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 March 28, 2020

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 001-36414

iROBOT CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	**77-0259335**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

8 Crosby Drive
Bedford, MA 01730
(Address of principal executive offices, including zip code)

(781) 430-3000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value	IRBT	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 x No o

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 x No o

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. o

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

The number of shares outstanding of the Registrant’s Common Stock as of April 25, 2020 was 27,884,331.

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FOR THE QUARTER ENDED MARCH 28, 2020
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iROBOT CORPORATION
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share amounts)
(unaudited)

	March 28, 2020	December 28, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 248,768	$ 239,392
Short term investments	14,759	17,032
Accounts receivable, net	37,013	146,161
Inventory	147,249	157,347
Other current assets	41,743	34,285
Total current assets	489,532	594,217
Property and equipment, net	79,530	75,988
Operating lease right-of-use assets	45,958	47,478
Deferred tax assets	41,071	41,791
Goodwill	118,377	118,732
Intangible assets, net	11,787	12,352
Other assets	33,778	30,195
Total assets	$ 820,033	$ 920,753
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 77,217	$ 116,185
Accrued expenses	55,801	81,768
Deferred revenue and customer advances	5,320	4,549
Total current liabilities	138,338	202,502
Operating lease liabilities	53,044	54,928
Deferred tax liabilities	1,054	912
Other long-term liabilities	11,058	10,342
Total long-term liabilities	65,156	66,182
Total liabilities	203,494	268,684
Commitments and contingencies (Note 11)		
Preferred stock, 5,000 shares authorized and none outstanding	—	—
Common stock, $0.01 par value, 100,000 shares authorized; 27,876 and 28,352 shares issued and outstanding, respectively	279	284
Additional paid-in capital	175,790	196,455
Retained earnings	434,186	452,321
Accumulated other comprehensive income	6,284	3,009
Total stockholders' equity	616,539	652,069
Total liabilities and stockholders' equity	$ 820,033	$ 920,753

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

iROBOT CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share amounts)
(unaudited)

	Three Months Ended	
	March 28, 2020	March 30, 2019
Revenue	$ 192,535	$ 237,661
Cost of revenue:		
Cost of product revenue	114,295	115,038
Amortization of acquired intangible assets	285	3,077
Total cost of revenue	114,580	118,115
Gross profit	77,955	119,546
Operating expenses:		
Research and development	36,759	35,269
Selling and marketing	36,594	38,836
General and administrative	24,573	22,907
Amortization of acquired intangible assets	254	271
Total operating expenses	98,180	97,283
Operating (loss) income	(20,225)	22,263
Other (expense) income, net	(19)	1,280
(Loss) income before income taxes	(20,244)	23,543
Income tax (benefit) expense	(2,109)	1,023
Net (loss) income	$ (18,135)	$ 22,520
Net (loss) income per share:		
Basic	$ (0.64)	$ 0.81
Diluted	$ (0.64)	$ 0.78
Number of shares used in per share calculations:		
Basic	28,297	27,863
Diluted	28,297	28,763

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

iROBOT CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(in thousands)
(unaudited)

	Three Months Ended	
	March 28, 2020	**March 30, 2019**
Net (loss) income	$ (18,135)	$ 22,520
Other comprehensive income (loss):		
Net foreign currency translation adjustments	(914)	(2,470)
Net unrealized gains on cash flow hedges, net of tax	5,674	4,801
Net (gains) losses on cash flow hedge reclassified into earnings, net of tax	(1,468)	106
Net unrealized (losses) gains on marketable securities, net of tax	(17)	113
Total comprehensive (loss) income	$ (14,860)	$ 25,070

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

iROBOT CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)
(unaudited)

	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss) ("AOCI")	Stockholders' Equity
	Shares	Value				
Balance at December 28, 2019	28,352	$ 284	$ 196,455	$ 452,321	$ 3,009	$ 652,069
Issuance of common stock under employee stock plans	40	—	934			934
Vesting of restricted stock units	193	2	(2)			—
Stock-based compensation			5,191			5,191
Stock withheld to cover tax withholdings requirements upon restricted stock vesting	(45)	—	(1,816)			(1,816)
Other comprehensive income					3,275	3,275
Directors' deferred compensation			21			21
Stock repurchases	(664)	(7)	(24,993)			(25,000)
Net loss				(18,135)		(18,135)
Balance at March 28, 2020	27,876	$ 279	$ 175,790	$ 434,186	$ 6,284	$ 616,539

	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss) ("AOCI")	Stockholders' Equity
	Shares	Value				
Balance at December 29, 2018	27,788	$ 278	$ 172,771	$ 367,021	$ (4,748)	$ 535,322
Issuance of common stock under employee stock plans	77	1	2,562			2,563
Vesting of restricted stock units	231	2	(2)			—
Stock-based compensation			6,864			6,864
Stock withheld to cover tax withholdings requirements upon restricted stock vesting	(58)	(1)	(7,211)			(7,212)
Other comprehensive income					2,550	2,550
Directors' deferred compensation			16			16
Net income				22,520		22,520
Balance at March 30, 2019	28,038	$ 280	$ 175,000	$ 389,541	$ (2,198)	$ 562,623

