAP measures are not prepared in accordance with U.S. GAAP and may differ from non-GAAP methods of accounting and reporting used by other companies. However, we believe these non-GAAP measures provide additional information that enables readers to evaluate our business from the perspective of management. The presentation of this additional information should not be considered a substitute for results prepared in accordance with U.S. GAAP.

The non-GAAP results presented below exclude the impact of non-cash related charges, such as stock-based compensation, amortization of intangible assets, and long-term unrealized foreign exchange gains and losses. In addition, we exclude discontinued operations and other non-recurring items such as acquisition-related costs, facility expansion and related costs, and restructuring expenses, as they are not indicative of future performance. The tax effect of our non-GAAP adjustments represents the anticipated annual tax rate applied to each non-GAAP adjustment after consideration of their respective book and tax treatments.

Reconciliation of non-GAAP measure Operating expenses and operating income from continuing operations, excluding certain items (in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Gross profit from continuing operations, as reported	$ 127,741	$ 147,080	$ 240,570	$ 302,191
Adjustments to gross profit:				
Stock-based compensation	1,056	589	1,885	972
Facility expansion, relocation costs and other	161	60	1,469	1,017
Acquisition-related costs	(57)	97	(13)	150
Non-GAAP gross profit	128,901	147,826	243,911	304,330
Non-GAAP gross margin	35.3%	35.6%	35.2%	36.2%
Operating expenses from continuing operations, as reported	114,773	117,255	226,925	232,328
Adjustments:				
Amortization of intangible assets	(6,800)	(7,075)	(13,747)	(14,137)
Stock-based compensation	(10,328)	(7,348)	(20,504)	(13,766)
Acquisition-related costs	(1,934)	(1,165)	(3,200)	(2,043)
Restructuring, asset impairments, and other charges	(625)	(3,154)	(870)	(4,197)
Non-GAAP operating expenses	95,086	98,513	188,604	198,185
Non-GAAP operating income	$ 33,815	$ 49,313	$ 55,307	$ 106,145
Non-GAAP operating margin	9.3%	11.9%	8.0%	12.6%

Reconciliation of non-GAAP measure Income from continuing operations, excluding certain items (in thousands, except per share amounts)	Three Months Ended June 30, 2024	Three Months Ended June 30, 2023	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
Income from continuing operations, less non-controlling interest, net of income tax	$ 15,604	$ 27,455	$ 21,391	$ 59,207
Adjustments:				
Amortization of intangible assets	6,800	7,075	13,747	14,137
Acquisition-related costs	1,877	1,262	3,187	2,193
Facility expansion, relocation costs, and other	161	60	1,469	1,017
Restructuring, asset impairments, and other charges	625	3,154	870	4,197
Unrealized foreign currency loss (gain)	(1,545)	(2,266)	(3,302)	(1,213)
Tax effect of non-GAAP adjustments, including certain discrete tax benefits	(498)	(1,051)	(1,120)	(2,172)
Non-GAAP income, net of income tax, excluding stock-based compensation	23,024	35,689	36,242	77,366
Stock-based compensation, net of tax	8,993	6,191	17,687	11,495
Non-GAAP income, net of income tax	$ 32,017	$ 41,880	$ 53,929	$ 88,861
Non-GAAP diluted earnings per share	$ 0.85	$ 1.11	$ 1.43	$ 2.35

Reconciliation of non-GAAP measure Per share earnings excluding certain items	Three Months Ended June 30, 2024	Three Months Ended June 30, 2023	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
Diluted earnings per share from continuing operations, as reported	$ 0.41	$ 0.73	$ 0.57	$ 1.57
Add back:				
Per share impact of non-GAAP adjustments, net of tax	0.44	0.38	0.86	0.78
Non-GAAP earnings per share	$ 0.85	$ 1.11	$ 1.43	$ 2.35

Liquidity and Capital Resources

Liquidity

Adequate liquidity and cash generation is important to the execution of our strategic initiatives. Our ability to fund our operations, acquisitions, capital expenditures, and product development efforts may depend on our ability to generate cash from operating activities, which is subject to future operating performance, as well as general economic, financial, competitive, legislative, regulatory, and other conditions, some of which may be beyond our control. Our primary sources of liquidity continue to be our available cash, investments, cash generated from operations, and available borrowing capacity under the Revolving Facility (defined in *Note 16. Long-Term Debt* in Part I, Item 1 “Unaudited Consolidated Financial Statements”).

