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 January 28, 2023

OR

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

For the transition period from to

Commission File Number: 001-33261

AEROVIRONMENT, INC.
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	**95-2705790** (I.R.S. Employer Identification No.)
241 18th Street South, Suite 415 **Arlington, Virginia** (Address of principal executive offices)	**22202** (Zip Code)

(805) 520-8350
(Registrant's telephone number, including area code)

N/A
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	**AVAV**	**The NASDAQ Stock Market LLC**

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 March 1, 2023, the number of shares outstanding of the registrant's common stock, $0.0001 par value, was 25,264,025.

AeroVironment, Inc.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

AeroVironment, Inc.
Condensed Consolidated Balance Sheets
(In thousands except share and per share data)

	January 28, 2023 (Unaudited)	April 30, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 78,276	$ 77,231
Short-term investments	—	24,716
Accounts receivable, net of allowance for doubtful accounts of $61 at January 28, 2023 and $592 at April 30, 2022	52,871	60,170
Unbilled receivables and retentions (inclusive of related party unbilled receivables of $2,229 at April 30, 2022)	109,289	104,194
Inventories, net	125,942	90,629
Income taxes receivable	9,180	442
Prepaid expenses and other current assets	15,323	11,527
Total current assets	390,881	368,909
Long-term investments	19,319	15,433
Property and equipment, net	45,388	62,296
Operating lease right-of-use assets	28,336	26,769
Deferred income taxes	8,540	7,290
Intangibles, net	83,442	97,224
Goodwill	336,555	334,347
Other assets	8,741	1,932
Total assets	$ 921,202	$ 914,200
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 26,420	$ 19,244
Wages and related accruals	27,135	25,398
Customer advances	22,553	8,968
Current portion of long-term debt	10,000	10,000
Current operating lease liabilities	7,794	6,819
Income taxes payable	26	759
Other current liabilities	22,469	30,203
Total current liabilities	116,397	101,391
Long-term debt, net of current portion	155,763	177,840
Non-current operating lease liabilities	22,630	21,915
Other non-current liabilities	742	768
Liability for uncertain tax positions	1,450	1,450
Deferred income taxes	2,707	2,626
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.0001 par value:		
Authorized shares—10,000,000; none issued or outstanding at January 28, 2023 and April 30, 2022	—	—
Common stock, $0.0001 par value:		
Authorized shares—100,000,000		
Issued and outstanding shares—25,264,025 shares at January 28, 2023 and 24,951,287 shares at April 30, 2022	4	2
Additional paid-in capital	295,070	267,248
Accumulated other comprehensive loss	(5,055)	(6,514)
Retained earnings	331,494	347,233
Total AeroVironment, Inc. stockholders' equity	621,513	607,969
Noncontrolling interest	—	241
Total equity	621,513	608,210
Total liabilities and stockholders' equity	$ 921,202	$ 914,200

See accompanying notes to condensed consolidated financial statements (unaudited).

AeroVironment, Inc.
Condensed Consolidated Statements of Operations (Unaudited)
(In thousands except share and per share data)

	Three Months Ended		Nine Months Ended	
	January 28, 2023	January 29, 2022	January 28, 2023	January 29, 2022
Revenue:				
Product sales	$ 91,216	$ 42,599	$ 211,533	$ 166,713
Contract services (inclusive of related party revenue of $9,543 and $30,237 for the three and nine months ended January 29, 2022, respectively)	43,179	47,494	142,962	146,397
	134,395	90,093	354,495	313,110
Cost of sales:				
Product sales	54,866	29,294	127,210	100,821
Contract services	34,019	39,363	122,171	119,675
	88,885	68,657	249,381	220,496
Gross margin:				
Product sales	36,350	13,305	84,323	65,892
Contract services	9,160	8,131	20,791	26,722
	45,510	21,436	105,114	92,614
Selling, general and administrative	24,746	22,549	70,302	74,496
Research and development	16,157	13,013	47,793	41,018
Income (loss) from operations	4,607	(14,126)	(12,981)	(22,900)
Other (loss) income:				
Interest expense, net	(2,810)	(1,510)	(6,722)	(4,164)
Other (expense) income, net	(2,587)	34	(2,183)	(10,360)
Loss before income taxes	(790)	(15,602)	(21,886)	(37,424)
Benefit from income taxes	(531)	(15,396)	(8,382)	(25,864)
Equity method investment (loss) income, net of tax	(417)	171	(2,190)	163
Net loss	(676)	(35)	(15,694)	(11,397)
Net loss (income) attributable to noncontrolling interest	—	45	(45)	(49)
Net (loss) income attributable to AeroVironment, Inc.	$ (676)	$ 10	$ (15,739)	$ (11,446)
Net loss per share attributable to AeroVironment, Inc.				
Basic	$ (0.03)	$ —	$ (0.63)	$ (0.46)
Diluted	(0.03)	—	$ (0.63)	$ (0.46)
Weighted-average shares outstanding:				
Basic	25,012,412	24,710,991	24,906,977	24,657,846
Diluted	25,012,412	24,879,643	24,906,977	24,657,846

See accompanying notes to condensed consolidated financial statements (unaudited).

AeroVironment, Inc.
Condensed Consolidated Statements of Comprehensive Income (Loss) (Unaudited)
(In thousands)

	Three Months Ended		Nine Months Ended	
	January 28, 2023	January 29, 2022	January 28, 2023	January 29, 2022
Net loss	$ (676)	$ (35)	$ (15,694)	$ (11,397)
Other comprehensive income (loss):				
Unrealized (loss) gain on available-for-sale investments, net of deferred tax expense of $0 and $1 for the three months ended January 28, 2023 and January 29, 2022, respectively; and $0 and $1 for the nine months ended January 28, 2023 and January 29, 2022, respectively	—	(3)	26	(6)
Change in foreign currency translation adjustments	3,425	(1,754)	1,433	(3,771)
Total comprehensive income (loss)	2,749	(1,792)	(14,235)	(15,174)
Net loss (income) attributable to noncontrolling interest	—	45	(45)	(49)
Comprehensive income (loss) attributable to AeroVironment, Inc.	$ 2,749	$ (1,747)	$ (14,280)	$ (15,223)

See accompanying notes to condensed consolidated financial statements (unaudited).

AeroVironment, Inc.
Condensed Consolidated Statements of Stockholders' Equity
For the nine months ended January 28, 2023 and January 29, 2022 (Unaudited)
(In thousands except share data)

	Common Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Total AeroVironment, Inc.	Non-Controlling	
	Shares	Amount	Capital	Earnings	(Loss) Income	Equity	Interest	Total
Balance at April 30, 2022	24,951,287	$ 2	$ 267,248	$ 347,233	$ (6,514)	$ 607,969	$ 241	$ 608,210
Net (loss) income	—	—	—	(15,739)	—	(15,739)	45	(15,694)
Unrealized gain on investments	—	—	—	—	26	26	—	26
Foreign currency translation	—	—	—	—	1,433	1,433	—	1,433
Stock options exercised	35,000	—	868	—	—	868	—	868
Restricted stock awards	77,169	—	—	—	—	—	—	—
Restricted stock awards forfeited	(10,679)	—	—	—	—	—	—	—
Tax withholding payment related to net share settlement of equity awards	(10,723)	—	(853)	—	—	(853)	—	(853)
Shares issued, net of issuance costs	221,971	2	20,699	—	—	20,701	—	20,701
Deconsolidation of previously controlled subsidiary	—	—	—	—	—	—	(286)	(286)
Stock based compensation	—	—	7,108	—	—	7,108	—	7,108
Balance at January 28, 2023	25,264,025	$ 4	$ 295,070	$ 331,494	$ (5,055)	$ 621,513	$ —	$ 621,513

	Common Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Total AeroVironment, Inc.	Non-Controlling	
	Shares	Amount	Capital	Earnings	Income (Loss)	Equity	Interest	Total
Balance at April 30, 2021	24,777,295	$ 2	$ 260,327	$ 351,421	$ 343	$ 612,093	$ 14	$ 612,107
Net (loss) income	—	—	—	(11,446)	—	(11,446)	49	(11,397)
Unrealized loss on investments	—	—	—	—	(6)	(6)	—	(6)
Foreign currency translation	—	—	—	—	(3,771)	(3,771)	—	(3,771)
Stock options exercised	114,362	—	2,777	—	—	2,777	—	2,777
Restricted stock awards	55,592	—	—	—	—	—	—	—
Restricted stock awards forfeited	(20,203)	—	—	—	—	—	—	—
Tax withholding payment related to net share settlement of equity awards	(11,941)	—	(1,176)	—	—	(1,176)	—	(1,176)
Change in non-controlling interest	—	—	—		—	—	224	224
Stock based compensation	—	—	3,957	—	—	3,957	—	3,957
Balance at January 29, 2022	24,915,105	$ 2	$ 265,885	$ 339,975	$ (3,434)	$ 602,428	$ 287	$ 602,715

AeroVironment, Inc.
Condensed Consolidated Statements of Stockholders' Equity
For the three months ended January 28, 2023 and January 29, 2022 (Unaudited)
(In thousands except share data)

	Common Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Total AeroVironment, Inc.	Non-Controlling	
	Shares	Amount	Capital	Earnings	(Loss) Income	Equity	Interest	Total
Balance at October 29, 2022	25,157,618	$ 4	$ 283,789	$ 332,170	$ (8,480)	$ 607,483	$ —	$ 607,483
Net loss	—	—	—	(676)	—	(676)	—	(676)
Foreign currency translation	—	—	—	—	3,425	3,425	—	3,425
Stock options exercised	10,000	—	186	—	—	186	—	186
Restricted stock awards	1,812	—	—	—	—	—	—	—
Restricted stock awards forfeited	(1,935)	—	—	—	—	—	—	—
Shares issued, net of issuance costs	96,530	—	8,389	—	—	8,389	—	8,389
Stock based compensation	—	—	2,706	—	—	2,706	—	2,706
Balance at January 28, 2023	25,264,025	$ 4	$ 295,070	$ 331,494	$ (5,055)	$ 621,513	$ —	$ 621,513

	Common Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Total AeroVironment, Inc.	Non-Controlling	
	Shares	Amount	Capital	Earnings	(Loss) Income	Equity	Interest	Total
Balance at October 30, 2021	24,805,829	2	261,612	339,965	(1,677)	599,902	332	600,234
Net income (loss)	—	—	—	10	—	10	(45)	(35)
Unrealized loss on investments	—	—	—	—	(3)	(3)	—	(3)
Foreign currency translation	—	—	—	—	(1,754)	(1,754)	—	(1,754)
Stock options exercised	110,362	—	2,657	—	—	2,657	—	2,657
Restricted stock awards	3,366	—	—	—	—	—	—	—
Restricted stock awards forfeited	(4,452)	—	—	—	—	—	—	—
Stock based compensation	—	—	1,616	—	—	1,616	—	1,616
Balance at January 29, 2022	24,915,105	$ 2	$ 265,885	$ 339,975	$ (3,434)	$ 602,428	$ 287	$ 602,715

AeroVironment, Inc.
Condensed Consolidated Statements of Cash Flows (Unaudited)
(In thousands)

	Nine Months Ended	
	January 28, 2023	January 29, 2022
Operating activities		
Net loss	$ (15,694)	$ (11,397)
Adjustments to reconcile net loss from operations to cash provided by (used in) operating activities:		
Depreciation and amortization	48,109	47,437
Loss (income) from equity method investments	2,190	(799)
Loss on deconsolidation of previously controlled subsidiary	189	—
Amortization of debt issuance costs	634	386
Provision for doubtful accounts	5	(20)
Other non-cash expense, net	935	440
Non-cash lease expense	5,866	5,033
Loss on foreign currency transactions	38	34
Unrealized loss on available-for-sale equity securities, net	1,798	—
Deferred income taxes	(1,250)	(1,195)
Stock-based compensation	7,108	3,957
Loss on disposal of property and equipment	1,193	5,063
Amortization of debt securities discount	125	117
Changes in operating assets and liabilities, net of acquisitions:		
Accounts receivable	6,847	21,901
Unbilled receivables and retentions	(5,098)	(25,597)
Inventories	(39,324)	(21,590)
Income taxes receivable	(9,388)	(26,208)
Prepaid expenses and other assets	(3,114)	1,789
Accounts payable	7,789	(10,720)
Other liabilities	(157)	(11,807)
Net cash provided by (used in) operating activities	8,801	(23,176)
Investing activities		
Acquisition of property and equipment	(10,116)	(17,064)
Equity method investments	(2,774)	(6,884)
Equity security investments	(5,100)	—
Business acquisitions, net of cash acquired	(5,105)	(46,150)
Proceeds from deconsolidation of previously controlled subsidiary, net of cash deconsolidated	(635)	—
Redemptions of available-for-sale investments	25,945	35,851
Purchases of available-for-sale investments	(1,326)	(2,987)
Other	—	225
Net cash provided by (used in) investing activities	889	(37,009)
Financing activities		
Principal payments of term loan	(22,500)	(7,500)
Holdback and retention payments for business acquisition	—	(5,991)
Proceeds from shares issued, net of issuance costs	20,104	—
Tax withholding payment related to net settlement of equity awards	(853)	(1,176)
Exercise of stock options	868	2,776
Other	(21)	(23)
Net cash used in financing activities	(2,402)	(11,914)
Effects of currency translation on cash and cash equivalents	695	(613)
Net increase (decrease) in cash, cash equivalents, and restricted cash	7,983	(72,712)
Cash, cash equivalents and restricted cash at beginning of period	77,231	157,063
Cash, cash equivalents and restricted cash at end of period	$ 85,214	$ 84,351
Supplemental disclosures of cash flow information		
Cash paid, net during the period for:		
Income taxes	$ 1,192	$ 1,923
Interest	$ 5,697	$ 3,465
Non-cash activities		
Unrealized (gain) loss on available-for-sale investments, net of deferred tax expense of $0 and $1 for the nine months ended January 28, 2023 and January 29, 2022, respectively	$ (26)	$ 6
Change in foreign currency translation adjustments	$ 1,433	$ (3,771)
Issuances of inventory to property and equipment, ISR in-service assets	$ 4,677	$ 16,680
Acquisitions of property and equipment included in accounts payable	$ 731	$ 626

See accompanying notes to condensed consolidated financial statements (unaudited).

AeroVironment, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

1. Organization and Significant Accounting Policies

Organization

AeroVironment, Inc., a Delaware corporation (the “Company”), is engaged in the design, development, production, delivery and support of a technologically advanced portfolio of intelligent, multi-domain robotic systems and related services for government agencies and businesses. AeroVironment, Inc. supplies unmanned aircraft systems (“UAS”), tactical missile systems (“TMS”), unmanned ground vehicles (“UGV”) and related services primarily to organizations within the U.S. Department of Defense (“DoD”) and to international allied governments.

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (“U.S. GAAP”) for interim financial information and with the instructions of Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. In the opinion of management, all adjustments, consisting only of normal recurring adjustments necessary for a fair presentation with respect to the interim financial statements have been included. The results of operations for the nine months ended January 28, 2023 are not necessarily indicative of the results for the full year ending April 30, 2023. For further information, refer to the consolidated financial statements and footnotes thereto for the year ended April 30, 2022, included in the Company’s Annual Report on Form 10-K.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions, including estimates of anticipated contract costs and revenue utilized in the revenue recognition process, that affect the reported amounts in the unaudited condensed consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

The Company’s unaudited condensed consolidated financial statements include the assets, liabilities and operating results of wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated.

On May 3, 2021, the Company closed its acquisition of Telerob Gesellschaft f✔r Fernhantierungstechnik mbH, a German company based in Ostfildern (near Stuttgart), Germany (“Telerob GmbH”), including Telerob GmbH’s wholly-owned subsidiary, Telerob USA, Inc. (“Telerob USA,” and collectively with Telerob GmbH, “Telerob”) pursuant to its previously announced Share Purchase Agreement (the “Telerob Purchase Agreement”) with Unmanned Systems Investments GmbH, a German limited liability company incorporated under the laws of Germany (the “Telerob Seller”), and each of the unit holders of the Seller, to purchase 100% of the issued and outstanding shares of Telerob Seller’s wholly-owned subsidiary Telerob GmbH (the “Telerob Acquisition”). The assets, liabilities and operating results of Telerob GmbH have been included in the Company’s unaudited condensed consolidated financial statements. Telerob USA was subsequently dissolved. Refer to Note 18—Business Acquisitions for further details.