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

iROBOT CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Three Months Ended	
	March 28, 2020	**March 30, 2019**
Cash flows from operating activities:		
Net (loss) income	$ (18,135)	$ 22,520
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation and amortization	7,459	8,724
Stock-based compensation	5,191	6,864
Deferred income taxes, net	(528)	1,739
Other	1,531	1,542
Changes in operating assets and liabilities — (use) source		
Accounts receivable	108,825	106,561
Inventory	9,848	(16,863)
Other current assets	(5,612)	(2,913)
Accounts payable	(41,440)	(52,744)
Accrued expenses and other liabilities	(26,405)	(22,727)
Net cash provided by operating activities	40,734	52,703
Cash flows from investing activities:		
Additions of property and equipment	(7,310)	(6,004)
Change in other assets	(1,560)	(1,977)
Sales and maturities of investments	3,500	2,380
Net cash used in investing activities	(5,370)	(5,601)
Cash flows from financing activities:		
Proceeds from employee stock plans	934	2,563
Income tax withholding payment associated with restricted stock vesting	(1,816)	(7,212)
Stock repurchases	(25,000)	—
Net cash used in financing activities	(25,882)	(4,649)
Effect of exchange rate changes on cash and cash equivalents	(106)	268
Net increase in cash and cash equivalents	9,376	42,721
Cash and cash equivalents, at beginning of period	239,392	130,373
Cash and cash equivalents, at end of period	$ 248,768	$ 173,094

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

1. Description of Business

iRobot Corporation ("iRobot" or the "Company") designs and builds robots that empower people to do more both inside and outside of the home. iRobot's consumer robots help people find smarter ways to clean and accomplish more in their daily lives. The Company's portfolio of solutions features proprietary technologies for the connected home and advanced concepts in cleaning, mapping and navigation, human-robot interaction and physical solutions. Leveraging this portfolio, our engineers are building an ecosystem of robots to empower the smart home. The Company’s revenue is primarily generated from product sales through a variety of distribution channels, including chain stores and other national retailers, through its on-line stores, and through value-added distributors and resellers worldwide.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include those of iRobot and its subsidiaries, after elimination of all intercompany balances and transactions. iRobot has prepared the accompanying unaudited consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP").

In the opinion of management, all adjustments necessary to the unaudited interim consolidated financial statements have been made to state fairly the Company's financial position. Interim results are not necessarily indicative of results for the full fiscal year or any future periods. The information included in this Form 10-Q should be read in conjunction with the Company's audited consolidated financial statements and notes thereto included in its Annual Report on Form 10-K for the fiscal year ended December 28, 2019, filed with the Securities and Exchange Commission on February 13, 2020.

The Company operates and reports using a 52-53 week fiscal year ending on the Saturday closest to December 31. Accordingly, the Company’s fiscal quarters end on the Saturday that falls closest to the last day of the third month of each quarter.

Recently Adopted Accounting Standards

In June 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-13, "Measurement of Credit Losses on Financial Instruments," which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses rather than incurred losses to estimate credit losses on certain types of financial instruments. The Company adopted the standard effective December 29, 2019 which resulted in no adjustment to the allowance for credit losses upon adoption. See the description of the Company’s "Credit Losses" accounting policy below.

In August 2018, the FASB issued ASU No. 2018-13, "Fair Value Measurement: Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement." The amendment modifies disclosure requirements related to fair value measurement. The Company adopted this standard effective December 29, 2019 which did not have a material impact on the Company's consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU No. 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software." The new standard aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal use software license). The Company adopted the standard using the prospective method effective December 29, 2019 which did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Standards

In December 2019, the FASB issued ASU No. 2019-12, "Income Taxes - Simplifying the Accounting for Income Taxes." The ASU simplifies the accounting for income taxes by removing certain exceptions to the general principles as well as clarifying and amending existing guidance to improve consistent application. The amendments to this ASU are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. Depending on the amendment, adoption may be applied on the retrospective, modified retrospective or prospective basis. The Company intends to adopt the ASU effective January 3, 2021, and is currently evaluating the impact to the consolidated financial statements.

From time to time, new accounting pronouncements are issued by FASB that are adopted by the Company as of the specified effective date. Unless otherwise discussed, the Company believes that recently issued standards, which are not yet effective, will not have a material impact on the Company’s consolidated financial statements upon adoption.

Impact of COVID-19

The global pandemic related to the novel coronavirus (COVID-19) has resulted in significant economic disruption. The pandemic and associated actions and measures implemented by governments around the world to slow the spread of COVID-19 have altered macroeconomic conditions and created recession-like environments around the world. These dynamics have had an adverse impact on the Company's financial and operating results. Mandated orders to "shelter-in-place" and other social distancing measures have directly and indirectly affected sales and supply chain activities during the first quarter and are likely to continue to impact the magnitude and timing of orders by retailers, resellers, distributors and consumers over the coming quarters. The Company expects to continue to be impacted as the situation remains dynamic and subject to rapid and possibly material changes. Additional impacts may arise of which the Company is not currently aware. The nature and extent of such impacts will depend on future developments, which are highly uncertain.