As of June 30, 2024, our cash and cash equivalents totaled $986.1 million, while our available funding under our Revolving Facility was $200.0 million. Additionally, we generated $14.9 million of cash flow from continuing operations in the six months ended June 30, 2024. We believe our sources of liquidity will be adequate to meet anticipated debt service, share repurchase programs, and dividends. During the ordinary course of business, we evaluate our cash requirements and, if necessary, adjust our expenditures to reflect the current market conditions and our projected revenue and demand. Our capital expenditures are primarily directed towards manufacturing and operations and can materially influence our available cash for other initiatives.

In addition, we may seek additional debt or equity financing from time to time; however, such additional financing may not be available on acceptable terms, if at all.

Debt

On September 12, 2023, we completed a private, unregistered offering of $575.0 million Convertible Notes and received net proceeds of approximately $561.1 million after the discount for the initial purchasers' fees and other expenses. We intend to use the net proceeds to fund future growth, which may include strategic acquisitions, opportunistically repay existing outstanding indebtedness, repurchase our common stock, or general corporate purposes.

The following table summarizes our borrowings (in thousands, except for interest rates).

	June 30, 2024	
	Balance	Interest Rate
Convertible Notes due 2028	$ 575,000	2.50%
Term Loan Facility due 2026 at fixed interest rate due to interest rate swap	211,969	1.17%
Term Loan Facility due 2026 at variable interest rate	133,031	6.19%
Total borrowings	$ 920,000	

The interest rate swap contracts expire on September 10, 2024. After that date, the entire balance of our Term Loan Facility will be subject to a variable interest rate. In addition, should we have future borrowings under our Revolving Facility, those borrowings would be subject to a variable rate.

As of June 30, 2024, we had $200.0 million in available funding under the Revolving Facility. The Term Loan Facility requires quarterly repayments of $5.0 million plus accrued interest, with the remaining balance due in September 2026.

In addition to the available capacity on the Revolving Facility, prior to the maturity date of our Credit Agreement, we may request an increase to the financing commitments in either the Term Loan Facility or Revolving Facility by an aggregate amount not to exceed $115.0 million. Any requested increase is subject to lender approval.

For more information see *Note 16. Long-Term Debt* in Part I, Item 1 "Unaudited Consolidated Financial Statements." For more information on the interest rate swap that fixes the interest rate for a portion of our Term Loan Facility, see *Note 7. Derivative Financial Instruments* in Part I, Item 1 "Unaudited Consolidated Financial Statements."

Dividends

During the six months ended June 30, 2024, we paid quarterly cash dividends of $0.10 per share, totaling $7.7 million. We currently anticipate that a cash dividend of $0.10 per share will continue to be paid on a quarterly basis, although the declaration of any future cash dividend is at the discretion of the Board of Directors and will depend on our financial condition, results of operations, capital requirements, business conditions, and other factors.

Cash Flows

A summary of our cash from operating, investing, and financing activities is as follows (in thousands):

	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
Net cash from operating activities from continuing operations	$ 14,873	$ 55,504
Net cash used in operating activities from discontinued operations	(876)	(3,090)
Net cash from operating activities	13,997	52,414
Net cash used in investing activities	(47,569)	(36,751)
Net cash used in financing activities	(23,158)	(18,976)
Effect of currency translation on cash and cash equivalents	(1,678)	(253)
Net change in cash and cash equivalents	(58,408)	(3,566)
Cash and cash equivalents, beginning of period	1,044,556	458,818
Cash and cash equivalents, end of period	$ 986,148	$ 455,252

Operating Activities

Net cash from operating activities from continuing operations for the six months ended June 30, 2024 was $14.9 million, as compared to $55.5 million for the same period in the prior year. This $40.6 million decrease was primarily due to lower net income from continuing operations. Additionally, during the current year, we had a significant use of cash for inventories due to a strategic inventory buildup as well as lower cash flow from accounts receivable as a result of a decline in revenue. The above items were partially offset by an increase in accounts payable.