On September 15, 2021, the Company entered into a Share Sale and Purchase Agreement with Toygun Savunma Sanayi ve Havacilik Anonim Sirketi (“Toygun”) whereby the Company sold 35% of the common shares of the Company’s Turkish joint venture, Altoy Savunma Sanayi ve Havacilik Anonim Sirketi (“Altoy”), to Toygun. On October 14, 2022, the Company sold an additional 35% of the common shares of Altoy to Toygun. As a result of the share sales, the Company decreased its interest in Altoy from 85% to 15% and has determined that it no longer controls Altoy. Therefore, the Company no longer consolidates Altoy in the Company’s unaudited condensed consolidated financial statements. As the Company has the ability to exercise significant influence over the operating and financial policies of Altoy, the Company accounts for the investment as an equity method investment and records its proportion of any gains or losses of Altoy in equity method investments, net of tax. Refer to Note 6—Equity Method Investments for further details.

On August 17, 2022, the Company closed its acquisition of Planck Aerosystems, Inc. (“Planck”) pursuant to the purchase agreement, and post-acquisition, Planck has been incorporated into the medium UAS (“MUAS”) segment. The assets, liabilities and operating results of Planck have been included in the Company’s unaudited condensed consolidated financial statements. Refer to Note 18—Business Acquisitions for further details.

Recently Adopted Accounting Standards

In October 2021, the Financial Accounting Standards Board issued Accounting Standard Update (“ASU”) 2021-08, Business Combinations (Topic 805): *Accounting for Contract Assets and Contract Liabilities from Contracts with Customers* (“ASU 2021-08”). ASU 2021-08 requires an acquirer to apply the guidance in Accounting Standards Codification (“ASC”) 606, *Revenue from Contracts with Customers* (“ASC 606”), to recognize and measure contract assets and contract liabilities in a business combination, rather than using fair value. On May 1, 2022, the Company early adopted ASU 2021-08. ASU 2021-08 is adopted prospectively and did not have a material impact on our unaudited condensed consolidated financial statements.

Revenue Recognition

The Company’s revenue is generated pursuant to written contractual arrangements to design, develop, manufacture and/or modify complex products and to provide related engineering, technical and other services according to the specifications of its customers. These contracts may be firm fixed price (“FFP”), cost plus fixed fee (“CPFF”), or time and materials (“T&M”). The Company considers all such contracts to be within the scope of ASC 606.

Performance Obligations

A performance obligation is a promise in a contract to transfer distinct goods or services to a customer, and it is the unit of account in ASC 606. A contract’s transaction price is allocated to each distinct performance obligation and revenue is recognized when each performance obligation under the terms of a contract is satisfied. Revenue is measured at the amount of consideration the Company expects to receive in exchange for transferring goods or providing services. For contracts with multiple performance obligations, the Company allocates the contract’s transaction price to each performance obligation using its observable standalone selling price for products and services. When the standalone selling price is not directly observable, the Company uses its best estimate of the standalone selling price of each distinct good or service in the contract using the cost plus margin approach. This approach estimates the Company’s expected costs of satisfying the performance obligation and then adds an appropriate margin for that distinct good or service.

Contract modifications are routine in the performance of the Company’s contracts. In most instances, contract modifications are for additional goods and/or services that are distinct and, therefore, accounted for as new contracts.

The Company’s performance obligations are satisfied over time or at a point in time. Performance obligations are satisfied over time if the customer receives the benefits as the Company performs, if the customer controls the asset as it is being developed or produced, or if the product being produced for the customer has no alternative use and the Company has a contractual right to payment for the Company’s costs incurred to date plus a reasonable margin. The contractual right to payment is generally supported by termination for convenience clauses that allow the customer to unilaterally terminate the contract for convenience, pay the Company for costs incurred plus a reasonable profit, and take control of any work in process. Revenue for TMS product deliveries and Customer-Funded Research and Development contracts is recognized over time as costs are incurred. Contract services revenue is composed of revenue recognized on contracts for the provision of services, including repairs and maintenance, training, engineering design, development and prototyping activities, and technical support services. Contract services revenue is recognized over time as services are rendered. Typically, revenue is recognized over time using an input measure (e.g., costs incurred to date relative to total estimated costs at completion) to measure progress. Contract services revenue, including revenue from intelligence, surveillance, and reconnaissance (“ISR”) services, is recognized over time as services are rendered. In accordance with ASC 606, the Company elected the right to invoice practical expedient in which if an entity has a right to consideration from a customer in an amount that corresponds directly with the value to the customer of the entity’s performance completed to date, such as flight hours for ISR services, the entity may recognize revenue in the amount to which the entity has a right to invoice. Training services are recognized over time using an output method based on days of training completed.

For performance obligations satisfied over time, revenue is generally recognized using costs incurred to date relative to total estimated costs at completion to measure progress. Incurred costs represent work performed, which correspond with, and thereby best depict, transfer of control to the customer. Contract costs include labor, materials, subcontractors' costs, other direct costs, and indirect costs applicable on government and commercial contracts.

For performance obligations which are not satisfied over time per the aforementioned criteria above, revenue is recognized at the point in time in which each performance obligation is fully satisfied. The Company's small UAS, MUAS and UGV product sales revenue is composed of revenue recognized on contracts for the delivery of small UAS, MUAS and UGV systems and spare parts, respectively. Revenue is recognized at the point in time when control transfers to the customer, which generally occurs when title and risk of loss have passed to the customer.

Performance obligations satisfied over time accounted for 45% and 54% of revenue during the three and nine months ended January 28, 2023, respectively. Performance obligations satisfied over time accounted for 66% and 58% of revenue during the three and nine months ended January 29, 2022, respectively. Performance obligations satisfied at a point in time accounted for 55% and 46% of revenue during the three and nine months ended January 28, 2023, respectively. Performance obligations satisfied at a point in time accounted for 34% and 42% of revenue during the three and nine months ended January 29, 2022, respectively.

On January 28, 2023, the Company had approximately $413,890,000 of remaining performance obligations under fully funded contracts with its customers, which the Company also refers to as funded backlog. The Company currently expects to recognize approximately 40% of the remaining performance obligations as revenue in fiscal 2023 and the remaining 60% in fiscal 2024.

The Company collects sales, value added, and other taxes concurrent with revenue producing activities, which are excluded from revenue when they are both imposed on a specific transaction and collected from a customer.

Contract Estimates

Accounting for contracts and programs primarily with a duration of less than six months involves the use of various techniques to estimate total contract revenue and costs. For long-term contracts, the Company estimates the total expected costs to complete the contract and recognizes revenue based on the percentage of costs incurred at period end. Typically, revenue is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress toward satisfying the Company's performance obligations. Incurred costs represent work performed, which corresponds with, and thereby best depicts, the transfer of control to the customer. Contract costs include labor, materials, subcontractors' costs, other direct costs, and indirect costs applicable on government and commercial contracts.

Contract estimates are based on various assumptions to project the outcome of future events that may span several years. These assumptions include labor productivity and availability, the complexity of the work to be performed, the cost and availability of materials, the performance of subcontractors, and the availability and timing of funding from the customer.

The nature of the Company's contracts gives rise to several types of variable consideration, including undefinitized contract actions which are within the scope of ASC 606 with final contract values to be negotiated, penalty fees and incentive awards generally for late delivery and early delivery, respectively. The Company generally estimates such variable consideration as the most likely amount. In addition, the Company includes the estimated variable consideration to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the related uncertainty is resolved. These estimates are based on historical award experience, anticipated performance and the Company's best judgment at the time. Based on experience in estimating these amounts, they are included in the transaction price of the Company's contracts and the associated remaining performance obligations.

As a significant change in one or more of these estimates could affect the profitability of the Company's contracts, the Company regularly reviews and updates its contract-related estimates. Changes in cumulative revenue estimates, due to changes in the estimated transaction price or cost estimates, are recorded using a cumulative catch-up adjustment in the period identified for contracts with performance obligations recognized over time. Changes in cumulative revenue estimates due to changes in the estimated transaction price are recorded using a cumulative catch-up adjustment in the period identified for contracts with performance obligations at a point in time, including undefinitized contract actions. In the period undefinitized contract actions become definitized, a cumulative catch-up adjustment is recorded to reflect the final consideration, which could have a material positive or negative impact.

If at any time the estimate of contract profitability indicates an anticipated loss on the contract, the Company recognizes the total loss in the quarter it is identified, and it is recorded in other current liabilities. The balance of forward loss reserves as of January 28, 2023 and April 30, 2022 was $1,561,000 and $1,064,000, respectively. The Company recorded the forward loss reserves as the total estimated costs to complete the contracts are in excess of the total remaining consideration of the contracts. During the three months ended January 28, 2023, the Company recognized a decrease in the forward loss reserves on two MUAS ISR contracts for $2,424,000 due to decreases in the estimated costs to complete the contract and an increase in the forward loss reserve of an MUAS products contract for $1,593,000 due to increases in the estimated costs to complete the contract. No adjustment on the forward loss reserve for any one contract was material to the Company's unaudited condensed consolidated financial statements for the nine month period ended January 28, 2023.

The impact of adjustments in contract estimates on the Company's operating earnings can be reflected in either operating costs and expenses, or revenue. The aggregate impact of adjustments in contract estimates on revenue related to performance obligations satisfied or partially satisfied in previous periods was not significant for the three or nine month periods ended January 28, 2023 nor the three or nine month periods ended January 29, 2022. No adjustment on any one contract was material to the Company's unaudited condensed consolidated financial statements for the three month period ended January 28, 2023. During the nine months ended January 28, 2023, the Company revised its estimates of the total expected costs to complete two TMS variant contracts. The aggregate impact of these adjustments in contract estimates on revenue related to performance obligations satisfied or partially satisfied in previous periods was a decrease to revenue of approximately $2,448,000. No adjustment on any one contract was material to the Company's unaudited condensed consolidated financial statements for the three or nine month periods ended January 29, 2022.

Revenue by Category

The following tables present the Company's revenue disaggregated by major product line, contract type, customer category and geographic location (in thousands):

	Three Months Ended		Nine Months Ended	
Revenue by segment	**January 28, 2023**	**January 29, 2022**	**January 28, 2023**	**January 29, 2022**
Small UAS	$ 69,376	$ 24,366	$ 139,313	$ 119,004
TMS	24,015	18,603	78,127	56,197
MUAS	15,405	21,168	61,948	70,072
HAPS	8,938	9,543	28,219	30,237
All Other	16,661	16,413	46,888	37,600
Total revenue	$ 134,395	$ 90,093	$ 354,495	$ 313,110

	Three Months Ended		Nine Months Ended	
Revenue by contract type	**January 28, 2023**	**January 29, 2022**	**January 28, 2023**	**January 29, 2022**
FFP	$ 109,119	$ 66,639	$ 275,184	$ 245,798
CPFF	24,115	21,788	75,583	62,499
T&M	1,161	1,666	3,728	4,813
Total revenue	$ 134,395	$ 90,093	$ 354,495	$ 313,110

Each of these contract types presents advantages and disadvantages. Typically, the Company assumes more risk with FFP contracts. However, these types of contracts generally offer additional profits when the Company completes the work for less than originally estimated. CPFF contracts generally subject the Company to lower risk. Accordingly, the associated base fees are usually lower than fees on FFP contracts. Under T&M contracts, the Company's profit may vary if actual labor hour rates vary significantly from the negotiated rates.

	Three Months Ended		Nine Months Ended	
Revenue by customer category	**January 28, 2023**	**January 29, 2022**	**January 28, 2023**	**January 29, 2022**
U.S. government	$ 83,398	$ 60,956	$ 226,191	$ 204,107
Non-U.S. government	50,997	29,137	128,304	109,003
Total revenue	$ 134,395	$ 90,093	$ 354,495	$ 313,110

	Three Months Ended		Nine Months Ended	
Revenue by geographic location	**January 28, 2023**	**January 29, 2022**	**January 28, 2023**	**January 29, 2022**
Domestic	$ 55,955	$ 56,480	$ 174,135	$ 193,531
International	78,440	33,613	180,360	119,579
Total revenue	$ 134,395	$ 90,093	$ 354,495	$ 313,110

Contract Balances

The timing of revenue recognition, billings, and cash collections results in billed accounts receivable, unbilled receivables, and customer advances and deposits on the condensed consolidated balance sheet. In the Company's services contracts, amounts are billed as work progresses in accordance with agreed-upon contractual terms, either at periodic intervals, which is generally monthly, or upon the achievement of contractual milestones. Generally, billing occurs subsequent to revenue recognition, resulting in contract assets recorded in unbilled receivables and retentions on the condensed consolidated balance sheet. However, the Company sometimes receives advances or deposits from its customers before revenue is recognized, resulting in contract liabilities recorded in customer advances on the condensed consolidated balance sheet. Contract liabilities are not a significant financing component as they are generally utilized to pay for contract costs within a one-year period or are used to ensure the customer meets contractual requirements. These assets and liabilities are reported on the condensed consolidated balance sheet on a contract-by-contract basis at the end of each reporting period. For the Company's product revenue, the Company generally receives cash payments subsequent to satisfying the performance obligation via delivery of the product, resulting in billed accounts receivable. Changes in the contract asset and liability balances during the nine month period ended January 28, 2023 were not materially impacted by any other factors. For the Company's contracts, there are no significant gaps between the receipt of payment and the transfer of the associated goods and services to the customer for material amounts of consideration.

Revenue recognized for the three and nine month periods ended January 28, 2023 that was included in contract liability balances as of April 30, 2022 was $369,000 and $3,374,000, respectively, and revenue recognized for the three and nine month periods ended January 29, 2022 that was included in contract liability balances as of April 30, 2021 was $1,521,000 and $2,409,000, respectively.

Segments

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the Chief Operating Decision Maker ("CODM") in deciding how to allocate resources and assess performance. As of January 28, 2023, the Company's CODM, the Chief Executive Officer, makes operating decisions, assesses performance and makes resource allocation decisions, including the allocation for research and development ("R&D"). Accordingly, the Company identifies four reportable segments. Refer to Note 20—Segments for further details.

Restricted Cash

The Company classifies cash accounts which are not available for general use as restricted cash. During the three months ended January 28, 2023, Telerob received a restricted customer advance. The restricted funds are maintained in a separate account and are recorded in other assets on the unaudited condensed consolidated balance sheet. As of January 28, 2023 and April 30, 2022 restricted cash was €6,385,000 ($6,938,000) and €0 ($0), respectively.

Investments

The Company's investments are accounted for as available-for-sale and are reported at fair value. Unrealized gains and losses for debt securities are excluded from earnings and reported as a separate component of stockholders' equity, net of deferred income taxes for available-for-sale investments. Gains and losses realized on the disposition of investment securities are determined on the specific identification basis and credited or charged to income. Investments in equity securities and warrants are measured at fair value with net unrealized gains and losses from changes in the fair value recognized in other (expense) income, net. Management determines the appropriate classification of securities at the time of purchase and reevaluates such designation as of each balance sheet date.

Fair Values of Financial Instruments

Fair values of cash and cash equivalents, accounts receivable, unbilled receivables and retentions, and accounts payable approximate cost due to the short period of time to maturity.

Government Contracts

Payments to the Company on government CPFF or T&M contracts are based on provisional, or estimated indirect rates, which are subject to an annual audit by the Defense Contract Audit Agency ("DCAA"). The cost audits result in the negotiation and determination of the final indirect cost rates that the Company may use for the period(s) audited. The final rates, if different from the provisional rates, may create an additional receivable or liability for the Company for CPFF and T&M contracts.

For example, during the course of its audits, the DCAA may question the Company's incurred costs, and if the DCAA believes the Company has accounted for such costs in a manner inconsistent with the requirements under Federal Acquisition Regulations, the DCAA auditor may recommend to the Company's administrative contracting officer to disallow such costs. Historically, the Company has not experienced material disallowed costs as a result of government audits. However, the Company can provide no assurance that the DCAA or other government audits will not result in material disallowances for incurred costs in the future. The Company's revenue recognition policy calls for revenue recognized on all cost reimbursable government contracts to be recorded at actual rates unless collectability is not reasonably assured. At January 28, 2023 and April 30, 2022, the Company had no reserve for incurred cost claim audits.

(Loss) Earnings Per Share

Basic (loss) earnings per share is computed using the weighted-average number of common shares outstanding, excluding shares of unvested restricted stock.

The reconciliation of basic to diluted shares is as follows (in thousands except share data):

	Three Months Ended		Nine Months Ended	
	January 28, 2023	January 29, 2022	January 28, 2023	January 29, 2022
Net (loss) income attributable to AeroVironment, Inc.	$ (676)	$ 10	$ (15,739)	$ (11,446)
Denominator for basic (loss) earnings per share:				
Weighted average common shares	25,012,412	24,710,991	24,906,977	24,657,846
Dilutive effect of employee stock options, restricted stock and restricted stock units	—	168,652	—	—
Denominator for diluted (loss) earnings per share	25,012,412	24,879,643	24,906,977	24,657,846

Due to the net loss for the three and nine months ended January 28, 2023, no shares reserved for issuance upon exercise of stock options or shares of unvested restricted stock were included in the computation of diluted loss per share as their inclusion would have been anti-dilutive. Potentially dilutive shares not included in the computation of diluted weighted-average common shares because their effect would have been anti-dilutive were 145,793 and 152,047 for the three and nine months ended January 28, 2023, respectively. Potentially dilutive shares not included in the computation of diluted weighted-average common shares because their effect would have been anti-dilutive were 20,554 for the three months ended January 29, 2022. Due to the net loss for the nine months ended January 29, 2022, no shares reserved for issuance upon exercise of stock options or shares of unvested restricted stock were included in the computation of diluted loss per share as their inclusion would have been anti-dilutive. Potentially dilutive shares not included in the computation of diluted weighted-average common shares because their effect would have been anti-dilutive were 237,909 for the nine months ended January 29, 2022.