In light of the COVID-19 pandemic, the Company evaluated its assets for impairment, including strategic investments, goodwill and long-lived assets. The Company considered the current and expected future economic and market conditions and determined that no impairment existed as of March 28, 2020. However, the Company is unable to predict how long the pandemic will persist or the timing and speed of any economic recovery that may follow. Any measures that prolong shelter-in-place or restrict business activities are highly likely to be harmful to the consumer product retail industry in general, and consequently, to the Company's business.

Use of Estimates

The preparation of these financial statements in conformity with GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and revenues and expenses. These estimates and judgments include, but are not limited to, revenue recognition, including performance obligations, variable consideration and other obligations such as product returns and incentives; allowance for credit losses; warranty costs; valuation of goodwill and acquired intangible assets; valuation of financial instruments; evaluating loss contingencies; accounting for stock-based compensation including performance-based assessments; and accounting for income taxes and related valuation allowances. The Company bases these estimates and judgments on historical experience, market participant fair value considerations, projected future cash flows and various other factors that the Company believes are reasonable under the circumstances. Actual results may differ from the Company’s estimates.

Credit Losses

The Company is exposed to credit losses primarily through sales of its products. The Company assesses each customer's ability to pay by conducting a credit review which includes consideration of established credit ratings or an internal assessment of the customer's creditworthiness based on an analysis of their financial information when a credit rating is not available. The Company monitors the credit exposure through active review of customer balances. The Company's expected loss methodology for accounts receivable is developed using historical collection experience, current customer credit ratings, current and future economic and market conditions and a review of the current status of customers' account balances. Although the Company historically has not experienced significant credit losses as it relates to trade accounts receivable, the COVID-19 pandemic has caused uncertainty in some customer accounts. The Company recorded its estimate of credit losses, resulting in an increase to the reserve and bad debt expense, of $4.5 million during the three months ended March 28, 2020. As of March 28, 2020 and December 28, 2019, the Company recorded an allowance for credit losses of $5.7 million and $1.2 million, respectively.

The Company's exposure to credit losses may increase if its customers are adversely affected by changes in economic pressures or uncertainty associated with local or global economic recessions or other customer-specific factors. It is possible that there could be a material adverse impact to the carrying amount of accounts receivables if the liquidity of retailers, resellers and distributors continues to be impacted by disruptions related to the COVID-19 pandemic.

Other Assets

The Company holds non-marketable equity securities as part of its strategic investments portfolio. The Company classifies the majority of these securities as equity securities without readily determinable fair values and measures these investments at cost, less any impairment, adjusted for observable price changes. At March 28, 2020 and December 28, 2019, other assets consisted primarily of equity securities without readily determinable fair values and an equity method investment totaling $21.3 million and $21.0 million, respectively.

Net (Loss) Income Per Share

Basic income per share is calculated using the Company's weighted-average outstanding common shares. Diluted income per share is calculated using the Company's weighted-average outstanding common shares including the dilutive effect of stock awards as determined under the treasury stock method.

The following table presents the calculation of both basic and diluted net (loss) income per share (in thousands, except per share amounts):

	Three Months Ended	
	March 28, 2020	March 30, 2019
Net (loss) income	$ (18,135)	$ 22,520
Basic weighted-average common shares outstanding	28,297	27,863
Dilutive effect of employee stock awards	—	900
Diluted weighted-average common shares outstanding	28,297	28,763
Net (loss) income per share - Basic	$ (0.64)	$ 0.81
Net (loss) income per share - Diluted	$ (0.64)	$ 0.78

Restricted stock units and stock options representing approximately 0.8 million and 0.0 million shares of common stock for the three months ended March 28, 2020 and March 30, 2019, respectively, were excluded from the computation of diluted earnings per share as their effect would have been antidilutive.

3. Revenue Recognition

The Company primarily derives its revenue from product sales. The Company sells products directly to consumers through on-line stores and indirectly through resellers and distributors. Revenue is recognized upon transfer of control of promised products or services to customers, generally as title and risk of loss passes, in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. Revenue is recognized only to the extent that it is probable that a significant reversal of revenue will not occur. Taxes collected from customers, which are subsequently remitted to governmental authorities, are excluded from revenue. Shipping and handling expenses are considered fulfillment activities and are expensed as incurred.

The Company's product portfolio includes various consumer robots, many of which are Wi-Fi connected. The consumer robots are generally highly dependent on, and interrelated with, the embedded software and cannot function without the software. As such, the consumer robots are accounted for as a single performance obligation, and the revenue is recognized at a point in time when the control is transferred to distributors, resellers or directly to end customers through on-line stores. For certain consumer robots with Wi-Fi capability ("connected robots"), each sale represents an arrangement with multiple promises consisting of the robot, an app, cloud services and potential future unspecified software upgrades. The Company has determined that the app, cloud services and potential future unspecified software upgrades represent one promised service to the customer to enhance the functionality and interaction with the robot (referred to collectively as "Cloud Services").

For contracts that contain multiple performance obligations, the transaction price is allocated to each performance obligation based on a relative standalone selling price ("SSP"). The SSP reflects the Company's best estimate of what the selling prices of performance obligations would be if they were sold regularly on a standalone basis. Revenue allocated to the robots is recognized at a point in time when control is transferred. Revenue allocated to the Cloud Services is deferred and recognized on a straight-line basis over the estimated period the software upgrades and services are expected to be provided. For contracts with a duration of greater than one year, the transaction price allocated to performance obligations that are unsatisfied as of March 28, 2020 is $4.4 million. The Company does not disclose the value of unsatisfied performance obligations for contracts with an original expected duration of one year or less.