Investing Activities

Net cash used in investing activities for the six months ended June 30, 2024 was $47.6 million, primarily driven by the following:

- $31.4 million in purchases of property and equipment largely driven by investments in our manufacturing footprint and capacity;
- $13.8 million for the Airity acquisition; and
- $2.4 million in purchases of investments.

Net cash used in investing for the six months ended June 30, 2023 was $36.8 million, primarily driven by the following:

- $33.6 million in purchases of property and equipment largely driven by investments in our manufacturing footprint and capacity; and
- $3.1 million in purchases of investments

Financing Activities

Net cash used in financing activities for the six months ended June 30, 2024 was $23.2 million and included the following:

- $10.0 million for repayment of long-term debt;
- $7.7 million for dividend payments; and
- $5.5 million in net payments related to stock-based award activities.

Net cash used in financing activities for the six months ended June 30, 2023 was $19.0 million and included the following:

- $10.0 million for repayment of long-term debt;
- $7.6 million for dividend payments; and
- $1.4 million in net payments related to stock-based award activities.

Effect of Currency Translation on Cash

During the six months ended June 30, 2024, foreign currency translation had a minimal impact on cash. See "Foreign Currency Exchange Rate Risk" in Part I, Item 3 for more information**.**

Critical Accounting Policies and Estimates

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires us to make judgments, assumptions, and estimates that affect the amounts reported in the consolidated financial statements and accompanying notes. *Note 1. Summary of Operations and Significant Accounting Policies and Estimates* to the consolidated financial statements in the 2023 Form 10-K describes the significant accounting policies and methods used in the preparation of our consolidated financial statements. Our critical accounting estimates, discussed in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the 2023 Form 10-K, include assessing excess and obsolete inventories, accounting for income taxes, and estimates for the valuation of assets and liabilities acquired in business combinations.

Such accounting policies and estimates require significant judgments and assumptions to be used in the preparation of the consolidated financial statements and actual results could differ materially from the amounts reported based on variability in factors affecting these estimates.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk and Risk Management

In the normal course of business, we have exposure to interest rate risk from our investments and the Credit Agreement. We also have exposure to foreign exchange rate risk related to our foreign operations and foreign currency transactions.

See “Risk Factors” set forth in Part I, Item 1A of the 2023 Form 10-K and Part II of this report, for more information about the market risks to which we are exposed. There have been no material changes in our exposure to market risk from December 31, 2023.

Foreign Currency Exchange Rate Risk

We are impacted by changes in foreign currency exchange rates through revenue and purchasing transactions when we sell products and purchase materials in currencies different from the currency in which product and manufacturing costs were incurred. Our reported financial results of operations, including the reported value of our assets and liabilities, are also impacted by changes in foreign currency exchange rates. Assets and liabilities of substantially all our subsidiaries outside the U.S. are translated at period end rates of exchange for each reporting period. Operating results and cash flow statements are translated at average rates of exchange during each reporting period. Although these translation changes have no immediate cash impact, the translation changes may impact future borrowing capacity, and overall value of our net assets.

The functional currencies of our worldwide facilities primarily include the United States Dollar, Euro, South Korean Won, New Taiwan Dollar, Japanese Yen, Pound Sterling, and Chinese Yuan. We are subject to risks associated with revenue and purchasing activities and costs to operate that are denominated in currencies other than our functional currencies, such as the Singapore Dollar, Malaysian Ringgit, Mexican Peso and Philippine Peso. The impact of a change in one or more of these particular exchange rates would be immaterial.

From time to time, we may enter into foreign currency exchange rate contracts to hedge against changes in foreign currency exchange rates on assets and liabilities expected to be settled at a future date, including foreign currency, which may be required for a potential foreign acquisition. Market risk arises from the potential adverse effects on the value of derivative instruments that result from a change in foreign currency exchange rates. We may enter into foreign currency forward contracts to manage the exchange rate risk associated with intercompany debt denominated in nonfunctional currencies. We minimize our market risk applicable to foreign currency exchange rate contracts by establishing and monitoring parameters that limit the types and degree of our derivative contract instruments. We enter into derivative contract instruments for risk management purposes only. We do not enter into or issue derivatives for trading or speculative purposes.