Recently Issued Accounting Standards

No recently issued accounting standards are expected to impact the Company.

2. Discontinued Operations

On June 29, 2018, the Company completed the sale of substantially all of the assets and related liabilities of its efficient energy systems business segment (the “EES Business”) to Webasto Charging Systems, Inc. (“Webasto”) pursuant to an Asset Purchase Agreement (the “Purchase Agreement”) between Webasto and the Company.

On February 22, 2019, Webasto filed a lawsuit, which was amended in April 2019, alleging several claims against the Company for breach of contract, indemnity, and bad faith, including allegations regarding inaccuracy of certain diligence disclosures and failure to provide certain consents to contract assignments, and related to a previously announced product recall. Webasto sought to recover the costs of the recall and other damages totaling a minimum of $6,500,000 in addition to attorneys’ fees, costs, and punitive damages. On August 16, 2019, the Company filed a counterclaim against Webasto seeking payment of $6,500,000 in additional cash consideration due under the Purchase Agreement (the “Holdback”) and declaratory relief regarding Webasto’s cancellation of an assigned contract. Webasto again amended the complaint in May 2021 to include additional claims. On June 2, 2021, the Company filed an answer to Webasto’s second amended complaint filed in May 2021.

In order to avoid the future cost, expense, and distraction of continued litigation, the Company engaged in settlement negotiations with Webasto in May 2021. While the negotiations did not result in a settlement of any of the Company’s or Webasto’s claims at such time, as a result of the settlement negotiations, the Company established a litigation reserve, which reflected the scope of a rejected offer intended to communicate the Company’s serious and good faith intention to attempt to reach a settlement for the stated purposes. The offer did not reflect the Company’s view of the merits of the claims made; however, as a result of the preparation of the good faith offer and the Company’s willingness to pursue settlement for that amount, the Company recorded litigation reserve expenses in the amount of $9,300,000 during the year ended April 30, 2021 recorded in other expense on the condensed consolidated statements of operations and in other current liabilities on the condensed consolidated balance sheet. On December 2, 2021, the Company agreed in principle, subject to formal documentation with Webasto, to settle all existing claims related to the sale of its former EES business for $20,000,000 and Webasto keeping the Holdback. As a result of the agreement in principle to settle the litigation, the Company recorded additional litigation reserve expenses in the amount of $10,000,000 during the three months ended October 30, 2021 in other expense on the condensed consolidated statements of operations and in other current liabilities on the condensed consolidated balance sheet. The Company executed a written settlement agreement with Webasto effective December 16, 2021 to officially and fully settle all claims in the lawsuit. Under the terms of the written settlement agreement, the Company's payment of the settlement amount of $20,000,000 occurred over a 24 month period from the effective date of the settlement agreement, and Webasto will retain the Holdback. As of January 28, 2023, $15,000,000 of the settlement was paid. On February 2, 2023, the final $5,000,000 of the settlement was paid.

3. Investments

Investments consist of the following (in thousands):

	January 28, 2023	April 30, 2022
Short-term investments:		
Available-for-sale securities:		
Municipal securities	—	19,725
U.S. government securities	—	4,991
Total short-term investments	$ —	$ 24,716
Long-term investments:		
Available-for-sale securities:		
Equity securities and warrants	3,302	—
Total long-term available-for-sale securities investments	3,302	—
Equity method investments		
Investments in limited partnership funds	16,017	15,433
Total equity method investments	16,017	15,433
Total long-term investments	$ 19,319	$ 15,433

Available-For-Sale Securities

Debt Securities

As of April 30, 2022, the balance of available-for-sale debt securities consisted of state and local government municipal securities, U.S. government securities and U.S. government agency securities. Interest earned from these investments is recorded in interest expense, net. Realized gains on sales of these investments on the basis of specific identification are recorded in interest expense, net. As of January 28, 2023, the Company held no available-for-sale debt securities.

The following table is a summary of the activity related to the available-for-sale debt securities recorded in short-term investments as of April 30, 2022, respectively (in thousands):

	April 30, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Municipal securities	$ 19,756	$ —	$ (31)	$ 19,725
U.S. government securities	4,995	—	(4)	4,991
Total available-for-sale debt securities	$ 24,751	$ —	$ (35)	$ 24,716

Equity Securities

Equity securities and warrants are measured at fair value with net unrealized gains and losses from changes in the fair value recognized in other (expense) income, net.

	Three Months Ended January 28, 2023	Nine Months Ended January 28, 2023
Net loss recognized during the period on equity securities	$ (2,726)	$ (1,798)
Less: Net loss recognized during the period on equity securities sold during the period	—	—
Unrealized loss recognized during the period on equity securities still held at the reporting date	$ (2,726)	$ (1,798)

4. Fair Value Measurements

Fair value is the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy contains three levels as follows:

- Level 1—Inputs to the valuation based upon quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible as of the measurement date.
- Level 2—Inputs to the valuation include quoted prices in either markets that are not active, or in active markets for similar assets or liabilities, inputs other than quoted prices that are observable, and inputs that are derived principally from or corroborated by observable market data.
- Level 3—Inputs to the valuation that are unobservable inputs for the asset or liability.

The Company’s financial assets measured at fair value on a recurring basis at January 28, 2023, were as follows (in thousands):

	Fair Value Measurement Using			
Description	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Available-for-sale securities	$ —	$ —	$ —	$ —
Equity securities	3,165	—	—	3,165
Warrants	—	137	—	137
Contingently returnable consideration	—	—	—	—
Total	$ 3,165	$ 137	$ —	$ 3,302

The Company's financial liabilities measured at fair value on a recurring basis at January 28, 2023, were as follows (in thousands):

	Fair Value Measurement Using			
Description	**Quoted prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Contingent consideration	$ —	$ —	$ 1,727	$ 1,727
Total	$ —	$ —	$ 1,727	$ 1,727

The Company's financial assets measured at fair value on a recurring basis at April 30, 2022, were as follows (in thousands):

	Fair Value Measurement Using			
Description	**Quoted prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Available-for-sale securities	$ —	$ 24,716	$ —	$ 24,716
Contingently returnable consideration	—	—	143	143
Total	$ —	$ 24,716	$ 143	$ 24,859

The Company's financial liabilities measured at fair value on a recurring basis at April 30, 2022, were as follows (in thousands):

	Fair Value Measurement Using			
Description	**Quoted prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Contingent consideration	$ —	$ —	$ 1,084	$ 1,084
Total	$ —	$ —	$ 1,084	$ 1,084

The following table provides a reconciliation between the beginning and ending balances of items measured at fair value on a recurring basis that used significant unobservable inputs (Level 3) (in thousands):

Description	Fair Value Measurements Using Significant Unobservable Inputs Assets (Level 3)	Fair Value Measurements Using Significant Unobservable Inputs Liabilities (Level 3)
Balance at May 1, 2022	$ 143	$ 1,084
Business acquisition	—	—
Transfers to Level 3	—	—
Total fair value measurement adjustments (realized or unrealized)		
Included in selling, general and administrative	(143)	643
Settlements	—	—
Balance at January 28, 2023	$ —	$ 1,727
The amount of total (gains) or losses for the period included in earnings attributable to the change in unrealized gains or losses relating to assets or liabilities still held at January 28, 2023	$ —	$ —

Pursuant to the Intelligent Systems Group business segment ("ISG") Purchase Agreement with Progeny Systems Corporation (the "ISG Seller"), the ISG Seller may receive up to a maximum of $6,000,000 in additional cash consideration ("contingent consideration"), if certain revenue targets are achieved during the three years following closing. The contingent consideration was valued using a Black-Scholes option-pricing model. The analysis considered, among other items, contractual terms of the ISG Purchase Agreement, the Company's discount rate, the timing of expected future cash flows and the probability that the revenue targets required for payment of the contingent consideration will be achieved. During the fiscal year ended April 30, 2022, the targets for the first and second year were achieved, and during the nine months ended January 28, 2023, the target for the third year was achieved. The consideration was held and released from an escrow account that is not controlled by the Company and therefore not recorded on the condensed consolidated balance sheet. The related consideration of $2,000,000 for the first target was released from the escrow account during the fiscal year ended April 30, 2022, the related consideration of $2,000,000 for the second target was released from the escrow account during the three months ended July 30, 2022, and the related consideration of $2,000,000 for the third target was released from the escrow account in February 2023.

Pursuant to the Telerob Purchase Agreement, the Telerob Sellers may receive up to a maximum of €6,000,000 (approximately $7,272,000) in additional cash consideration if specific revenue and contract award targets for Telerob are achieved during the 36 month period after closing. The contingent consideration was valued using a Black-Scholes option-pricing model. The analysis considered, among other items, contractual terms of the Telerob Purchase Agreement, the Company's discount rate, the timing of expected future cash flows and the probability that the revenue and contract award targets required for payment of the contingent consideration will be achieved. The fair value of the contingent consideration is recorded in other current liabilities on the condensed consolidated balance sheet. The first year earnout of €2,000,000 (approximately $2,424,000) was not achieved.

On September 12, 2022, the Company invested $5,000,000 and acquired 500,000 shares and 500,000 privately placed, redeemable warrants of Amprius Technologies, Inc. The privately placed, redeemable warrants have an exercise price of $12.50 and redemption price of $20.00. The Company measures the fair value of the privately placed, redeemable warrants using the quoted market price of the public warrants which have an exercise price of $11.50 and a redemption price of $18.00 and classifies the warrants as a level 2 fair value measurement. On September 9, 2022, the Company acquired 10,000 shares of Nauticus Robotics, Inc. for $100,000.

5. Inventories, net

Inventories consist of the following (in thousands):

	January 28, 2023	April 30, 2022
Raw materials	$ 56,728	$ 42,310
Work in process	41,602	28,034
Finished goods	43,696	32,619
Inventories, gross	142,026	102,963
Reserve for inventory excess and obsolescence	(16,084)	(12,334)
Inventories, net	$ 125,942	$ 90,629

6. Equity Method Investments

Investments in Limited Partnership Funds

In July 2019, the Company made its initial capital contribution to a limited partnership fund focusing on highly relevant technologies and start-up companies serving defense and industrial markets. Under the terms of the limited partnership agreement, the Company contributed a total of $10,000,000 during the fiscal years ended April 30, 2021 and 2022, and there were no further contribution commitments to this fund as of April 30, 2022. In March 2022, the Company entered into a limited partnership agreement with a second limited partnership fund also focusing on highly relevant technologies and start-up companies serving defense and industrial markets. Under the terms of the limited partnership agreement, the Company is committed to contributions totaling $20,000,000 over an expected five year period. During the three months ended July 30, 2022, the Company made its initial contribution of $2,774,000. Under the terms of the limited partnership agreement, the Company has committed to make additional capital contributions of $17,226,000 to the fund. The Company accounts for investments in limited partnerships as equity method investments as the Company is deemed to have influence when it holds more than a minor interest. For the three and nine months ended January 28, 2023, the Company recorded its ownership percentage of the net loss of the limited partnership, or $(417,000) and $(2,190,000), respectively, in equity method investment (loss) income, net of $0 tax in the unaudited condensed consolidated statements of operations, respectively. For the three and nine months ended January 29, 2022, the Company recorded its ownership percentage of the net gain of the limited partnership, or $478,000 and $2,843,000, respectively, net of $108,000 and $636,000 of tax expense, respectively, in equity method investment (loss) income, net of tax in the unaudited condensed consolidated statements of operations. At January 28, 2023 and April 30, 2022, the carrying value of the investments in the limited partnership funds of $16,017,000 and $15,433,000, respectively, was recorded in long-term investments on the unaudited condensed consolidated balance sheet.

Investment in Altoy

On September 15, 2021, the Company entered into a Share Sale and Purchase Agreement with Toygun whereby the Company sold 35% of the common shares of Altoy to Toygun. On October 14, 2022, the company sold an additional 35% of the common shares of Altoy to Toygun. As a result of the sales, the Company decreased its interest in Altoy from 85% to 15%. The Company no longer controls Altoy, and therefore, has deconsolidated Altoy in the Company's unaudited condensed consolidated financial statements. The Company maintains significant influence, accounts for its investment in Altoy as an equity method investment and records its proportion of any gains or losses of Altoy in equity method investments, net of tax. For the three and nine months ended January 28, 2023, the Company recorded $0 for its ownership percentage of the net loss of the limited partnership in equity method investment (loss) income, net of tax in the unaudited condensed consolidated statements of operations. At January 28, 2023, the carrying value of the investment in Altoy of $96,000 was recorded in other assets on the unaudited condensed consolidated balance sheet.

Investment in HAPSMobile Inc.

In December 2017, the Company and SoftBank Corp. ("Softbank") formed a joint venture, HAPSMobile Inc. ("HAPSMobile"), which is a Japanese corporation. Concurrent with the formation of HAPSMobile, the Company executed a Design and Development Agreement (the "DDA") with HAPSMobile. In connection with the formation of the joint venture on December 27, 2017, the Company initially purchased shares of HAPSMobile representing a 5% ownership. On December 4, 2019, the Company purchased additional shares of HAPSMobile to increase its ownership stake to approximately 7%. In March 2022, the Company sold its 7% equity interest in HAPSMobile to SoftBank, for 808,008,000 yen ($6,497,000) and a gain was recorded in sale of ownership in HAPSMobile Inc. joint venture. Following the sale, SoftBank owns 100% of HAPSMobile, and, therefore, the Company no longer applies the equity method of accounting.

On May 29, 2021, the Company entered into an amendment to the DDA with HAPSMobile. The parties agreed to the amendment in anticipation of the Company and SoftBank entering into a Master Design and Development Agreement ("MDDA") with each other to continue the design and development of the Solar High Altitude Pseudo-Satellite ("Solar HAPS") aircraft developed under the DDA.

On May 29, 2021, the Company and SoftBank entered into a MDDA to continue the development of Solar HAPS. Pursuant to the MDDA, which has a five-year term, SoftBank will issue orders to the Company for the Company to perform design and development services and produce deliverables as specified in the applicable order(s). Upon the execution of the MDDA, SoftBank issued to the Company, and the Company accepted, the first order under the MDDA which has a maximum value of approximately $51,200,000. Concurrent with the execution of the MDDA, each of SoftBank and the Company agreed to lend HAPSMobile loans which are convertible into shares of HAPSMobile under certain conditions, and to cooperate with each other to explore restructuring and financing options for HAPSMobile to continue the development of Solar HAPS. The Company committed to lend 500,000,000 yen. On June 7, 2021 the Company funded 130,000,000 yen ($1,195,000) of the loan agreement. On August 13, 2021, the Company made the second payment of the loan agreement in the amount of 180,000,000 yen ($1,638,000). On October 29, 2021, the Company made the final payment under the loan agreement in the amount of 190,000,000 yen ($1,674,000). On March 1, 2022, HAPSMobile repaid the Company the loan in full plus accrued interest in the amount of 503,832,000 yen ($4,345,000). The repayment resulted in equity method income during the fiscal year ended April 30, 2022 up to the extent of the previously recognized equity method losses associate with the loan.

Prior to the sale of the equity interest, the Company had the ability to exercise significant influence over the operating and financial policies of HAPSMobile pursuant to the applicable joint venture agreement and related organizational documents, and therefore, the Company's investment was accounted for as an equity method investment. For the three and nine months ended January 29, 2022, the Company recorded its proportionate net loss of HAPSMobile, or $200,000 and $2,044,000, respectively, in equity method investment (loss) income, net of tax in the unaudited condensed consolidated statement of operations.