The Company's products generally carry a one-year or two-year limited warranty that promises customers that delivered products are as specified. The Company does not consider these assurance-type warranties as a separate performance obligation and therefore, the Company accounts for such warranties under ASC 460, "Guarantees."

The Company provides limited rights of returns for direct-to-consumer sales generated through its on-line stores and certain resellers and distributors. The Company records an allowance for product returns based on specific terms and conditions included in the customer agreements or based on historical experience and the Company's expectation of future returns. In addition, the Company may provide other credits or incentives which are accounted for as variable consideration when estimating the amount of revenue to recognize. Where appropriate, these estimates take into consideration relevant factors such as the Company's historical experience, current contractual requirements, specific known market events and forecasted inventory level in the channels. Overall, these reserves reflect the Company's best estimates, and the actual amounts of consideration ultimately received may differ from the Company's estimates. Returns and credits are estimated at contract inception and updated at the end of each reporting period as additional information becomes available and only to the extent that it is probable that a significant reversal of any incremental revenue will not occur. As of March 28, 2020, the Company has reserves for product returns of $47.7 million and other credits and incentives of $83.2 million. As of December 28, 2019, the

Company had reserves for product returns of $55.2 million and other credits and incentives of $134.0 million. Revenue recognized during the three months ended March 28, 2020 related to performance obligations satisfied in a prior period was not material.

Disaggregation of Revenue

The following table provides information about disaggregated revenue by geographical region (in thousands):

	Three Months Ended	
	March 28, 2020	March 30, 2019
United States	$ 81,967	$ 114,065
EMEA	66,659	74,569
Other	43,909	49,027
Total revenue	$ 192,535	$ 237,661

Contract Balances

The following table provides information about receivables and contract liabilities from contracts with customers (in thousands):

	March 28, 2020	December 28, 2019
Accounts receivable, net	$ 37,013	$ 146,161
Contract liabilities	7,706	6,991

The Company invoices customers based upon contractual billing schedules, and accounts receivable are recorded when the right to consideration becomes unconditional. Contract liabilities primarily relate to prepayments received from customers in advance of product shipments. The change in the opening and closing balances of the Company's contract assets and contract liabilities primarily results from the timing difference between the Company's performance and the customer's payment. During the three months ended March 28, 2020 and March 30, 2019, the Company recognized $3.6 million and $5.8 million, respectively, of the contract liability balance as revenue upon transfer of the products to customers.

4. Leases

The Company's leasing arrangements primarily consist of operating leases for its facilities which include corporate, sales and marketing and research and development offices. For leases with terms greater than 12 months, the Company records the related right-of-use asset and lease obligation at the present value of lease payments over the term. The Company's leases typically include rental escalation clauses, renewal options and/or termination options that are factored into the determination of lease payments when appropriate. The Company does not separate lease and nonlease components of contracts and excludes all variable lease payments from the measurement of right-of-use assets and lease liabilities. The Company's variable lease payments generally include usage based nonlease components. The Company's lease agreements do not contain any residual value guarantees or restrictive covenants. Leases with an initial term of 12 months or less are not recorded on the balance sheet. Lease expense is recognized on a straight-line basis over the lease term.

The Company's existing leases do not provide a readily determinable implicit rate. Therefore, the Company estimates its incremental borrowing rate to discount the lease payments based on information available at December 30, 2018 (date of initial application) or the lease commencement date for new leases post adoption. At March 28, 2020, the Company's weighted average discount rate was 3.62%, while the weighted average remaining lease term was 9.04 years.

The components of lease expense were as follows (in thousands):

	Three Months Ended	
	March 28, 2020	March 30, 2019
Operating lease cost	$ 2,355	$ 1,973
Variable lease cost	1,122	825
Total lease cost	$ 3,477	$ 2,798

Supplemental cash flow information related to leases was as follows (in thousands):

	Three Months Ended	
	March 28, 2020	March 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 2,021	$ 2,020
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ —	$ 52,767

Maturities of operating lease liabilities were as follows as of March 28, 2020 (in thousands):

	Operating leases
Remainder of 2020	$ 6,869
2021	8,219
2022	7,550
2023	7,102
2024	6,266
Thereafter	34,835
Total minimum lease payments	$ 70,841
Less: imputed interest	10,847
Present value of future minimum lease payments	$ 59,994
Less: current portion of operating lease liabilities (Note 7)	6,950
Long-term lease liabilities	$ 53,044

Financial Statement Impact of Adopting ASC 842

The Company adopted ASC 842 effective December 30, 2018 using the alternative transition method. Under this alternative transition method, a company is permitted to use its effective date as the date of initial application without restating comparative period financial statements. The Company elected the package of practical expedients permitted under the transition guidance, which allowed the Company to carryforward its historical assessments of (1) whether contracts are or contain leases, (2) lease classification and (3) initial direct costs. In addition, the Company elected the practical expedient to use hindsight in determining lease term. The adoption of the new standard resulted in the recognition of right-of-use assets and lease liabilities of approximately $52.8 million and $67.3 million, respectively. The standard did not materially impact the Company's consolidated income or cash flows.