Interest Rate Risk

Our interest rate risk exposure relates primarily to our variable rate Term Loan Facility. As of June 30, 2024, we have interest rate swap agreements in effect that fix the interest rate for $212.0 million of our Term Loan Facility at 1.17%, while $133.0 million remains at a floating rate of 6.19%. The interest rate swap agreements expire on September 10, 2024. After that date, the $212.0 million associated with these agreements will be subject to a floating rate, which is currently 6.19%, instead of the swap effected rate of 1.17%. Based on current rates, this will result in a $10.6 million annual increase in interest expense.

The Term Loan Facility and Revolving Credit Facility bear interest, at our option, at a rate based on the Base Rate or SOFR, as defined in the Credit Agreement, plus an applicable margin. In addition, should we have future borrowings under our Revolving Facility, those borrowings would be subject to a variable rate.

After the September 10, 2024 expiration of the interest rate swap contracts, a hypothetical increase of 100 basis points (1%) in interest rates would have a $3.5 million impact on our interest expense.

A change in interest rates does not have an impact upon our future earnings and cash flow for our fixed rate debt. However, increases in interest rates could impact our ability to refinance existing maturities and acquire additional debt on favorable terms.

For more information see *Note 16. Long-Term Debt* in Part I, Item 1 “Unaudited Consolidated Financial Statements.” For more information on the interest rate swap that fixes the interest rate for a portion of our Term Loan Facility, see *Note 7. Derivative Financial Instruments* in Part I, Item 1 “Unaudited Consolidated Financial Statements.”

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We have established disclosure controls and procedures, which are designed to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized, and reported, within the time periods specified in the SEC’s rules and forms. These disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is accumulated and communicated to management, including our Principal Executive Officer (Stephen D. Kelley, President and Chief Executive Officer) and Principal Financial Officer (Paul Oldham, Executive Vice President and Chief Financial Officer), as appropriate, to allow timely decisions regarding required disclosures.

As of the end of the period covered by this report, we conducted an evaluation, with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the disclosure controls and procedures pursuant to the Exchange Act Rule 13a-15(b). Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of June 30, 2024. The conclusions of the Chief Executive Officer and Chief Financial Officer from this evaluation were communicated to the Audit and Finance Committee. 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. We intend to continue to review and document our disclosure controls and procedures, including our internal controls over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business.

Changes in Internal Control over Financial Reporting

Our assessment of the effectiveness of internal control over financial reporting excludes Airity, which we acquired in a business combination on June 20, 2024. See *Note 2. Acquisitions* in Part I, Item 1 “Unaudited Consolidated Financial Statements.” Airity’s total assets and total revenue excluded from management’s assessment represent less than 1% of the related consolidated financial statement amounts as of June 30, 2024

Aside from the above, there was no change in our internal control over financial reporting that occurred during the quarter covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are involved in disputes and legal actions arising in the normal course of our business. Although it is not possible to predict the outcome of these matters, we believe that the results of these proceedings will not have a material adverse effect on our financial condition, results of operations, or liquidity.

ITEM 1A. RISK FACTORS

Information concerning our risk factors is contained in Part I, Item 1A, "Risk Factors" in the 2023 Form 10-K. The risks described in the 2023 Form 10-K are not the only risks that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition, or operating results. There have been no material changes to the risk factors previously disclosed in the 2023 Form 10-K.

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

To repurchase shares of our common stock, we periodically enter into stock repurchase agreements, open market transactions, and/or other transactions in accordance with applicable federal securities laws. Before repurchasing our shares, we consider the market price of our common stock, the nature of other investment opportunities, available liquidity, cash flows from operations, general business and economic conditions, and other relevant factors.