7. Warranty Reserves

The Company accrues an estimate of its exposure to warranty claims based upon both current and historical product sales data and warranty costs incurred. The warranty reserve is included in other current liabilities on the unaudited condensed consolidated balance sheet. The related expense is included in cost of sales. Warranty reserve activity is summarized as follows for the three and nine months ended January 28, 2023 and January 29, 2022, respectively (in thousands):

	Three Months Ended		Nine Months Ended	
	January 28, 2023	January 29, 2022	January 28, 2023	January 29, 2022
Beginning balance	$ 3,017	$ 2,650	$ 2,190	$ 2,341
Balance acquired from acquisition	—	—	—	256
Warranty expense	(333)	(192)	1,110	704
Warranty costs settled	(387)	(352)	(1,003)	(1,195)
Ending balance	$ 2,297	$ 2,106	$ 2,297	$ 2,106

8. Intangibles, net

The components of intangibles are as follows (in thousands):

	January 28, 2023	April 30, 2022
Technology	$ 60,425	$ 56,913
Licenses	1,008	1,008
Customer relationships	72,583	72,448
Backlog	2,865	2,100
In-process research and development	550	550
Non-compete agreements	320	320
Trademarks and tradenames	68	68
Other	148	144
Intangibles, gross	137,967	133,551
Less accumulated amortization	(54,525)	(36,327)
Intangibles, net	$ 83,442	$ 97,224

The weighted average amortization period at January 28, 2023 and April 30, 2022 was four years. Amortization expense for the three and nine months ended January 28, 2023 was $6,073,000 and $17,925,000, respectively. Amortization expense for the three and nine months ended January 29, 2022 was $6,911,000 and $20,486,000, respectively.

Technology and backlog intangible assets were recognized in conjunction with the Company's acquisition of Planck on August 17, 2022. Technology, backlog and customer relationship intangible assets were recognized in conjunction with the Company's acquisition of Telerob on May 3, 2021. The intangibles recognized in conjunction with the acquisition of Telerob are recorded in Euros, and the balances change in accordance with the foreign currency translation at reporting date. Refer to Note 18—Business Acquisitions for further details.

Estimated amortization expense for the next five years is as follows (in thousands):

	Year ending April 30,
2023	$ 6,061
2024	24,018
2025	21,691
2026	16,483
2027	5,786
	$ 74,039

9. Goodwill

The following table presents the changes in the Company's goodwill balance (in thousands):

	Small UAS	TMS	MUAS	HAPS	All other	Total
Balance at April 30, 2022	$ 6,340	$ —	$ 290,157	$ —	$ 37,850	$ 334,347
Additions to goodwill	—	—	1,633	—	575	2,208
Balance at January 28, 2023	$ 6,340	$ —	$ 291,790	$ —	$ 38,425	$ 336,555

The goodwill addition to MUAS is attributable to the Planck acquisition. The goodwill additions to the column entitled "All other" is attributable to the Telerob acquisition recorded in Euros and translated to dollars at each reporting date. The MUAS reporting unit is considered at an increased risk of failing future quantitative goodwill impairment tests as the estimated fair value exceeded the carrying value by approximately 10% during the most recent annual goodwill impairment test during the fiscal year ended April 30, 2022. The Company's annual impairment test for the fiscal year ending April 30, 2023 will be performed during the fourth quarter. The intangibles included in the MUAS reporting unit of $56,000,000 as of January 28, 2023 will also be evaluated for potential impairment during the fourth quarter. Refer to Note 18—Business Acquisitions and Note 21—Subsequent Events for further details.

10. Debt

In connection with the consummation of the acquisition of Arcturus UAV, Inc. (“Arcturus”), a California corporation pursuant to a Stock Purchase Agreement with Arcturus and each of the shareholders and other equity interest holders of Arcturus, to purchase 100% of the issued and outstanding equity of Arcturus (the “Arcturus Acquisition”) on February 19, 2021, the Company, as borrower, and Arcturus, as guarantor, entered into a Credit Agreement with certain lenders, letter of credit issuers, Bank of America, N.A., as the administrative agent and the swingline lender, and BofA Securities, Inc., JPMorgan Chase Bank, N.A., and U.S. Bank National Association, as joint lead arrangers and joint bookrunners (the “Credit Agreement”).

The Credit Agreement and its associated Security and Pledge Agreement set forth the terms and conditions for (i) a five-year $100 million revolving credit facility, which includes a $10 million sublimit for the issuance of standby and commercial letters of credit (the “Revolving Facility”), and (ii) a five-year amortized $200 million term A loan (the “Term Loan Facility”, and together with the Revolving Facility, the “Credit Facilities”). Certain existing letters of credit issued by JPMorgan Chase Bank were reserved for under the Revolving Facility at closing and remain outstanding under the terms thereof. Upon execution of the Credit Agreement, the Company drew the full principal of the Term Loan Facility for use in the acquisition of Arcturus. The Term Loan Facility requires payment of 5% of the outstanding obligations in each of the first four loan years, with the remaining 80% payable in loan year five, consisting of three quarterly payments of 1.25% each, with the remaining outstanding principal amount of the Term Loan Facility due and payable on the final maturity date. Proceeds from the Term Loan Facility were used in part to finance a portion of the cash consideration for the Arcturus Acquisition. Borrowings under the Revolving Facility may be used for working capital and other general corporate purposes.

Any borrowing under the Credit Agreement may be repaid, in whole or in part, at any time and from time to time without premium or penalty other than customary breakage costs, and any amounts repaid under the Revolving Facility may be reborrowed. Mandatory prepayments are required under the revolving loans when borrowings and letter of credit usage exceed the aggregate revolving commitments of all lenders. Mandatory prepayments are also required in connection with the disposition of assets to the extent not reinvested and unpermitted debt transactions.

In support of its obligations pursuant to the Credit Facilities, the Company has granted security interests in substantially all of the personal property of the Company and its domestic subsidiaries, including a pledge of the equity interests in its subsidiaries (limited to 65% of outstanding equity interests in the case of foreign subsidiaries), and the proceeds thereof, with customary exclusions and exceptions. The Company’s existing and future domestic subsidiaries, including Arcturus, are guarantors for the Credit Facilities.

The Credit Agreement contains certain customary representations and warranties and affirmative and negative covenants, including certain restrictions on the ability of the Company and its subsidiaries (as defined in the Credit Agreement) to incur any additional indebtedness or guarantee indebtedness of others, to create liens on properties or assets, or to enter into certain asset and stock-based transactions. In addition, the Credit Agreement includes certain financial maintenance covenants, requiring that (x) the Consolidated Leverage Ratio (as defined in the Credit Agreement) shall not be more than 3.00 to 1.00 as of the end of any fiscal quarter and (y) the Consolidated Fixed Charge Coverage Ratio (as defined in the Credit Agreement) shall not be less than 1.25 to 1.00 as of the end of any fiscal quarter.

On February 4, 2022, the Company entered into a First Amendment to Credit Agreement and Waiver relating to its existing Credit Agreement (the “First Amendment to Credit Agreement”). The First Amendment to Credit Agreement waives any event of default that may have occurred as a result of the potential failure by the Company to comply with the consolidated leverage ratio covenant set forth in the Credit Agreement for the fiscal quarter ended January 29, 2022. In addition, the parties amended the maximum permitted Consolidated Leverage Ratio, such that such ratio may not exceed 4.00 to 1.00 for the Company’s fiscal quarters ended January 29, 2022 and April 30, 2022; 3.50 to 1.00 for any of the Company’s fiscal quarters ending during the period from May 1, 2022 to October 31, 2022; and 3.00 to 1.00 for any fiscal quarter ending thereafter.

The Credit Agreement, as amended by the First Amendment to Credit Agreement, contains certain customary events of default, which include failure to make payments when due thereunder, the material inaccuracy of representations or warranties, failure to observe or perform certain covenants, cross-defaults, bankruptcy and insolvency-related events, certain judgments, certain ERISA-related events, invalidity of loan documents, or a Change of Control (as defined in the Credit Agreement). Upon the occurrence and continuation of an event of default, the Lenders may cease making future loans under the Credit Agreement and may declare all amounts owing under the Credit Agreement to be immediately due and payable.

The First Amendment to Credit Agreement also implemented certain secured overnight financing rate ("SOFR") interest rate mechanics and interest rate reference benchmark replacement provisions in order to effectuate the transition from LIBOR as a reference interest rate. Following the First Amendment to Credit Agreement, the Company has a choice of interest rates between (a) Term SOFR (with a 0% floor) plus the Applicable Margin; or (b) Base Rate (defined as the highest of (a) the Federal Funds Rate plus one-half percent (0.50%), (b) the Bank of America prime rate, and (c) the one (1) month SOFR plus one percent (1.00%)) plus the Applicable Margin. The Applicable Margin is based upon the Consolidated Leverage Ratio (as defined in the Credit Agreement) and whether the Company elects SOFR (ranging from 1.50 - 2.50%) or Base Rate (ranging from 0.50 - 1.50%). The Company may choose interest periods of one, three or six months with respect to Term SOFR and all such rates will include a 0.10% SOFR adjustment. The Company also remains responsible for certain commitment fees from 0.20-0.35% depending on the Consolidated Leverage Ratio, and administrative agent expenses incurred in relation to the Credit Facilities. In the event of a default, an additional 2% default interest rate in addition to the applicable rate if specified or the Base Rate plus Applicable Margin if an applicable rate is not specified. As of January 28, 2023, the Company is in compliance with all amended covenants.

Long-term debt and the current period interest rates were as follows:

	January 28, 2023	April 30, 2022
	(In thousands)	(In thousands)
Term loans	$ 167,500	$ 190,000
Revolving credit facility	—	—
Total debt	167,500	190,000
Less current portion	10,000	10,000
Total long-term debt, less current portion	157,500	180,000
Less unamortized debt issuance costs - term loans	1,737	2,160
Total long-term debt, net of unamortized debt issuance costs - term loans	$ 155,763	$ 177,840
Unamortized debt issuance costs - revolving credit facility	$ 865	$ 1,076
Current period interest rate	6.7%	2.6%

Future long-term debt principal payments at January 28, 2023 were as follows:

	(In thousands)
2023	$ 2,500
2024	10,000
2025	10,000
2026	145,000
2027	—
	$ 167,500

11. Leases

The Company leases certain buildings, land and equipment. At contract inception the Company determines whether the contract is, or contains, a lease and whether the lease should be classified as an operating or a financing lease. Operating leases are recorded in operating lease right-of-use assets, current operating lease liabilities and non-current operating lease liabilities on the unaudited condensed consolidated balance sheet.

The Company recognizes operating lease right-of-use assets and operating lease liabilities based on the present value of the future minimum lease payments over the lease term at commencement date. The Company uses its incremental borrowing rate based on the information available at commencement date to determine the present value of future payments and the appropriate lease classification. The Company defines the initial lease term to include renewal options determined to be reasonably certain. The Company's leases have remaining lease terms of less than one year to seven years, some of which may include options to extend the lease for up to nine years, and some of which may include options to terminate the lease after three years. If the Company determines the option to extend or terminate is reasonably certain, it is included in the determination of lease assets and liabilities. For operating leases, the Company recognizes lease expense for these leases on a straight-line basis over the lease term.

Many of the Company's real estate lease agreements contain incentives for tenant improvements, rent holidays, or rent escalation clauses. For tenant improvement incentives, if the incentive is determined to be a leasehold improvement owned by the lessee, the Company generally records incentive as a reduction to fixed lease payments thereby reducing rent expense. For rent holidays and rent escalation clauses during the lease term, the Company records rental expense on a straight-line basis over the term of the lease. For these lease incentives, the Company uses the date of initial possession as the commencement date, which is generally when the Company is given the right of access to the space and begins to make improvements in preparation for intended use.

The Company does not have any material restrictions or covenants in its lease agreements, sale-leaseback transactions, land easements or residual value guarantees.

In determining the inputs to the incremental borrowing rate calculation, the Company makes judgments about the value of the leased asset, its credit rating and the lease term including the probability of its exercising options to extend or terminate the underlying lease. Additionally, the Company makes judgments around contractual asset substitution rights in determining whether a contract contains a lease.

The components of lease costs recorded in cost of sales and selling, general and administrative ("SG&A") expense were as follows (in thousands):

	Nine Months Ended January 28, 2023	Nine Months Ended January 29, 2022
Operating lease cost	$ 5,866	$ 5,033
Short term lease cost	662	684
Variable lease cost	1,485	434
Sublease income	—	(132)
Total lease costs, net	$ 8,013	$ 6,019

Supplemental lease information were as follows:

	Nine Months Ended January 28, 2023 (In thousands)	Nine Months Ended January 29, 2022 (In thousands)
Cash paid for amounts included in the measurement of operating lease liabilities	$ 5,777	$ 5,119
Right-of-use assets obtained in exchange for new lease liabilities	$ 6,607	$ 6,705
Weighted average remaining lease term	56 months	67 months
Weighted average discount rate	4.2%	3.4%

Maturities of operating lease liabilities as of January 28, 2023 were as follows (in thousands):

2023	$	3,441
2024		8,476
2025		8,339
2026		5,042
2027		4,503
Thereafter		5,839
Total lease payments		35,640
Less: imputed interest		(5,216)
Total present value of operating lease liabilities	$	30,424

12. Accumulated Other Comprehensive (Loss) Income and Reclassifications Adjustments

The components of accumulated other comprehensive (loss) income and adjustments are as follows (in thousands):

	Nine Months Ended January 28, 2023		Nine Months Ended January 29, 2022	
Balance, net of $8 and $1 deferred taxes, as of April 30, 2022 and April 30, 2021, respectively	$	(6,514)	$	343
Unrealized gain (loss) on available-for-sale investments, net of deferred tax expense of $0 and $1 for the nine months ended January 28, 2023 and January 29, 2022		26		(6)
Change in foreign currency translation adjustments		1,433		(3,771)
Balance, net of $0 and $2 deferred taxes, as of January 28, 2023 and January 29, 2022, respectively	$	(5,055)	$	(3,434)

13. Customer-Funded Research & Development

Customer-funded R&D costs are incurred pursuant to contracts (revenue arrangements) to perform R&D activities according to customer specifications. These costs are direct contract costs and are expensed to cost of sales as costs are incurred. Revenue from customer-funded R&D contracts is recognized in accordance with ASC 606 over time as costs are incurred. Revenue from customer-funded R&D was approximately $23,193,000 and $71,129,000 for the three and nine months ended January 28, 2023, respectively. Revenue from customer-funded R&D was approximately $20,451,000 and $56,537,000 for the three and nine months ended January 29, 2022, respectively.

14. Long-Term Incentive Awards

During the three months ended July 30, 2022, the Company granted awards under its amended and restated 2006 Equity Incentive Plan (the “Restated 2006 Plan”) to key employees (“Fiscal 2023 LTIP”). Awards under the Fiscal 2023 LTIP consist of: (i) time-based restricted stock awards and time-based restricted stock units, which vest in equal tranches in July 2023, July 2024 and July 2025, and (ii) performance-based restricted stock units (“PRSUs”), which vest based on the Company’s achievement of revenue and non-GAAP operating income targets for the three-year period ending April 30, 2025. At the award date, target achievement levels for each of the financial performance metrics were established for the PRSUs, at which levels the PRSUs would vest at 100% for each such metric. Threshold achievement levels for which the PRSUs would vest at 50% for each such metric and maximum achievement levels for which such awards would vest at 250% for each such metric were also established. The actual payout for the PRSUs at the end of the performance period will be calculated based upon the Company’s achievement of the established revenue and non-GAAP operating income targets for the performance period. Settlement of the PRSUs will be made in fully-vested shares of the Company’s common stock. For the three and nine months ended January 28, 2023, the Company recorded $642,000 and $1,703,000 of compensation expense related to the Fiscal 2023 LTIP PRSUs. The Company recorded no compensation expense related to the Fiscal 2023 LTIP PRSUs for the three and nine months ended January 29, 2022. At January 28, 2023, the maximum compensation expense that may be recorded for the performance-based portion of the Fiscal 2023 LTIP is $12,829,000.

During the three months ended July 31, 2021, the Company granted awards under the Restated 2006 Plan to key employees (“Fiscal 2022 LTIP”). Awards under the Fiscal 2022 LTIP consist of: (i) time-based restricted stock awards and time-based restricted stock units, which vest in equal tranches in July 2022, July 2023 and July 2024, and (ii) PRSUs, which vest based on the Company’s achievement of revenue and non-GAAP operating income targets for the three-year period ending April 30, 2024. At the award date, target achievement levels for each of the financial performance metrics were established for the PRSUs, at which levels the PRSUs would vest at 100% for each such metric. Threshold achievement levels for which the PRSUs would vest at 50% for each such metric and maximum achievement levels for which such awards would vest at 250% for each such metric were also established. The actual payout for the PRSUs at the end of the performance period will be calculated based upon the Company’s achievement of the established revenue and non-GAAP operating income targets for the performance period. Settlement of the PRSUs will be made in fully-vested shares of the Company’s common stock. For the three months ended January 28, 2023, the Company recorded $84,000 of compensation expense related to the Fiscal 2022 LTIP PRSUs. For the nine months ended January 28, 2023, the Company recorded a reversal of $(31,000) of compensation expense related to the Fiscal 2022 LTIP PRSUs. For the three and nine months ended January 29, 2022, the Company recorded $205,000 and $714,000 of compensation expense related to the Fiscal 2022 LTIP PRSUs. At January 28, 2023, the maximum compensation expense that may be recorded for the performance-based portion of the Fiscal 2022 LTIP is $10,148,000.