5. Inventory

Inventory consists of the following (in thousands):

	March 28, 2020	December 28, 2019
Raw materials	$ 182	$ 2,825
Finished goods	147,067	154,522
	$ 147,249	$ 157,347

6. Goodwill and Other Intangible Assets

The following table summarizes the activity in the carrying amount of goodwill for the three months ended March 28, 2020 (in thousands):

Balance as of December 28, 2019	$ 118,732
Effect of foreign currency translation	(355)
Balance as of March 28, 2020	$ 118,377

Intangible assets consisted of the following (in thousands):

	March 28, 2020			December 28, 2019		
	Cost	Accumulated Amortization	Net	Cost	Accumulated Amortization	Net
Completed technology	$ 28,100	$ 24,890	$ 3,210	$ 28,100	$ 24,605	$ 3,495
Tradename	100	100	—	100	100	—
Customer relationships	11,064	2,529	8,535	11,095	2,302	8,793
Reacquired distribution rights	31,549	31,549	—	31,680	31,680	—
Non-competition agreements	254	212	42	256	192	64
Total	$ 71,067	$ 59,280	$ 11,787	$ 71,231	$ 58,879	$ 12,352

Amortization expense related to acquired intangible assets was $0.5 million and $3.3 million for the three months ended March 28, 2020 and March 30, 2019, respectively.

The estimated future amortization expense related to current intangible assets in each of the five succeeding fiscal years is expected to be as follows (in thousands):

	Cost of Revenue	Operating Expenses	Total
Remainder of 2020	$ 855	$ 743	$ 1,598
2021	1,140	779	1,919
2022	915	779	1,694
2023	240	779	1,019
2024	60	779	839
Thereafter	—	4,718	4,718
Total	$ 3,210	$ 8,577	$ 11,787

7. Accrued Expenses

Accrued expenses consisted of the following at (in thousands):

	March 28, 2020	December 28, 2019
Accrued other compensation	$ 16,232	$ 13,331
Accrued warranty	13,998	13,856
Current portion of operating lease liabilities	6,950	6,843
Accrued bonus	3,820	12,541
Accrued direct fulfillment costs	3,536	10,582
Accrued sales and other indirect taxes payable	2,460	12,440
Accrued federal and state income taxes	1,722	3,378
Accrued other	7,083	8,797
	$ 55,801	$ 81,768

8. Derivative Instruments

The Company operates internationally and, in the normal course of business, is exposed to fluctuations in foreign currency exchange rates. The foreign currency exposures typically arise from transactions denominated in currencies other than the functional currency of the Company's operations, primarily the British Pound, Canadian Dollar, Euro and Japanese Yen. The Company uses derivative instruments that are designated in cash flow hedge relationships to reduce or eliminate the effects of foreign exchange rate changes on sales. These contracts typically have maturities of thirty-seven months or less. At March 28, 2020 and December 28, 2019, the Company had outstanding cash flow hedges with a total notional value of $388.4 million and $424.6 million, respectively.

The Company also enters into economic hedges that are not designated as hedges from an accounting standpoint to reduce or eliminate the effects of foreign exchange rate changes typically related to short term trade receivables and payables. These contracts typically have maturities of twelve months or less. At March 28, 2020 and December 28, 2019, the Company had outstanding economic hedges with a total notional value of $72.5 million and $58.4 million, respectively.

The fair values of derivative instruments are as follows (in thousands):

		Fair Value	
	Classification	March 28, 2020	December 28, 2019
Derivatives not designated as hedging instruments:			
Foreign currency forward contracts	Other current assets	$ 1,756	$ 1,855
Foreign currency forward contracts	Accrued expenses	559	297
Derivatives designated as cash flow hedges:			
Foreign currency forward contracts	Other current assets	$ 7,398	$ 4,347
Foreign currency forward contracts	Other assets	11,737	9,112
Foreign currency forward contracts	Accrued expenses	—	47
Foreign currency forward contracts	Long-term liabilities	—	414

Gains (losses) associated with derivative instruments not designated as hedging instruments are as follows (in thousands):

		Three Months Ended	
	Classification	March 28, 2020	March 30, 2019
(Loss) gain recognized in income	Other (expense) income, net	$ (545)	$ 433

The following tables reflect the effect of derivatives designated as cash flow hedging (in thousands):

	Gain (loss) recognized in OCI on Derivative (1)	
	Three Months Ended	
	March 28, 2020	March 30, 2019
Foreign currency forward contracts	$ 7,566	$ 6,404

(1) The amount represents the change in fair value of derivative contracts due to changes in spot rates.