At June 30, 2024, the remaining amount authorized by the Board of Directors for future share repurchases was $199.2 million with no time limitation. There were no share repurchases during the quarter covered by this report.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None

ITEM 4. MINE SAFETY DISCLOSURES

None

ITEM 5. OTHER INFORMATION

Rule 10b5-1 Trading Arrangements

During the six months ended June 30, 2024, no director or officer adopted or terminated a "Rule 10b5-1 trading arrangement" or a "Non-Rule 10b5-1 trading arrangement" (as defined in Item 408 of Regulation S-K).

Manufacturing Consolidation

On July 29, 2024, we approved actions in furtherance of our previously announced manufacturing consolidation initiatives intended to optimize our manufacturing network and cost structure. In connection with these actions, we estimate we will incur $25.0 million to $30.0 million primarily associated with employment-related charges for, among other things, one-time cash payments for severance, benefits expenses, payroll taxes, facility exit costs, and other ancillary costs. We expect to recognize the majority of these charges during calendar year 2024 with any remaining charges to be recognized in the first half of 2025.

ITEM 6. EXHIBITS

The exhibits listed in the following index are filed as part of this report.

Exhibit Number	Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of Advanced Energy Industries, Inc.	8-K	000-26966	3.1	May 1, 2024
3.2	Third Amended and Restated By-Laws of Advanced Energy Industries, Inc.	8-K	000-26966	3.2	May 1, 2024
31.1	Certification of the Chief Executive Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				Filed herewith
31.2	Certification of the Chief Financial Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				Filed herewith
32.1	Certification of the Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				Filed herewith
32.2	Certification of the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				Filed herewith
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)*				Filed herewith
101.SCH	Inline XBRL Taxonomy Extension Schema Document.				Filed herewith
101.CAL	Inline XBRL Taxonomy Extension Calculation Link base Document.				Filed herewith
101.DEF	Inline XBRL Taxonomy Extension Definition Link base Document.				Filed herewith
101.LAB	Inline XBRL Taxonomy Extension Label Link base Document.				Filed herewith
101.PRE	Inline XBRL Taxonomy Extension Presentation Link base Document.				Filed herewith
104	Cover Page Interactive Data File *(Formatted in Inline XBRL and contained in Exhibit 101)*				Filed herewith

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.

ADVANCED ENERGY INDUSTRIES, INC.

Dated: July 30, 2024

/s/ Paul Oldham
Paul Oldham
Chief Financial Officer and Executive Vice President

/s/ Bernard R. Colpitts, Jr.
Bernard R. Colpitts, Jr.
Chief Accounting Officer and Controller

EXHIBIT 31.1

I, Stephen D. Kelley, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended June 30, 2024 of Advanced Energy Industries, 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.

Date: July 30, 2024

/s/ Stephen D. Kelley
Stephen D. Kelley
Chief Executive Officer

EXHIBIT 31.2

I, Paul Oldham, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended June 30, 2024 of Advanced Energy Industries, 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.

Date: July 30, 2024

/s/ Paul Oldham

Paul Oldham
Chief Financial Officer and Executive Vice President

EXHIBIT 32.1

Certification of the Chief Executive Officer
Pursuant to 18 U.S.C. Section 1350,
as Adopted Pursuant to Section 906
of the Sarbanes-Oxley Act of 2002

I hereby certify, pursuant to 18 U.S.C. Section 1350, that the accompanying Quarterly Report on Form 10-Q for the period ended June 30, 2024, of Advanced Energy Industries, Inc., fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in the Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Advanced Energy Industries, Inc.

Date: July 30, 2024

/s/ Stephen D. Kelley
Stephen D. Kelley
Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

Certification of the Chief Financial Officer
Pursuant to 18 U.S.C. Section 1350,
as Adopted Pursuant to Section 906
of the Sarbanes-Oxley Act of 2002

I hereby certify, pursuant to 18 U.S.C. Section 1350, that the accompanying Quarterly Report on Form 10-Q for the period ended June 30, 2024, of Advanced Energy Industries, Inc., fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in the Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Advanced Energy Industries, Inc.

Date: July 30, 2024

/s/ Paul Oldham
Paul Oldham
Chief Financial Officer & Executive Vice President

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.