During the three months ended August 1, 2020, the Company granted awards under the Restated 2006 Plan to key employees (“Fiscal 2021 LTIP”). Awards under the Fiscal 2021 LTIP consist of: (i) time-based restricted stock awards, which vest in equal tranches in July 2021, July 2022 and July 2023, and (ii) PRSUs, which vest based on the Company’s achievement of revenue and operating income targets for the three-year period ending April 30, 2023. At the award date, target achievement levels for each of the financial performance metrics were established for the PRSUs, at which levels the PRSUs would vest at 100% for each such metric. Threshold achievement levels for which the PRSUs would vest at 50% for each such metric and maximum achievement levels for which such awards would vest at 250% for each such metric were also established. The actual payout for the PRSUs at the end of the performance period will be calculated based upon the Company’s achievement of the established revenue and operating income targets for the performance period. Settlement of the PRSUs will be made in fully-vested shares of the Company’s common stock. For the three and nine months ended January 28, 2023, the Company recorded $36,000 and $228,000 of compensation expense related to the Fiscal 2021 LTIP PRSUs, respectively. For the three and nine months ended January 29, 2022, the Company recorded a reversal of $(29,000) and $(536,000) of compensation expense related to the Fiscal 2021 LTIP PRSUs, respectively, due to a change in estimate resulting from a decrease in the estimated achievement. At January 28, 2023, the maximum compensation expense that may be recorded for the performance-based portion of the Fiscal 2021 LTIP is $5,858,000.

During the three months ended July 27, 2019, the Company also granted awards under the Restated 2006 Plan to key employees (“Fiscal 2020 LTIP”). Awards under the Fiscal 2020 LTIP consist of: (i) time-based restricted stock awards, which vest in equal tranches in July 2020, July 2021 and July 2022, and (ii) PRSUs, which vest based on the Company’s achievement of revenue and operating income targets for the three-year period ending April 30, 2022. During the three months ended July 31, 2022, the Company issued a total of 5,678 fully-vested shares of the Company’s common stock to settle the PRSUs in the Fiscal 2020 LTIP. For the three and nine months ended January 28, 2023, the Company recorded no compensation expense related to the Fiscal 2020 LTIP PRSUs, respectively. For the three and nine months ended January 29, 2022, the Company recorded a reversal of $(30,000) and $(648,000) of compensation expense related to the Fiscal 2020 LTIP PRSUs, respectively, due to a change in estimate resulting from a decrease in the estimated achievement.

At each reporting period, the Company reassesses the probability of achieving the performance targets for the PRSUs. The estimation of whether the performance targets will be achieved requires judgment, and to the extent actual results or updated estimates differ from the Company’s current estimates, the cumulative effect on current and prior periods of those changes will be recorded in the period estimates are revised. No compensation cost is ultimately recognized for awards for which employees do not render the requisite service and are forfeited.

15. Income Taxes

For the three and nine months ended January 28, 2023, the Company recorded a benefit from income taxes of $(531,000) and $(8,382,000) yielding an effective tax rate of 67.2% and 38.3%, respectively. For the three and nine months ended January 29, 2022, the Company recorded a benefit from income taxes of $(15,396,000) and $(25,864,000) yielding an effective tax rate of 98.7% and 69.1%, respectively. Historically, the Company calculated the provision for income taxes during interim reporting periods by applying an estimate of the annual effective tax rate ("AETR") for the full fiscal year to the pretax income or loss for the interim reporting period. For the three and nine months ended January 28, 2023, the Company calculated the provision for income taxes using a discrete effective tax rate ("ETR") method. The Company determined that due to the fact small changes in the Company's estimated pretax income or loss would result in significant changes in the estimated AETR, the historical method would not provide a reliable estimate for the three and nine months ended January 28, 2023. The variance from statutory rates for the three and nine months ended January 28, 2023 was primarily due to a combination of federal R&D credits, the foreign-derived intangible income deduction and discrete excess tax benefits resulting from the vesting of restricted stock awards and exercises of stock options. The variance from statutory rates for the three and nine months ended January 29, 2022 was primarily due to federal R&D credits and the recording of discrete excess tax benefits resulting from the vesting of restricted stock awards and exercises of stock options.

16. Share Repurchase Plan and Issuances

In September 2015, the Company's Board of Directors authorized a program to repurchase up to $25,000,000 of the Company's common stock. No shares were repurchased under the program during the nine months ended January 28, 2023 or January 29, 2022. As of April 30, 2022, approximately $21,200,000 remained authorized for future repurchases under this program. In September 2022, the Company's Board of Directors terminated the repurchase program effective immediately.

On September 8, 2022 the Company filed an S-3 shelf registration statement to offer and sell shares of the Company's common stock, including a prospectus supplement in relation to an Open Market Sale Agreement℠, also dated September 8, 2022, with Jefferies LLC relating to the proposed offer and sale of shares of our common stock having an aggregate offering price of up to $200,000,000 from time to time through Jefferies LLC as the sales agent. As of January 28, 2023, the Company has sold 221,971 of its shares for total gross proceeds of $21,439,000, and the Company has $178,561,000 of aggregate offering price remaining available under the registration.

17. Related Party Transactions

Related party transactions are defined as transactions between the Company and entities either controlled by the Company or that the Company can significantly influence. Prior to the Company's sale of all of its equity interest in HAPSMobile in March 2022, the Company determined that it had the ability to exercise significant influence over HAPSMobile. As such, HAPSMobile and SoftBank were considered related parties of the Company prior to the sale. Subsequent to the sale, the Company had no ownership stake in HAPSMobile and SoftBank and HAPSMobile are no longer considered related parties. Under the DDA and related efforts with HAPSMobile, the Company designed and built prototype solar powered high altitude aircraft and ground control stations for HAPSMobile and conducted low altitude and high altitude flight tests of the prototype aircraft on a best efforts basis. The Company will continue the development of Solar HAPS with Softbank under the MDDA. Upon the execution of the MDDA, SoftBank issued the first order under the MDDA, which has a maximum value of approximately $51,200,000. The Company recorded revenue under both the MDDA and DDA of $9,543,000 and $30,237,000 for the three and nine months ended January 29, 2022.

18. Business Acquisitions

Planck Acquisition

On August 17, 2022 the Company closed its acquisition of Planck, a leading provider of advanced unmanned aircraft navigation solutions based in San Diego, California. Pursuant to the purchase agreement, the Company paid a total purchase price of $5,105,000 from cash-on-hand plus a $500,000 holdback for certain assets of Planck. Planck is a small technology company and post-acquisition will be incorporated into AeroVironment's MUAS segment to focus on integrating its flight autonomy solutions, such as ACE™, or Autonomous Control Engine, into the Company's offerings to enable safe, autonomous takeoff and landing from moving platforms on land or at sea in GPS-denied environments. Other solutions include AVEM™, a fully integrated mobile tethered sensor platform designed for persistent autonomous operation from moving vehicles and vessels in any environment, and a suite of machine-learning object detection and tracking systems that are customized for specific end-user needs. The Company accounted for the acquisition under the acquisition method of accounting for business combinations.

The following table summarizes the provisional allocation of the purchase price over the estimated fair value of the assets and liabilities assumed in the acquisition of Planck. The purchase price allocation is expected to be finalized as soon as practicable within the measurement period, but not later than one year following the acquisition date (in thousands):

	August 17, 2022
Fair value of assets acquired:	
Technology	$ 3,200
Backlog	700
Inventories	109
Other assets	19
Property and equipment, net	13
Goodwill	1,633
Total identifiable net assets	$ 5,674
Fair value of liabilities assumed:	
Customer advances	69
Total liabilities assumed	69
Total identifiable net assets	$ 5,605
Fair value of consideration transferred:	
Cash	$ 5,105
Holdback	500
Total consideration	$ 5,605

Determining the fair value of the intangible assets acquired requires significant judgment, including the amount and timing of expected future cash flows, long-term growth rates and discount rates. The fair value of the intangibles assets was determined using a discounted cash flow analysis, which were based on the Company's preliminary estimates of future sales, earnings and cash flows after considering such factors as general market conditions, anticipated customer demand, changes in working capital, long term business plans and recent operating performance. Use of different estimates and judgments could yield materially different results.

The goodwill is attributable to the synergies the Company expects to achieve through leveraging the acquired technology to its existing customers, the workforce of Planck and expected future customers in the MUAS market. For tax purposes the acquisition was treated as an asset acquisition and the goodwill is deductible.

Planck Supplemental Pro Forma Information (unaudited)

The following unaudited pro forma summary presents condensed consolidated information of the Company as if the business acquisition had occurred on May 1, 2021 (in thousands):

	Three Months Ended January 28, 2023	Three Months Ended January 29, 2022	Nine Months Ended January 28, 2023	Nine Months Ended January 29, 2022
Revenue	$ 134,395	$ 90,752	$ 357,411	$ 315,086
Net (loss) income attributable to AeroVironment, Inc.	$ (390)	$ (140)	$ (13,840)	$ (12,752)

Planck revenue since acquisition on August 17, 2022 was $76,000. The Company did not have any material, nonrecurring pro forma adjustments directly attributable to the business acquisition included in the reported pro forma revenue and earnings.

These pro forma amounts have been calculated by applying the Company's accounting policies, assuming transaction costs had been incurred during the three months ended July 31, 2021, reflecting the additional amortization that would have been charged and including the results of Planck prior to acquisition.

The Company incurred approximately $286,000 and $855,000 of acquisition-related expenses for the three and nine months ended January 28, 2023. These expenses are included in selling, general and administrative on the Company's unaudited condensed consolidated statement of operations.

The unaudited pro forma supplemental information is based on estimates and assumptions, which the Company believes are reasonable and are not necessarily indicative of the results that have been realized had the acquisition been consolidated in the tables above as of May 1, 2021, nor are they indicative of results of operations that may occur in the future.

Telerob Acquisition

On May 3, 2021, the Company closed its acquisition of Telerob pursuant to the terms of the Telerob Purchase Agreement. Telerob develops, manufactures, sells, and services remote-controlled unmanned ground robots and transport vehicles for civil and defense applications.

Pursuant to the Telerob Purchase Agreement at closing, the Company paid €37,455,000 (approximately $45,400,000) in cash to the Telerob Seller (subject to certain purchase price adjustments as set forth in the Telerob Purchase Agreement), less (a) €3,000,000 (approximately $3,636,000) to be held in escrow for breaches of the Telerob Seller's fundamental warranties or any other of Telerob Seller's warranties to the extent not covered by a representation and warranty insurance policy (the "RWI Policy") obtained by the Company in support of certain indemnifications provided by the Telerob Seller; (b) transaction-related fees and costs incurred by the Telerob Seller, including change in control payments triggered by the transaction; and (c) 50% of the cost of obtaining the RWI Policy. In addition, at closing the Company paid off approximately €7,811,000 (approximately $9,468,000), of certain indebtedness of Telerob, which amount was paid in combination to the Telerob Seller and the lender under an agreement between Telerob GmbH and the lender providing for a reduced payoff amount. This indebtedness was offset by cash on hand at Telerob at closing. The escrow amount is to be released to the Telerob Seller, less any amounts paid or reserved, 30 months following the closing date.

In addition to the consideration paid at closing, the Telerob Seller may receive €2,000,000 (approximately $2,424,000) in additional cash consideration if specific revenue targets for Telerob are achieved during the 12 month period after closing beginning on the first day of the calendar month following the closing (the "First Earnout Year") and an additional €2,000,000 (approximately $2,424,000) in cash consideration if specific revenue targets for Telerob are achieved in the 12 month period following the First Earnout Year. The Telerob Seller may also receive up to €2,000,000 (approximately $2,424,000) in additional cash consideration if specific awards and/or orders from the U.S. military are achieved prior to the end of a 36-month post-closing period. The first year earnout of €2,000,000 (approximately $2,424,000) was not achieved.

The Company accounted for the acquisition under the acquisition method of accounting for business combinations. During the fiscal year ended April 30, 2022, the Company finalized its determination of the fair value of the assets and liabilities assumed as of the acquisition date, which is summarized in the following table (in thousands):

	May 3, 2021
Fair value of assets acquired:	
Accounts receivable	$ 1,045
Unbilled receivable	829
Inventories, net	15,074
Prepaid and other current assets	314
Property and equipment, net	1,571
Operating lease assets	1,508
Other assets	494
Technology	11,500
Backlog	2,400
Customer relationships	5,000
Other intangible assets	102
Goodwill	20,800
Total assets acquired	$ 60,637
Fair value of liabilities assumed:	
Accounts payable	$ 1,136
Wages and related accruals	560
Customer advances	1,243
Current operating lease liabilities	361
Other current liabilities	3,310
Non-current operating lease liabilities	1,147
Other non-current liabilities	224
Deferred income taxes	5,617
Total liabilities assumed	13,598
Total identifiable net assets	$ 47,039
Fair value of consideration:	
Cash consideration, net of cash acquired	$ 46,150
Contingent consideration	889
Total	$ 47,039

Determining the fair value of the intangible assets acquired requires significant judgment, including the amount and timing of expected future cash flows, long-term growth rates and discount rates. The fair value of the intangibles assets was determined using a discounted cash flow analysis, which were based on the Company's best estimate of future sales, earnings and cash flows after considering such factors as general market conditions, anticipated customer demand, changes in working capital, long term business plans and recent operating performance. Use of different estimates and judgments could yield materially different results.

The goodwill is attributable to the synergies the Company expects to achieve through leveraging the acquired technology to its existing customers, the workforce of Telerob and expected future customers in the UGV market. For tax purposes the acquisition was treated as a stock purchase and the goodwill is not deductible.

Telerob Supplemental Pro Forma Information (unaudited)

The following unaudited pro forma summary presents condensed consolidated information of the Company as if the business acquisition had occurred on May 1, 2020 (in thousands):

	Three Months Ended January 29, 2022	Nine Months Ended January 29, 2022
Revenue	$ 90,093	$ 313,110
Net loss attributable to AeroVironment, Inc.	$ 1,753	$ (6,091)

The Company did not have any material, nonrecurring pro forma adjustments directly attributable to the business acquisition included in the reported pro forma revenue and earnings.

These pro forma amounts have been calculated by applying the Company's accounting policies, assuming transaction costs had been incurred during the three months ended August 1, 2020, reflecting the additional amortization that would have been charged assuming the fair value adjustments to intangible assets had been applied from May 1, 2020 with the consequential tax effects and including the results of Telerob prior to acquisition.

The Company incurred approximately $113,000 and $661,000 of acquisition-related expenses for the three and nine months ended January 29, 2022. These expenses are included in selling, general and administrative on the Company's unaudited condensed consolidated statement of operations.

The unaudited pro forma supplemental information is based on estimates and assumptions, which the Company believes are reasonable and are not necessarily indicative of the results that have been realized had the acquisition been consolidated in the tables above as of May 1, 2020, nor are they indicative of results of operations that may occur in the future.

19. Pension

As part of the Telerob acquisition, the Company acquired a small foreign-based defined benefit pension plan. The Rheinmetall-Zusatzversorgung service plan covers three former employees based on individual contracts issued to the employees. No other employees are eligible to participate. The Company has reinsurance policies that were taken out for participating former employees, which were pledged to the employees. The measurement date for the Company's pension plan was April 30, 2022.

The table below includes the projected benefit obligation and fair value of plan assets as of April 30, 2022. The net projected benefit obligation (in thousands) is recorded in other assets on the unaudited condensed consolidated balance sheet.

Projected benefit obligation	$ (3,120)
Fair value of plan assets	3,138
Funded status of the plan	$ 18

The projected benefit obligation includes assumptions of a discount rate of 1.7% and pension increase for in-payment benefits of 1.5% for January 28, 2023 and April 30, 2022. The accumulated benefit obligation is approximately equal to the Company's projected benefit obligation. The plan assets consist of reinsurance policies for each of the three pension commitments. The reinsurance policies are fixed-income investments considered a level 2 fair value hierarchy based on observable inputs of the policy. The Company does not expect to make any contributions to the plan in the fiscal year ending April 30, 2023. The Company assumed expected return on plan assets of 2.9% for January 28, 2023 and April 30, 2022.

Expected benefits payments as of April 30, 2022 (in thousands):

2023	$	161
2024		164
2025		165
2026		165
2027		166
2028-2032		828
Total expected benefit payments	$	1,649

Net periodic benefit cost (in thousands) is recorded in interest expense, net.

	Three Months Ended January 28, 2023 (In thousands)	Three Months Ended January 29, 2022 (In thousands)	Nine Months Ended January 28, 2023 (In thousands)	Nine Months Ended January 29, 2022 (In thousands)
Expected return on plan assets	$ —	$ 30	$ —	$ 93
Interest cost	(35)	(14)	(52)	(44)
Actuarial gain	—	4	241	10
Net periodic benefit cost	$ (35)	$ 20	$ 189	$ 59

20. Segments

The Company's reportable segments are as follows:

Small Unmanned Aircraft Systems—The Small UAS segment focuses primarily on products designed to operate reliably at very low altitudes in a wide range of environmental conditions, providing a vantage point from which to collect and deliver valuable information as well as related support services including training, spare parts, product repair, product replacement, and the customer contracted operation.