	Gain (loss) recognized in earnings on cash flow hedging instruments	
	Three Months Ended	
	March 28, 2020	March 30, 2019
	Revenue	Revenue
Consolidated statements of operations in which the effects of cash flow hedging instruments are recorded	$ 192,535	$ 237,661
Gain (loss) on cash flow hedging relationships:		
Foreign currency forward contracts:		
Amount of gain (loss) reclassified from AOCI into earnings	$ 1,957	$ (144)

9. Fair Value Measurements

The Company’s financial assets and liabilities measured at fair value on a recurring basis were as follows (in thousands):

	Fair Value Measurements as of March 28, 2020		
	Level 1	**Level 2 (1)**	**Level 3 (2)**
Assets:			
Money market funds	$ 120,144	$ —	$ —
Corporate bonds, $13,489 at cost (3)	—	13,509	—
Convertible notes	—	—	1,250
Derivative instruments (Note 8)	—	20,891	—
Total assets measured at fair value	$ 120,144	$ 34,400	$ 1,250
Liabilities:			
Derivative instruments (Note 8)	$ —	$ 559	$ —
Total liabilities measured at fair value	$ —	$ 559	$ —

	Fair Value Measurements as of December 28, 2019		
	Level 1	**Level 2 (1)**	**Level 3 (2)**
Assets:			
Corporate and government bonds, $17,016 at cost	$ —	$ 17,032	$ —
Derivative instruments (Note 8)	—	15,314	—
Total assets measured at fair value	$ —	$ 32,346	$ —
Liabilities:			
Derivative instruments (Note 8)	$ —	$ 758	$ —
Total liabilities measured at fair value	$ —	$ 758	$ —

(1) Level 2 fair value estimates are based on observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

(2) Level 3 fair value estimates are based on inputs that are generally unobservable and typically reflect management’s estimates of assumptions that market participants would use in pricing the asset or liability. Unobservable inputs used in the models are significant to the fair values of the assets and liabilities.

(3) As of March 28, 2020, the Company’s investments had maturity dates ranging from May 2020 to March 2021.

The following table provides a summary of changes in fair value of our Level 3 investment for the three months ended March 28, 2020 (in thousands):

Balance as of December 28, 2019	$ —
Investment in convertible notes	1,250
Balance as of March 28, 2020	$ 1,250

10. Stockholders' Equity

Share Repurchase Activity

The Company's Board of Directors approved a stock repurchase program authorizing up to $200.0 million in share repurchases from time to time until September 2021. On March 10, 2020, the Company entered into a Rule 10b5-1 plan to repurchase $25.0 million of common stock in the aggregate beginning March 13, 2020 and ending April 30, 2020. As of March 28, 2020, the Company repurchased 663,602 shares of its common stock at an average price of $37.65, totaling $25.0 million.

11. Commitments and Contingencies

Legal Proceedings

From time to time and in the ordinary course of business, the Company is subject to various claims, charges and litigation. The outcome of litigation cannot be predicted with certainty and some lawsuits, claims or proceedings may be disposed of unfavorably to us, which could materially affect our financial condition or results of operations. For the following litigation matters, a liability is not probable or the amount cannot be reasonably estimated and therefore accruals have not been made.

On October 24, 2019, purported Company shareholder Miramar Firefighters' Pension Fund filed a putative class action in the U.S. District Court for the Southern District of New York against the Company and certain of its directors and officers, captioned Miramar Firefighters' Pension Fund v. iRobot Corporation, et al., No. 1:19-cv-09837. The case has been transferred to the U.S. District Court for the District of Massachusetts. A similar case captioned Campbell v. iRobot Corporation, et al., No. 1:19-cv-12483 was also filed in the U.S. District Court for the Southern District of New York and subsequently transferred to the U.S. District Court for the District of Massachusetts. On January 24, 2020, the Court consolidated the Miramar and Campbell cases and appointed a lead plaintiff and lead plaintiff's Counsel. On April 3, 2020, the plaintiff filed an amended complaint alleging violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 thereunder based on allegedly false and misleading statements and omissions concerning the impact of competition and Section 301 tariffs on the Company's financial performance.

On December 20, 2019, purported Company shareholders David Katz and Thomas Wightman, derivatively on behalf of iRobot Corporation, filed a complaint in the U.S. District Court for Southern District of New York against the Company and certain of its directors and officers, captioned David Katz and Thomas Wightman, on behalf of iRobot Corporation v. iRobot Corporation, et al., No. 1:19-cv-11692. The complaint alleges breaches of fiduciary duties, unjust enrichment, violations of Sections 10(b) and 20(a) of the Exchange Act and Rule 10b-5 thereunder based on allegedly false and misleading statements and omissions concerning the Company's acquisitions of Sales on Demand Corporation and Robopolis SAS and the Company's subsequent financial performance. The complaint seeks, among other things, unspecified compensatory damages, including interest, in connection with the Company's allegedly inflated stock price, attorneys' fees and costs, and unspecified equitable/injunctive relief. This case has been transferred to the U.S. District Court for the District of Massachusetts.

On January 9, 2020, purported Company shareholder Robert Truman, derivatively on behalf of iRobot Corporation, filed a complaint in the U.S. District Court for the District of Massachusetts against the Company and certain of its directors and officers, captioned Robert Truman, on behalf of iRobot Corporation v. iRobot Corporation, et al., No. 1:20-cv-10034. The complaint alleges breaches of fiduciary duties, unjust enrichment, abuse of control, gross mismanagement, waste of corporate assets, and violations of Sections 10(b), 14(a) and 20(a) of the Exchange Act and Rule 10b-5 thereunder based on allegedly false and misleading statements and omissions concerning the Company's acquisitions of Sales on Demand Corporation and Robopolis SAS and the Company's subsequent financial performance. The complaint seeks, among other things, unspecified compensatory damages, including interest, in connection with the Company's allegedly inflated stock price, attorneys' fees and costs, and unspecified equitable/injunctive relief.