Tactical Missile Systems—The TMS segment focuses primarily on TMS products, which are tube-launched aircraft that deploy with the push of a button, fly at higher speeds than small UAS products, and perform either effects delivery or reconnaissance missions, and related support services including training, spare parts, product repair, and product replacement. The TMS segment also includes customer-funded research and development programs.

Medium Unmanned Aircraft Systems—The MUAS segment, which originates with the acquisition of Arcturus, focuses on designs, engineers, tools, and manufactures unmanned aerial and aircraft systems including airborne platforms, payloads and payload integration, ground control systems, and ground support equipment and other items and services related generally to unmanned aircraft systems including ISR services.

High Altitude Pseudo-Satellite Unmanned Aircraft Systems ("HAPS")—The HAPS segment consists of the Company's existing development of High Altitude Pseudo-Satellite systems in conjunction with SoftBank.

All other—All other segments include MacCready Works (which includes the recently acquired ISG business) and Telerob.

The accounting policies of the segments are the same as those described in Note 1, "Organization and Significant Accounting Policies." The operating segments do not make sales to each other. The following table (in thousands) sets forth segment revenue, gross margin, income (loss) from operations and adjusted income (loss) from operations for the periods indicated. Adjusted income (loss) from operations is defined as income (loss) from operations before intangible amortization, amortization of purchase accounting adjustment related to increasing the carrying value of certain assets to fair value, and acquisition related expenses.

	Three Months Ended January 28, 2023					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 69,376	$ 24,015	$ 15,405	$ 8,938	$ 16,661	$ 134,395
Gross margin	32,937	7,841	(2,008)	2,733	4,007	45,510
Income (loss) from operations	18,548	(129)	(11,824)	1,334	(3,322)	4,607
Acquisition-related expenses	-	-	129	-	157	286
Amortization of acquired intangible assets and other purchase accounting adjustments	669	-	5,215	-	1,262	7,146
Adjusted income (loss) from operations	$ 19,217	$ (129)	$ (6,480)	$ 1,334	$ (1,903)	$ 12,039

	Three Months Ended January 29, 2022					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 24,366	$ 18,603	$ 21,168	$ 9,543	$ 16,413	$ 90,093
Gross margin	8,656	5,209	335	3,173	4,063	21,436
Income (loss) from operations	(3,606)	(1,289)	(8,623)	1,574	(2,182)	(14,126)
Acquisition-related expenses	99	54	41	19	155	368
Amortization of acquired intangible assets and other purchase accounting adjustments	707	-	5,641	2	3,033	9,383
Adjusted income (loss) from operations	$ (2,800)	$ (1,235)	$ (2,941)	$ 1,595	$ 1,006	$ (4,375)

	Nine Months Ended January 28, 2023					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 139,313	$ 78,127	$ 61,948	$ 28,219	$ 46,888	$ 354,495
Gross margin	66,552	28,224	(9,965)	9,059	11,244	105,114
Income (loss) from operations	24,495	845	(36,651)	5,436	(7,106)	(12,981)
Acquisition-related expenses	-	-	470	-	720	1,190
Amortization of acquired intangible assets and other purchase accounting adjustments	2,019	-	16,057	-	3,873	21,949
Adjusted income (loss) from operations	$ 26,514	$ 845	$ (20,124)	$ 5,436	$ (2,513)	$ 10,158

	Nine Months Ended January 29, 2022					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 119,004	$ 56,197	$ 70,072	$ 30,237	$ 37,600	$ 313,110
Gross margin	53,330	17,420	5,739	10,291	5,834	92,614
Income (loss) from operations	11,729	(1,705)	(22,004)	4,750	(15,670)	(22,900)
Acquisition-related expenses	819	468	1,533	181	1,468	4,469
Amortization of acquired intangible assets and other purchase accounting adjustments	2,121	-	17,190	5	9,521	28,837
Adjusted income (loss) from operations	$ 14,669	$ (1,237)	$ (3,281)	$ 4,936	$ (4,681)	$ 10,406

Segment assets are summarized in the table below. Corporate assets primarily consist of cash and cash equivalents, short-term investments, prepaid expenses and other current assets, long-term investments, property and equipment, net, operating lease right-of-use assets, deferred income taxes and other assets managed centrally on behalf of the business segments.

	January 28, 2023						
	Small UAS	TMS	MUAS	HAPS	All other	Corporate	Total
Identifiable assets	$ 168,081	$ 67,786	$ 379,307	$ 7,937	$ 84,989	$ 213,102	$ 921,202

	April 30, 2022						
	Small UAS	TMS	MUAS	HAPS	All other	Corporate	Total
Identifiable assets	$ 110,286	$ 91,862	$ 388,058	$ 8,148	$ 86,617	$ 229,229	$ 914,200

21. Subsequent Events

On February 24, 2023, the Company was issued a stop work notification for the Company's remaining MUAS COCO services site location, which terminated the COCO flight services effective immediately. The impacts of the site completion will include accelerated depreciation charges of certain deployed fixed assets related to the MUAS site location of approximately $6,000,000, which will be recorded during the Company's fiscal quarter ending April 30, 2023, and will be evaluated as part of the annual goodwill and intangible asset impairment test performed during the fourth quarter. Refer to Note 9—Goodwill for further details.

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

The following is a discussion and analysis of our financial condition and the results of operations as of and for the periods presented below. The following discussion and analysis should be read in conjunction with the "Condensed Consolidated Financial Statements" and notes thereto included elsewhere in this Quarterly Report on Form 10-Q. This section and other parts of this Quarterly Report on Form 10-Q contain forward-looking statements that involve risks and uncertainties. In some cases, forward-looking statements can be identified by words such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would" or similar expressions. Such forward-looking statements are based on current expectations, estimates and projections about our industry, our management's beliefs and assumptions made by our management. Forward-looking statements are not guarantees of future performance and our actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in Part I, Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended April 30, 2022, as updated by our subsequent filings under the Securities and Exchange Act of 1934, as amended (the "Exchange Act").

Unless required by law, we expressly disclaim any obligation to update publicly any forward-looking statements, whether as result of new information, future events or otherwise.

Critical Accounting Policies and Estimates

The following should be read in conjunction with the critical accounting estimates presented in our Annual Report on Form 10-K for the fiscal year ended April 30, 2022.

Management's Discussion and Analysis of Financial Condition and Results of Operations discusses our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. When we prepare these condensed consolidated financial statements, we are required to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Some of our accounting policies require that we make subjective judgments, including estimates that involve matters that are inherently uncertain. Our most critical estimates include those related to revenue recognition, inventory reserves for excess and obsolescence, intangible assets acquired in a business combination, goodwill, and income taxes. We base our estimates and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for our judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition

We recognize revenue in accordance with ASU 2014-09, *Revenue from Contracts with Customers* (ASC 606). ASC 606 requires revenue to be recognized when promised goods or services are transferred to customers in amounts that reflect the consideration to which we expect to be entitled in exchange for those goods or services.

Revenue for TMS product deliveries and customer-funded research and development contracts is recognized over time as costs are incurred. Contract services revenue is composed of revenue recognized on contracts for the provision of services, including repairs and maintenance, training, engineering design, development and prototyping activities, and technical support services. Contract services revenue, including ISR services, is recognized over time as services are rendered. We elected the right to invoice practical expedient in which if an entity has a right to consideration from a customer in an amount that corresponds directly with the value to the customer of the entity's performance completed to date, such as flight hours for ISR services, the entity may recognize revenue in the amount to which the entity has a right to invoice. Training services are recognized over time using an output method based on days of training completed. For performance obligations satisfied over time, revenue is generally recognized using costs incurred to date relative to total estimated costs at completion to measure progress. Incurred costs represent work performed, which correspond with, and thereby best depict, transfer of control to the customer. Contract costs include labor, materials, subcontractors' costs, other direct costs, and indirect costs applicable on government and commercial contracts.

For performance obligations which are not satisfied over time per the aforementioned criteria above, revenue is recognized at the point in time in which each performance obligation is fully satisfied. Our small UAS, MUAS and UGV product sales revenue is composed of revenue recognized on contracts for the delivery of small UAS, MUAS and UGV systems and spare parts, respectively. Revenue is recognized at the point in time when control transfers to the customer, which generally occurs when title and risk of loss have passed to the customer.

We review cost performance, estimates-to-complete and variable consideration at least quarterly and in many cases more frequently. Adjustments to original estimates for a contract's revenue, estimated costs at completion and estimated profit or loss are often required as work progresses under a contract, as experience is gained and as more information is obtained, even though the scope of work required under the contract may not change, or if contract modifications, including the finalization of undefinitized contract actions, occur. The impact of revisions in estimate of completion and variable consideration for all types of contracts are recognized on a cumulative catch-up basis in the period in which the revisions are made. Changes in variable consideration associated with the finalization of undefinitized contract actions could result in cumulative catch up adjustments to revenue that could be material. During the three months ended

January 28, 2023 and January 29, 2022, changes in accounting estimates on contracts recognized over time are presented below.

For the three months ended January 28, 2023 and January 29, 2022, favorable and unfavorable cumulative catch-up adjustments included in revenue were as follows (in thousands):

	Three Months Ended	
	January 28, 2023	January 29, 2022
Gross favorable adjustments	$ 1,695	$ 1,073
Gross unfavorable adjustments	(907)	(1,704)
Net favorable (unfavorable) adjustments	$ 788	$ (631)

For the three months ended January 28, 2023, favorable cumulative catch-up adjustments of $1.7 million were primarily due to final cost adjustments on 11 contracts, which individually were not material. For the same period, unfavorable cumulative catch-up adjustments of $0.9 million were primarily related to higher than expected costs on seven contracts, which individually were not material.

Also during the three months ended January 28, 2023, we recognized a decrease in the forward loss reserves on two MUAS ISR contracts for $2.4 million and an increase in the forward loss reserve of an MUAS products contract for $1.6 million.

For the three months ended January 29, 2022, favorable cumulative catch-up adjustments of $1.1 million were primarily due to final cost adjustments on six contracts, which individually were not material. For the same period, unfavorable cumulative catch-up adjustments of $1.7 million were primarily related to higher than expected costs on 10 contracts, which individually were not material.

For the nine months ended January 28, 2023 and January 29, 2022, favorable and unfavorable cumulative catch-up adjustments included in revenue were as follows (in thousands):

	Nine Months Ended	
	January 28, 2023	January 29, 2022
Gross favorable adjustments	$ 2,317	$ 1,156
Gross unfavorable adjustments	(3,667)	(2,223)
Net unfavorable adjustments	$ (1,350)	$ (1,067)

For the nine months ended January 28, 2023, favorable cumulative catch-up adjustments of $2.3 million were primarily due to final cost adjustments on 22 contracts, which individually were not material. For the same period, unfavorable cumulative catch-up adjustments of $3.7 million were primarily related to higher than expected costs on six contracts. During the nine months ended January 28, 2023, we revised our estimates of the total expected costs to complete two TMS variant contracts. The aggregate impact of these adjustments in contract estimates on revenue related to performance obligations satisfied or partially satisfied in previous periods was a decrease to revenue of approximately $2.4 million.

For the nine months ended January 29, 2022, favorable cumulative catch-up adjustments of $1.2 million were primarily due to final cost adjustments on 18 contracts, which individually were not material. For the same period, unfavorable cumulative catch-up adjustments of $2.2 million were primarily related to higher than expected costs on 15 contracts, which individually were not material.

Goodwill

Goodwill represents the excess of the cost of an acquired entity over the fair value of the acquired net assets. We test goodwill for impairment annually during the fourth quarter of our fiscal year or when events or circumstances change in a manner that indicates goodwill might be impaired. Events or circumstances that could trigger an impairment review include, but are not limited to, a significant adverse change in legal factors or in the business or political climate, an adverse action or assessment by a regulator, unanticipated competition, a loss of key personnel, significant changes in the manner of our use of the acquired assets or the strategy for our overall business, significant negative industry or economic trends or significant underperformance relative to projected future results of operations.

Our evaluation of goodwill for impairment involves the comparison of the fair value of each reporting unit to its carrying value. For the impairment test, we first assess qualitative factors, macroeconomic conditions, industry and market considerations, triggering events, cost factors, and overall financial performance, to determine whether it is necessary to perform a quantitative goodwill impairment test. Alternatively, we may bypass the qualitative assessment for some or all of its reporting units and apply the quantitative impairment test. If determined to be necessary, the quantitative impairment test shall be used to identify goodwill impairment and measure the amount of a goodwill impairment loss to be recognized (if any). For the quantitative impairment test we estimate the fair value by weighting the results from the income approach and the market approach. These valuation approaches consider a number of factors that include, but are not limited to, prospective financial information, growth rates, terminal value, discount rates, and comparable multiples from publicly traded companies in our industry and require us to make certain assumptions and estimates regarding industry economic factors and future profitability of its business.

Our MUAS reporting unit is considered at an increased risk of failing future quantitative goodwill impairment tests as the estimated fair value exceeded its carrying value by approximately 10% during the most recent annual goodwill impairment test performed during the fourth quarter ended April 30, 2022. The termination of the COCO flight services at our remaining MUAS COCO services site location will be evaluated as part of the annual goodwill and intangible asset impairment test. We perform our annual impairment tests during the fourth quarter of each fiscal year. The intangibles included in the MUAS reporting unit of $56.0 million as of January 28, 2023 will also be evaluated for potential impairment during the fourth quarter.

The estimates and assumptions used to determine the fair value of our reporting units are highly subjective in nature. Actual results can be materially different from the estimates and assumptions. If actual market conditions are less favorable than those projected by the industry or by us, or if events occur or circumstances change that would reduce the estimated fair value of our indefinite-lived intangible assets below the carrying amounts, we could recognize future impairment charges, the amount of which could be material.

Fiscal Periods

Due to our fixed year end date of April 30, our first and fourth quarters each consist of approximately 13 weeks. The second and third quarters each consist of exactly 13 weeks. Our first three quarters end on a Saturday. Our 2023 fiscal year ends on April 30, 2023 and our fiscal quarters end on July 30, 2022, October 29, 2022 and January 28, 2023, respectively.

Results of Operations

The following tables set forth our results of operations for the periods indicated (in thousands):

Three Months Ended January 28, 2023 Compared to Three Months Ended January 29, 2022

	Three Months Ended	
	January 28, 2023	January 29, 2022
Revenue	$ 134,395	$ 90,093
Cost of sales	88,885	68,657
Gross margin	45,510	21,436
Selling, general and administrative	24,746	22,549
Research and development	16,157	13,013
Income (loss) from operations	4,607	(14,126)
Other (loss) income:		
Interest expense, net	(2,810)	(1,510)
Other (expense) income, net	(2,587)	34
Loss before income taxes	(790)	(15,602)
Benefit from income taxes	(531)	(15,396)
Equity method investment (loss) income, net of tax	(417)	171
Net loss	$ (676)	$ (35)

We have identified four reportable segments, Small Unmanned Aircraft Systems ("Small UAS"), Tactical Missile Systems ("TMS"), Medium Unmanned Aircraft Systems ("MUAS") and High Altitude Pseudo-Satellite Unmanned Aircraft Systems ("HAPS"). The Small UAS segment consists of our existing small UAS product lines. The TMS segment consists of our existing tactical missile systems product lines. The MUAS segment consists of our acquired Arcturus business. The HAPS segment consists of the Company's existing development of High Altitude Pseudo-Satellite systems in conjunction with SoftBank. The category entitled "All other" includes MacCready Works, which includes the recently acquired ISG, and Telerob businesses. The following table (in thousands) sets forth our revenue, gross margin and adjusted operating income (loss) from operations generated by each reporting segment for the periods indicated. Adjusted operating income is defined as operating income before intangible amortization, amortization of purchase accounting adjustments, and acquisition related expenses. All corporate and headquarter expenses are allocated to the reportable segments.

	Three Months Ended January 28, 2023					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 69,376	$ 24,015	$ 15,405	$ 8,938	$ 16,661	$ 134,395
Gross margin	32,937	7,841	(2,008)	2,733	4,007	45,510
Income (loss) from operations	18,548	(129)	(11,824)	1,334	(3,322)	4,607
Acquisition-related expenses	-	-	129	-	157	286
Amortization of acquired intangible assets and other purchase accounting adjustments	669	-	5,215	-	1,262	7,146
Adjusted income (loss) from operations	$ 19,217	$ (129)	$ (6,480)	$ 1,334	$ (1,903)	$ 12,039

	Three Months Ended January 29, 2022					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 24,366	$ 18,603	$ 21,168	$ 9,543	$ 16,413	$ 90,093
Gross margin	8,656	5,209	335	3,173	4,063	21,436
Income (loss) from operations	(3,606)	(1,289)	(8,623)	1,574	(2,182)	(14,126)
Acquisition-related expenses	99	54	41	19	155	368
Amortization of acquired intangible assets and other purchase accounting adjustments	707	-	5,641	2	3,033	9,383
Adjusted income (loss) from operations	$ (2,800)	$ (1,235)	$ (2,941)	$ 1,595	$ 1,006	$ (4,375)

The Company recorded intangible amortization expense and other purchase accounting adjustments in the following categories on the accompanying unaudited condensed consolidated statements of operations:

	Three Months Ended		Nine Months Ended	
	January 28, 2023	January 29, 2022	January 28, 2023	January 29, 2022
Cost of sales:				
Product sales	$ 1,026	$ 2,359	$ 3,060	$ 6,346
Contract services	2,284	2,762	7,332	8,265
Selling, general and administrative	3,836	4,262	11,557	14,226
Total	$ 7,146	$ 9,383	$ 21,949	$ 28,837

Revenue. Revenue for the three months ended January 28, 2023 was $134.4 million, as compared to $90.1 million for the three months ended January 29, 2022, representing an increase of $44.3 million, or 49%. The increase in revenue was due to an increase in product revenue of $48.6 million, partially offset by a decrease in service revenue of $4.3 million. The increase in product revenue was primarily due to increases in small UAS and TMS product revenue, partially offset by a decrease in All other product revenue. The decrease in service revenue was primarily due to a decrease in MUAS service revenue, partially offset by increases in customer-funded research and development revenue. We expect the lower levels of MUAS service revenues to continue into fiscal 2024 due to the completion of certain MUAS site locations. Due to the higher backlog, the increase in the small UAS product revenues as compared to the prior year period is expected to continue for the fourth quarter of the fiscal year ended April 30, 2023.

Cost of Sales. Cost of sales for the three months ended January 28, 2023 was $88.9 million, as compared to $68.7 million for the three months ended January 29, 2022, representing an increase of $20.2 million, or 29%. The increase in cost of sales was a result of an increase in product cost of sales of $25.6 million, partially offset by a decrease in service costs of sales of $5.3 million. The increase in product costs of sales was primarily due to an increase in product revenue, partially offset by a favorable product mix. The decrease in service cost of sales was primarily due a decrease in service revenue. Cost of sales for the three months ended January 28, 2023 included $3.3 million of intangible amortization and other related non-cash purchase accounting expenses as compared to $5.1 million for the three months ended January 29, 2022. As a percentage of revenue, cost of sales decreased from 76% to 66%, primarily due to a favorable product mix, a decrease in intangible amortization and other related non-cash purchase accounting expenses, and an increase in revenue resulting in higher overhead cost absorption, partially offset by accelerated depreciation charges of certain deployed fixed assets related to the anticipated completion of certain MUAS site locations of $4.3 million.

Gross Margin. Gross margin for the three months ended January 28, 2023 was $45.5 million, as compared to $21.4 million for the three months ended January 29, 2022, representing an increase of $24.1 million, or 112%. The increase in gross margin was due primarily to an increase in product margin of $23.0 million and an increase in service margin of $1.0 million. The increase in product margin was primarily due to the increase in product sales and a favorable product mix. The increase in service margin was primarily due to a favorable service mix and higher overhead cost absorption. As a percentage of revenue, gross margin increased from 24% to 34%, primarily due to a favorable product mix, a decrease in intangible amortization and other related non-cash purchase accounting expenses, and an increase in revenue resulting in higher overhead cost absorption, partially offset by accelerated depreciation charges of certain deployed fixed assets related to the anticipated completion of certain MUAS site locations of $4.3 million. Additionally, we expect inflationary and supply chain constraint trends to continue throughout our fiscal year 2023, which are currently impacting and will continue to negatively impact our gross margin across all our segments.

Selling, General and Administrative. SG&A expense for the three months ended January 28, 2023 was $24.7 million, or 18% of revenue, as compared to SG&A expense of $22.5 million, or 25% of revenue, for the three months ended January 29, 2022. The increase in SG&A expense was primarily due to an increase in employee related expenses, partially offset by a decrease in intangible amortization and other related non-cash purchase accounting expenses.

Research and Development. R&D expense for the three months ended January 28, 2023 was $16.2 million, or 12% of revenue, as compared to R&D expense of $13.0 million, or 14% of revenue, for the three months ended January 29, 2022, primarily due to an increase in development activities regarding enhanced capabilities for our products, development of new product lines and support for our acquired businesses.

Interest Expense, net. Interest expense, net for the three months ended January 28, 2023 was $2.8 million compared to interest expense, net of $1.5 million for the three months ended January 29, 2022. The increase in interest expense, net was primarily due to an increase in interest expense resulting from higher interest rates on our debt facility, partially offset by lower average outstanding balances.

Other (Expense) Income, net. Other expense, net, for the three months ended January 28, 2023 was $(2.6) million compared to other income, net of $34 thousand for the three months ended January 29, 2022. Other expense, net for the three months ended January 28, 2023 includes unrealized losses associated with decreases in the fair market value for equity security investments.

Benefit from Income Taxes. Our effective income tax rate was 67.2% for the three months ended January 28, 2023, as compared to 98.7% for the three months ended January 29, 2022. Historically, we calculated the provision for income taxes during interim reporting periods by applying an estimate of our annual effective tax rate (“AETR”) for the full fiscal year to the pretax income or loss for the interim reporting period. For the three months ended January 28, 2023, we calculated the provision for income taxes using a discrete effective tax rate (“ETR”) method. We determined that since small changes in estimated pretax income or loss would result in significant changes in the estimated AETR, the historical method would not provide a reliable estimate for the three months ended January 28, 2023. The decrease in our effective income tax rate was in part due to the change to the ETR method. The effective income tax rate for the three months ended January 28, 2023 was primarily impacted by expected federal R&D tax credits, foreign-derived intangible income deductions and excess tax benefits on equity awards.

Equity Method Investment (Loss) Income, net of Tax. Equity method investment loss, net of tax for the three months ended January 28, 2023 was $(0.4) million as compared to equity method investment income, net of tax of $0.2 million for the three months ended January 29, 2022. In March 2022, the Company sold its 7% equity interest in HAPSMobile to SoftBank. Subsequent to the equity interest sale in HAPSMobile during the three months ended April 30, 2022, equity method investment loss, net of tax relates to activity related to investments in limited partnership funds.

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Nine Months Ended January 28, 2023 Compared to Nine Months Ended January 29, 2022

The following tables (in thousands) sets forth our revenue, gross margin and adjusted operating income (loss) from operations generated by each reporting segment for the periods indicated. Adjusted operating income is defined as operating income before intangible amortization, amortization of purchase accounting adjustments, and acquisition related expenses. All corporate and headquarter expenses are allocated to the reportable segments.

	Nine Months Ended	
	January 28, 2023	January 29, 2022
Revenue	$ 354,495	$ 313,110
Cost of sales	249,381	220,496
Gross margin	105,114	92,614
Selling, general and administrative	70,302	74,496
Research and development	47,793	41,018
Loss from operations	(12,981)	(22,900)
Other loss:		
Interest expense, net	(6,722)	(4,164)
Other expense, net	(2,183)	(10,360)
Loss before income taxes	(21,886)	(37,424)
Benefit from income taxes	(8,382)	(25,864)
Equity method investment (loss) income, net of tax	(2,190)	163
Net loss	$ (15,694)	$ (11,397)

	Nine Months Ended January 28, 2023					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 139,313	$ 78,127	$ 61,948	$ 28,219	$ 46,888	$ 354,495
Gross margin	66,552	28,224	(9,965)	9,059	11,244	105,114
Income (loss) from operations	24,495	845	(36,651)	5,436	(7,106)	(12,981)
Acquisition-related expenses	-	-	470	-	720	1,190
Amortization of acquired intangible assets and other purchase accounting adjustments	2,019	-	16,057	-	3,873	21,949
Adjusted income (loss) from operations	$ 26,514	$ 845	$ (20,124)	$ 5,436	$ (2,513)	$ 10,158

	Nine Months Ended January 29, 2022					
	Small UAS	TMS	MUAS	HAPS	All other	Total
Revenue	$ 119,004	$ 56,197	$ 70,072	$ 30,237	$ 37,600	$ 313,110
Gross margin	53,330	17,420	5,739	10,291	5,834	92,614
Income (loss) from operations	11,729	(1,705)	(22,004)	4,750	(15,670)	(22,900)
Acquisition-related expenses	819	468	1,533	181	1,468	4,469
Amortization of acquired intangible assets and other purchase accounting adjustments	2,121	-	17,190	5	9,521	28,837
Adjusted income (loss) from operations	$ 14,669	$ (1,237)	$ (3,281)	$ 4,936	$ (4,681)	$ 10,406

Revenue. Revenue for the nine months ended January 28, 2023 was $354.5 million, as compared to $313.1 million for the nine months ended January 29, 2022, representing an increase of $41.4 million, or 13%. The increase in revenue was due to an increase in product revenue of $44.8 million, partially offset by a decrease in service revenue of $3.4 million. The increase in product revenue was primarily due to increases in small UAS, TMS and MUAS product revenue. The decrease in service revenue was primarily due to decreases in MUAS, small UAS and HAPS service revenue, partially offset by increases in revenue from customer-funded research and development efforts primarily in our All Other and TMS segments. We expect the lower levels of MUAS service revenues to continue into fiscal 2024 related to the completion of certain MUAS site locations. Due to the higher backlog, we expect the Small UAS product revenues to be significantly higher in the fourth quarter of fiscal 2023 and during the first half of fiscal 2024 as compared to the first half of fiscal 2023.

Cost of Sales. Cost of sales for the nine months ended January 28, 2023 was $249.4 million, as compared to $220.5 million for the nine months ended January 29, 2022, representing an increase of $28.9 million, or 13%. The increase in cost of sales was a result of an increase in product cost of sales of $26.4 million and an increase in service costs of sales of $2.5 million. The increase in product costs of sales was primarily due to an increase in product revenue. The increase in service cost of sales was primarily due to accelerated depreciation charges of certain deployed fixed assets related to the anticipated completion of certain MUAS site locations of $8.1 million, partially offset by a decrease in service revenue and a decrease in intangible amortization and other related non-cash purchase accounting expenses. Cost of sales for the nine months ended January 28, 2023 included $10.4 million of intangible amortization and other related non-cash purchase accounting expenses as compared to $14.6 million for the nine months ended January 29, 2022. As a percentage of revenue, cost of sales remained consistent at 70%.

Gross Margin. Gross margin for the nine months ended January 28, 2023 was $105.1 million, as compared to $92.6 million for the nine months ended January 29, 2022, representing an increase of $12.5 million, or 13%. The increase in gross margin was due to an increase in product margin of $18.4 million, partially offset by a decrease in service margin of $5.9 million. The increase in product margin was primarily due to the increase in product sales combined with a favorable product mix. The decrease in service margin was primarily due to accelerated depreciation charges of certain deployed fixed assets related to the anticipated completion of certain MUAS site locations of $8.1 million and a decrease in service revenue. As a percentage of revenue, gross margin remained consistent at 30%. Additionally, we expect inflationary and supply chain constraint trends to continue throughout our fiscal year 2023, which are currently and will continue to negatively impact our gross margin across all our segments.

Selling, General and Administrative. SG&A expense for the nine months ended January 28, 2023 was $70.3 million, or 20% of revenue, as compared to SG&A expense of $74.5 million, or 24% of revenue, for the nine months ended January 29, 2022. The decrease in SG&A expense was primarily due to a decrease in acquisition-related expenses of $3.9 million and a decrease in intangible amortization and other related non-cash purchase accounting expenses of $2.7 million, partially offset by an increase in employee related costs.

Research and Development. R&D expense for the nine months ended January 28, 2023 was $47.8 million, or 13% of revenue, as compared to R&D expense of $41.0 million, or 13% of revenue, for the nine months ended January 29, 2022, primarily due to an increase in development activities regarding enhanced capabilities for our products, development of new product lines and to support our acquired businesses.

Interest Expense, net. Interest expense, net for the nine months ended January 28, 2023 was $6.7 million compared to interest expense, net of $4.2 million for the nine months ended January 29, 2022. The increase in interest expense, net was primarily due to an increase in interest expense resulting from higher interest rates on our debt facility, partially offset by lower average outstanding balances.

Other Expense, net. Other expense, net, for the nine months ended January 28, 2023 was $2.2 million compared to other expense, net of $10.4 million for the nine months ended January 29, 2022. The decrease in other expense, net is primarily due to a legal accrual of $10.0 million for the settlement of all claims made by the buyers of our former EES business recorded during the nine months ended January 29, 2022. Other expense, net for the nine months ended January 28, 2023 includes unrealized losses associated with decreases in fair market value for equity security investments.

Benefit from Income Taxes. Our effective income tax rate was 38.3% for the nine months ended January 28, 2023, as compared to 69.1% for the nine months ended January 29, 2022. Historically, we calculate the provision for income taxes during interim reporting periods by applying an estimate of our annual effective tax rate (“AETR”) for the full fiscal year to the pretax income or loss for the interim reporting period. For the nine months ended January 28, 2023, we calculated the provision for income taxes using a discrete effective tax rate ("ETR") method. We determined that since small changes in estimated pretax income or loss would result in significant changes in the estimated AETR, the historical method would not provide a reliable estimate for the nine months ended January 28, 2023. The decrease in our effective income tax rate was primarily due to the change to the ETR method. The effective income tax rate for the nine months ended January 28, 2023 was primarily impacted by expected federal R&D tax credits and foreign-derived intangible income deductions.

Equity Method Investment (Loss) Income, net of Tax. Equity method investment loss, net of tax for the nine months ended January 28, 2023 was $2.2 million as compared to equity method investment income, net of tax of $0.2 million for the nine months ended January 29, 2022. In March 2022, the Company sold its 7% equity interest in HAPSMobile to SoftBank. Subsequent to the equity interest sale in HAPSMobile during the three months ended April 30, 2022, equity method investment loss, net of tax relates to activity related to investments in limited partnership funds.

Backlog

Consistent with ASC 606, we define funded backlog as remaining performance obligations under firm orders for which funding is currently appropriated to us under a customer contract. As of January 28, 2023, our funded backlog was approximately $413.9 million, as compared to $210.8 million as of April 30, 2022.

In addition to our funded backlog, we also had unfunded backlog of $387.0 million as of January 28, 2023. Unfunded backlog does not meet the definition of a performance obligation under ASC 606. We define unfunded backlog as the total remaining potential order amounts under cost reimbursable and fixed price contracts with (i) multiple one-year options and indefinite delivery, indefinite quantity ("IDIQ") contracts, or (ii) incremental funding. Unfunded backlog does not obligate the customer to purchase goods or services. There can be no assurance that unfunded backlog will result in any orders in any particular period, if at all. Management believes that unfunded backlog does not provide a reliable measure of future estimated revenue under our contracts. Unfunded backlog includes a $235.2 million contract with a third party that is pending export license approval prior to the funding of the contract. Unfunded backlog does not include the remaining potential value associated with a U.S. Army IDIQ-type contract for small UAS because values for each of the other domains within the contract have not been disclosed by the customer, and we cannot be certain that we will secure all task orders issued against the contract. Additionally, unfunded backlog on the U.S. Special Operations Command ("SOCOM") Mid-Endurance Unmanned Aircraft Systems ("MEUAS") contract reflects only those sites which have been awarded to Arcturus and does not include the remaining potential value associated with the entire SOCOM MEUAS III/IV contract.

Because of possible future changes in delivery schedules and/or cancellations of orders, backlog at any particular date is not necessarily representative of actual sales to be expected for any succeeding period, and actual sales for the year may not meet or exceed the backlog represented. Our backlog is typically subject to large variations from quarter to quarter as existing contracts expire or are renewed or new contracts are awarded. A majority of our contracts, specifically our IDIQ contracts, do not currently obligate the U.S. government to purchase any goods or services. Additionally, all U.S. government contracts included in backlog, whether or not they are funded, may be terminated at the convenience of the U.S. government.

Liquidity and Capital Resources

On September 8, 2022 we filed an S-3 shelf registration statement to offer and sell shares of our common stock, including a prospectus supplement in relation to an Open Market Sale Agreement^{SM}, also dated September 8, 2022, with Jefferies LLC relating to the proposed offer and sale of shares of our common stock having an aggregate offering price of up to $200.0 million from time to time through Jefferies LLC as our sales agent. As of January 28, 2023, we have sold 221,971 of our shares for total gross proceeds of $21.4 million, and we have $178.6 million aggregate offering price remaining available under the registration.