On January 22, 2020, purported Company shareholder Alexa Ruhfass, derivatively on behalf of iRobot Corporation, filed a complaint in the U.S. District Court of the District of Massachusetts against the Company and certain of its directors and officers, captioned Alexa Ruhfass, on behalf of iRobot Corporation v. iRobot Corporation, et al., No. 1:20-cv-10133. The complaint alleges breaches of fiduciary duties, unjust enrichment, waste of corporate assets, and violations of Sections 14(a) and 20(a) of the Exchange Act and Rule 10b-5 thereunder based on allegedly false and misleading statements and omissions concerning the Company's acquisitions of Sales on Demand Corporation and Robopolis SAS and the Company's subsequent financial performance. The complaint seeks, among other things, unspecified compensatory damages, including interest, in connection with the Company's allegedly inflated stock price, attorneys' fees and costs, and unspecified equitable/injunctive relief.

On February 10, 2020, purported Company shareholder William Tasco, derivatively on behalf of iRobot Corporation, filed a complaint in the U.S. District Court for the District of Massachusetts against the Company and certain of its directors and officers, captioned William Tasco, derivatively on behalf of iRobot Corporation v. iRobot Corporation, et al., No. 1:20-

cv-10253. The complaint alleges breaches of fiduciary duties, unjust enrichment, abuse of control, gross mismanagement, waste of corporate assets, and violations of Sections 10(b), 14(a) and 20(a) of the Exchange Act and Rule 10b-5 thereunder based on allegedly false and misleading statements and omissions concerning the Company's acquisitions of Sales on Demand Corporation and Robopolis SAS and the Company's subsequent financial performance. The complaint seeks, among other things, unspecified compensatory damages, including interest, in connection with the Company's allegedly inflated stock price, attorneys' fees and costs, and unspecified equitable/injunctive relief.

Outstanding Purchase Orders

At March 28, 2020, the Company had outstanding purchase orders aggregating approximately $154.0 million. The purchase orders, the majority of which are with the Company's contract manufacturers for the purchase of inventory in the normal course of business, are for manufacturing and non-manufacturing related goods and services, and are generally cancelable without penalty. In circumstances where the Company has determined that it has financial exposure associated with any of these commitments, the Company records a liability in the period in which that exposure is identified.

Guarantees and Indemnification Obligations

The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to these agreements, the Company indemnifies and agrees to reimburse the indemnified party for losses incurred by the indemnified party, generally the Company’s customers, in connection with any patent, copyright, trade secret or other proprietary right infringement claim by any third party. The term of these indemnification agreements is generally perpetual any time after execution of the agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. The Company has never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, the Company believes the estimated fair value of these agreements is minimal. Accordingly, the Company has no liabilities recorded for these agreements as of March 28, 2020 and December 28, 2019, respectively.

Warranty

The Company provides warranties on most products and has established a reserve for warranty obligations based on estimated warranty costs. The reserve is included as part of accrued expenses (Note 7) in the accompanying consolidated balance sheets.

Activity related to the warranty accrual was as follows (in thousands):

	Three Months Ended	
	March 28, 2020	March 30, 2019
Balance at beginning of period	$ 13,856	$ 11,964
Provision	4,475	2,652
Warranty usage	(4,333)	(2,988)
Balance at end of period	$ 13,998	$ 11,628

12. Income Taxes

The Company’s effective income tax rate for the three months ended March 28, 2020 and March 30, 2019, was 10.4% and 4.3%, respectively. The increase in the effective income tax rate was primarily due to the recognition of a valuation allowance on certain state income tax credits and lower tax benefits recognized related to stock-based compensation.

The Company's effective income tax rate of 10.4% for the three months ended March 28, 2020 differed from the federal statutory tax rate of 21% primarily due to the recognition of a valuation allowance on certain state income tax credits and tax expense related to stock-based compensation.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted in response to the COVID-19 pandemic. The Company is currently evaluating the impact of the CARES Act, but at present does not expect the CARES Act would result in any material tax benefit.

13. Industry Segment, Geographic Information and Significant Customers

The Company operates as one operating segment. The Company's consumer robots products are offered to consumers through a variety of distribution channels, including chain stores and other national retailers, through its on-line stores, and through value-added distributors and resellers worldwide.

Significant Customers

For the three months ended March 28, 2020 and March 30, 2019, the Company generated 13.4% and 16.1% of total revenue, respectively, from one of its retailers (Amazon).