On February 19, 2021 in connection with the consummation of the Arcturus acquisition, we entered into the Credit Agreement for (i) the Revolving Facility, and (ii) the Term Loan Facility, and together with the Revolving Credit Facility, the "Credit Facilities". The Term Loan Facility requires payment of 5% of the outstanding obligations in each of the first four loan years, with the remaining 80.0% payable in loan year five, consisting of three quarterly payments of 1.25% each, with the remaining outstanding principal amount of the Term Loan Facility due and payable on the final maturity date. Proceeds from the Term Loan Facility were used in part to finance a portion of the cash consideration for the Arcturus acquisition. Our ability to borrow under the Revolving Facility is reduced by outstanding letters of credit of $4.7 million as of January 28, 2023. As of January 28, 2023, approximately $95.3 million was available under the Revolving Facility. Borrowings under the Revolving Facility may be used for working capital and other general corporate purposes. Refer to Note 10—Debt to our unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for further details. In addition, Telerob has a line of credit of €5.5 million ($6.0 million) available for issuing letters of credit of which €2.8 million ($3.0 million) was outstanding as of January 28, 2023.

We anticipate funding our normal recurring trade payables, accrued expenses, ongoing R&D costs and obligations under the Credit Facilities through our existing working capital and funds provided by operating activities including those provided by our recent acquisitions of Arcturus, ISG, Telerob and Planck. The majority of our purchase obligations are pursuant to funded contractual arrangements with our customers. We believe that our existing cash, cash equivalents, cash provided by operating activities and other financing sources will be sufficient to meet our anticipated working capital, capital expenditure requirements, future obligations related to the recent acquisitions and obligations under the Credit Facilities during the next twelve months. There can be no assurance, however, that our business will continue to generate cash flow at current levels. If we are unable to generate sufficient cash flow from operations, then we may be required to sell assets, reduce capital expenditures or draw on our Credit Facilities. We anticipate that existing sources of liquidity, Credit Facilities, and cash flows from operations will be sufficient to satisfy our cash needs for the foreseeable future.

Our primary liquidity needs are for financing working capital, investing in capital expenditures, supporting product development efforts, introducing new products and enhancing existing products, marketing acceptance and adoption of our products and services. Our future capital requirements, to a certain extent, are also subject to general conditions in or affecting the defense industry and are subject to general economic, political, financial, competitive, legislative and regulatory factors that are beyond our control. Moreover, to the extent that existing cash, cash equivalents, cash from operations, and cash from our Credit Agreement are insufficient to fund our future activities, we may need to raise additional funds through public or private equity or debt financing, subject to the limitations specified in our Credit Facility agreement. In addition, we may also need to seek additional equity funding or debt financing if we become a party to any agreement or letter of intent for potential investments in, or acquisitions of, businesses, services or technologies.

Our working capital requirements vary by contract type. On cost-plus-fee programs, we typically bill our incurred costs and fees monthly as work progresses, and therefore working capital investment is minimal. On fixed-price contracts, we typically are paid as we deliver products, and working capital is needed to fund labor and expenses incurred during the lead time from contract award until contract deliveries begin.

To date, COVID-19 has not had a significant impact on our liquidity, cash flows or capital resources. However, the continued spread of COVID-19 has led to disruption and volatility in the global capital markets, which, depending on future developments, could impact our capital resources and liquidity in the future. In consideration of the impact of the ongoing COVID-19 pandemic, we continue to hold significant cash and cash equivalents.

During the fiscal year ended April 30, 2022, we made certain commitments outside of the ordinary course of business, including capital contribution commitments to a second limited partnership fund. Under the terms of a new limited partnership agreement, we have committed to make capital contributions to such fund totaling $20.0 million, inclusive of the expected reinvestment of distributions from our existing limited partnership fund, of which $17.2 million was remaining at January 28, 2023. The contributions are anticipated to be paid over the next five fiscal years. As of January 28, 2023, $5.0 million remains of the obligation under the legal settlement with Webasto. The final $5.0 million was paid on February 2, 2023.

Cash Flows

The following table provides our cash flow data for the nine months ended January 28, 2023 and January 29, 2022 (in thousands):

	Nine Months Ended	
	January 28, 2023	January 29, 2022
	(Unaudited)	
Net cash provided by (used in) operating activities	$ 8,801	$ (23,176)
Net cash provided by (used in) investing activities	$ 889	$ (37,009)
Net cash used in financing activities	$ (2,402)	$ (11,914)

Cash Provided by (Used in) Operating Activities. Net cash provided by operating activities for the nine months ended January 28, 2023 increased by $32.0 million to $8.8 million, as compared to net cash used in operating activities of $23.2 million for the nine months ended January 29, 2022. The increase in net cash provided by operating activities was primarily due to an increase in cash as a result of changes in operating assets and liabilities of $29.8 million, largely related to unbilled receivables and retentions, income taxes receivable and other liabilities, partially offset by a decrease in inventories, accounts receivable and prepaid expenses and other assets due to year over year timing differences, and an increase in non-cash expenses of $6.5 million primarily due to an increase in loss from equity investments of and stock-based compensation, partially offset by an increase in net loss of $4.3 million.

Cash Provided by (Used in) Investing Activities. Net cash provided by investing activities increased by $37.9 million to $0.9 million for the nine months ended January 28, 2023, as compared to net cash used in investing activities of $37.0 million for the nine months ended January 29, 2022. The increase in net cash provided by investing activities was primarily due to the acquisition of Telerob for $46.2 million in the prior year, a decrease in acquisition of property and equipment of $6.9 million and a decrease in equity method investments of $4.1 million, partially offset by a decrease in redemptions of available-for-sale investments of $9.9 million and equity securities investments of $5.1 million.

Cash Used in Financing Activities. Net cash used in financing activities decreased by $9.5 million to $2.4 million for the nine months ended January 28, 2023, as compared to net cash used by financing activities of $11.9 million for the nine months ended January 29, 2022. The decrease in net cash used by financing activities was primarily due to proceeds from share issuance net of issuance costs of $20.1 million and a decrease in holdback and retention payments related to business acquisitions of $6.0 million, partially offset by an increase in principal payment of the term loan of $15.0 million.

New Accounting Standards

Please refer to Note 1—Organization and Significant Accounting Policies to our unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for a discussion of new accounting pronouncements and accounting pronouncements adopted during the nine months ended January 28, 2023.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In the ordinary course of business, we are exposed to various market risk factors, including fluctuations in interest rates, changes in general economic conditions, domestic and foreign competition, and foreign currency exchange rates.

Interest Rate Risk

It is our policy not to enter into interest rate derivative financial instruments. On February 19, 2021 in connection with the consummation of the Arcturus Acquisition, we entered into the Credit Facilities. The current outstanding balance of the Credit Facilities is $167.5 million and bears a variable interest rate. The market interest rate has increased significantly, and if market interest rates continue to increase, interest due on the Credit Facilities would increase.

Foreign Currency Exchange Rate Risk

Since a significant part of our sales and expenses are denominated in U.S. dollars, we have not experienced significant foreign exchange gains or losses to date. We occasionally engage in forward contracts in foreign currencies to limit our exposure on non-U.S. dollar transactions. With the acquisition of Telerob, a portion of our cash balance is denominated in Euros which is Telerob's functional currency.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure.

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by Rule 13a-15(b) under the Exchange Act, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as of January 28, 2023, the end of the period covered by this Quarterly Report on Form 10-Q.

Based on the foregoing, and in light of the material weaknesses identified in our internal control over financial reporting as disclosed in our Form 10-K for the fiscal year ended April 30, 2022, our Chief Executive Officer and Chief Financial Officer concluded that, as of January 28, 2023, our disclosure controls and procedures were not effective.

Remediation of Material Weaknesses

As of the date of this report, management implemented measures it believes remediated the identified deficiencies for one of the newly acquired businesses as certain IT systems at certain newly acquired businesses related to inventory and cost of sales were transitioned to the corporate enterprise resource planning system in late May 2022. Regarding the material weaknesses identified in the other acquisition, management's remediation efforts are ongoing, and management has designed and implemented a number of controls through quarter ended January 28, 2023. The remediation activities as of the date of this report include, but are not limited to:

- rationalized access privileges for all system users and critical transactions based on job responsibilities considering segregation of duties ("SOD");
- removed excess rights and access for all system users;
- implemented controls that require the periodic re-evaluation of user access privileges, including administrative access;
- enhanced system monitoring controls to confirm the adequacy of program change management and security controls;
- trained personnel on the design and operation of our internal controls over financial reporting, as well as hired additional resources with experience with the Committee of Sponsoring Organizations, or COSO, guidance; and

- tested the initial instances of operating effectiveness for the newly implemented controls.

Due to the nature of the remediation process, controls must operate effectively for a sufficient period of time for a definitive conclusion, validated through testing, that the deficiencies have been fully remediated and, as such, management cannot be certain that the measures it has undertaken have fully remediated the material weaknesses that it has identified or that additional material weaknesses will not arise in the future. Management will continue to monitor the design and effectiveness of these controls through ongoing tests during the fourth quarter of fiscal year 2023 and will make any further changes that management determines to be appropriate. Management expects that the remediation of the material weaknesses will be completed prior to April 30, 2023.

Changes in Internal Control over Financial Reporting

Except for the remediation activities related to the material weaknesses described above, there were no changes in our internal control over financial reporting or in other factors identified in connection with the evaluation required by paragraph (d) of Rules 13a-15 or 15d-15 under the Exchange Act that occurred during the quarter ended January 28, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

On August 9, 2021, a former employee filed a class action complaint against AeroVironment in California Superior Court in Los Angeles, California alleging various claims pursuant to the California Labor Code related to wages, meal breaks, overtime and other recordkeeping matters. The complaint seeks a jury trial and payment of various alleged unpaid wages, penalties, interest and attorneys' fees in unspecified amounts. We filed our answer on December 16, 2021. Discovery in this lawsuit has begun and is ongoing. We continue to mount a vigorous defense.

We are subject to lawsuits, government investigations, audits and other legal proceedings from time to time in the ordinary course of our business. It is not possible to predict the outcome of any legal proceeding with any certainty. The outcome or costs we incur in connection with a legal proceeding could adversely impact our operating results and financial position.

ITEM 1A. RISK FACTORS

Except as set for below, there have been no material changes to the risk factors disclosed under Part I, Item 1A, "Risk Factors," of our Annual Report on Form 10-K for the fiscal year ended April 30, 2022. Please refer to that section for disclosures regarding the risks and uncertainties related to our business.

We are subject to extensive government regulation, and our failure to comply with applicable regulations could subject us to penalties that may restrict our ability to conduct our business.

As a contractor to the U.S. government, we are subject to and must comply with various government regulations that impact our revenue, operating costs, profit margins and the internal organization and operation of our business. The most significant regulations and regulatory authorities affecting our business include the following:

- the Federal Acquisition Regulations and supplemental agency regulations, which comprehensively regulate the formation and administration of, and performance under, U.S. government contracts;
- the Truth in Negotiations Act, which requires certification and disclosure of all factual cost and pricing data in connection with contract negotiations;
- the False Claims Act and the False Statements Act, which impose penalties for payments made on the basis of false facts provided to the government and on the basis of false statements made to the government, respectively;
- the Foreign Corrupt Practices Act, which prohibits U.S. companies from providing anything of value to a foreign official to help obtain, retain or direct business, or obtain any unfair advantage;
- the National Telecommunications and Information Administration and the Federal Communications Commission, which regulate the wireless spectrum allocations upon which UAS depend for operation and data transmission in the United States;
- the Federal Aviation Administration, which regulates the use of airspace for all aircraft, including UAS operation in the United States;
- the International Traffic in Arms Regulations, which regulate the export of controlled technical data, defense articles and defense services and restrict from which countries we may purchase materials and services used in the production of certain of our products; and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes or determined to be "controlled unclassified information" and the exportation of certain products and technical data.

Also, we need special security clearances and regulatory approvals to continue working on certain of our projects with the U.S. government. Classified programs generally will require that we comply with various executive orders, federal laws and regulations and customer security requirements that may include restrictions on how we develop, store, protect and share information, and may require our employees and facilities to obtain government security clearances. Additionally, certain of our products are sold to the U.S. government as commercial items. If the U.S. government were to dispute the commercial designation of such items, and absent a successful appeal by us of such designation, the profitability of sales of such items could be negatively affected. Our failure to comply with applicable regulations, rules and approvals; changes in the government's interpretation of such regulations, rules and approvals as have been and are applied to our contracts, proposals or business or misconduct by any of our employees could result in the imposition of fines and penalties, the loss of security clearances, a decrease in profitability, the loss of our government contracts or our suspension or debarment from contracting with the U.S. government generally, any of which could harm our business, financial condition and results of operations. We are also subject to certain regulations of comparable government agencies in other countries, and our failure to comply with these non-U.S. regulations could also harm our business, financial condition or results of operations.

U.S. government contracts are generally not fully funded at inception, contain certain provisions that may be unfavorable to us and may be undefinitized at the time of the start of performance, which could prevent us from realizing our contract backlog and materially harm our business and results of operations.

U.S. government contracts typically involve long lead times for design and development and are subject to significant changes in contract scheduling. Congress generally appropriates funds on a fiscal year basis even though a program may continue for several years. Consequently, programs are often only partially funded initially, and additional funds are committed only as Congress makes further appropriations. The termination or reduction of funding for a government program would result in a loss of anticipated future revenue attributable to that program.

The actual receipt of revenue on awards included in backlog may never occur or may change because a program schedule could change or the program could be canceled, or a contract could be reduced, modified or terminated early.

In addition, U.S. government contracts generally contain provisions permitting termination, in whole or in part, at the government's convenience or for contractor default. Since a substantial majority of our revenue is dependent on the procurement, performance and payment under our U.S. government contracts, the termination of one or more critical government contracts could have a negative impact on our results of operations and financial condition. Termination arising out of our default could result in damage to our reputation, expose us to liability and have a material adverse effect on our ability to re-compete for future contracts and orders. Moreover, several of our contracts with the U.S. government do not contain a limitation of liability provision, creating a risk of responsibility for indirect, incidental damages and consequential damages. These provisions could cause substantial liability for us, especially given the use to which our products may be put.

Furthermore, we may operate from time to time under undefinitized contract actions (UCAs), under which we may begin performance at the direction of the U.S. government prior to completing contract negotiations regarding pricing, specifications and other terms. Under a UCA, the U.S. Government has the ability to unilaterally definitize contracts and, absent a successful appeal of such action, the unilateral definitization of the contract would obligate us to perform under terms and conditions imposed by the U.S. government. Such unilaterally imposed contract terms could include less favorable pricing and/or terms and conditions more burdensome than those negotiated in other circumstances, which could negatively affect our expected profitability under such contract and could negatively affect our results of operations.

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Exhibit Number	Description
3.1(1)	Amended and Restated Certificate of Incorporation of AeroVironment, Inc.
3.2(2)	Fourth Amended and Restated Bylaws of AeroVironment, Inc., amended as of December 1, 2022
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32#	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document – The instance document does not appear in the Interactive Data Files because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File formatted as Inline XBRL and contained in Exhibit 101

(1) Incorporated by reference herein to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed March 9, 2007 (File No. 001-33261).

(2) Incorporated by reference herein to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed December 7, 2022 (File No. 001-33261).

The information in Exhibit 32 shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act (including this report), unless the Company specifically incorporates the foregoing information into those documents by reference.

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.

Date: March 6, 2023

AEROVIRONMENT, INC.

By: /s/ Wahid Nawabi

Wahid Nawabi

Chairman, President and Chief Executive Officer
(Principal Executive Officer)

/s/ Kevin P. McDonnell

Kevin P. McDonnell
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

/s/ Brian C. Shackley

Brian C. Shackley
Vice President and Chief Accounting Officer
(Principal Accounting Officer)

Exhibit 31.1

Certification of Principal Executive Officer
Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934

I, Wahid Nawabi, certify that:

1. I have reviewed this quarterly report on Form 10-Q of AeroVironment, 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: March 6, 2023

/s/ Wahid Nawabi
Wahid Nawabi
Chairman, President and Chief Executive Officer

Exhibit 31.2

Certification of Principal Financial Officer
Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934

I, Kevin P. McDonnell, certify that:

1. I have reviewed this quarterly report on Form 10-Q of AeroVironment, 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: March 6, 2023

/s/ Kevin P. McDonnell
Kevin P. McDonnell
Senior Vice President and Chief Financial Officer

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) (the "Act"), each of the undersigned officers of AeroVironment, Inc., a Delaware corporation (the "Company"), does hereby certify, to each such officer's knowledge, that:

The Quarterly Report on Form 10-Q for the quarter ended January 28, 2023 (the "Periodic Report") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Wahid Nawabi
Wahid Nawabi
Chairman, President and Chief Executive Officer

/s/ Kevin P. McDonnell
Kevin P. McDonnell
Senior Vice President and Chief Financial Officer

Dated: March 6, 2023

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.