14. Subsequent Event

On April 24, 2020, the Company was granted a temporary exclusion from Section 301 List 3 tariffs by the United States Trade Representative. This exclusion eliminates the 25% tariff on Roomba products until August 7, 2020 and entitles the Company to a refund of approximately $57.0 million in tariffs paid since the date the Section 301 List 3 tariffs were imposed. No amounts have been recorded in the consolidated financial statements as of and for the three months ended March 28, 2020.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The information contained in this section has been derived from our consolidated financial statements and should be read together with our consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q. This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended, or the Exchange Act, and are subject to the "safe harbor" created by those sections. In particular, statements contained in this Quarterly Report on Form 10-Q that are not historical facts, including, but not limited to statements concerning the impact of cost reduction actions and potential savings, new product sales, the timing of product launches, product development and offerings, our consumer robots, our competition, our strategy, our market position, the impact of tariffs, the recognition and timing of tariff refunds, the impact of COVID-19 on our business, our supply chain, market acceptance of our products, seasonal factors, revenue recognition, the impact of new accounting standards, credit losses, our profits, growth of our revenues, composition of our revenues, our cost of revenues, units shipped, average selling prices, operating expenses, selling and marketing expenses, general and administrative expenses, research and development expenses, compensation costs, our projected income tax rate, our credit and letter of credit facilities and expected use thereof, our valuations of investments, valuation and composition of our stock-based awards, and liquidity, constitute forward-looking statements and are made under these safe harbor provisions. Some of the forward-looking statements can be identified by the use of forward-looking terms such as "believes," "expects," "may," "will," "should," "could," "seek," "intends," "plans," "estimates," "anticipates," or other comparable terms. Forward-looking statements involve inherent risks and uncertainties, which could cause actual results to differ materially from those in the forward-looking statements. We urge you to consider the risks and uncertainties discussed in greater detail under the heading "Risk Factors" in this Quarterly Report on Form 10-Q and in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 28, 2019 in evaluating our forward-looking statements. We have no plans to update our forward-looking statements to reflect events or circumstances after the date of this report. We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made.

Overview

iRobot is a leading consumer robot company that designs and builds robots that empower people to do more both inside and outside of the home. Our consumer robots help people find smarter ways to clean and accomplish more in their daily lives. Our portfolio of solutions features proprietary technologies for the connected home and advanced concepts in cleaning, mapping and navigation, human-robot interaction and physical solutions. Leveraging this portfolio, our engineers are building an ecosystem of robots to empower the smart home. For more than 25 years, we have been a pioneer in the robotics and consumer products industries. We sell our robots through a variety of distribution channels, including chain stores and other national retailers, through our on-line store, and through value-added distributors and resellers worldwide.

As of March 28, 2020, we had 1,147 full-time employees. We have developed expertise in the disciplines necessary to design, build, sell and support durable, high-performance and cost-effective robots through the close integration of software, electronics and hardware. Our core technologies serve as reusable building blocks that we adapt and expand to create next-generation robotic platforms. We believe that this approach accelerates the time to market, while also reducing the costs and risk associated with product development. Our significant expertise in consumer needs, robot design, engineering and smart home technologies and trends positions us to capitalize on the growth we expect in the market for robot-based consumer products.

Our continued success depends upon our ability to respond to a number of challenges in the consumer robots market. We believe the most significant of these include increasing competition and our ability to successfully develop and introduce products and product enhancements into both new and existing markets. Furthermore, we believe that our efforts to cost-optimize our products and diversify our contract manufacturing and broader supply chain will continue to play an important role in maintaining competitive product pricing, reducing supply-chain risk and limiting China-related tariff exposure, among other factors that impact our financial condition and results of operations.

During the first quarter of 2020, the global pandemic related to the novel coronavirus (COVID-19) presented significant challenges and adversely impacted our business and operating results. The pandemic directly and indirectly disrupted certain sales and supply chain activities and impacted our ability to address those challenges during the first quarter, which resulted in first-quarter revenue and a net loss per share that was below our original targets. The pandemic has continued to have an adverse impact during the beginning of the second quarter of 2020, and we expect that the pandemic will continue to have an adverse impact over the coming quarters, including on the magnitude and timing of orders by retailers, resellers, distributors and consumers. In light of the adverse impact of COVID-19 on our business and on macroeconomic conditions domestically and internationally, along with the uncertainty associated with a potential recovery, we implemented cost-reduction actions in April 2020 that are aimed at generating net savings of approximately $30.0 million in 2020 while enabling us to accelerate investment in key initiatives. Our actions to date included reducing our workforce by approximately 5%, furloughing retail-facing marketing staff in Europe, reducing hiring plans, suspending go-to-market and development plans for our Terra robot mower, adjusting short-term incentive compensation and curtailing working media spending. We are unable at this time to predict the full impact of COVID-19 on our operations, liquidity and financial results, and, depending on the magnitude and duration of the COVID-19 pandemic, such impact may be material. We expect to see an adverse impact to our revenue, earnings and cash flows due to the COVID-19 pandemic in the second quarter, which may also continue into the third quarter or beyond. Accordingly, current results and financial condition discussed herein may not be indicative of future operating results and trends. Refer to "Risk Factors" for further discussion of the impact of the COVID-19 pandemic on our business.

iRobot has continued to advance innovation and bring new products to market in recent quarters. During the first quarter of 2019, we launched Roomba i7 and i7+ in EMEA, Japan and China. During the second quarter of 2019, we successfully launched two new cleaning robots in the U.S., the Roomba s9 and s9+, which, along with the features of the Roomba i7 and i7+, are robot vacuums that can clean deep into corners and along edges, and the Braava jet m6 robot mop, which can tackle multiple rooms and large spaces with advanced navigation and mapping capabilities. Together, these two robots can use Imprint Link Technology to talk to each other, automatically vacuuming and then mopping without additional action by the user. During the third quarter of 2019, the s9 and s9+ were launched in EMEA, while the m6 was launched in both EMEA and Japan. The s9 and s9+ were launched in Japan and all other target markets in early 2020.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses. These estimates and judgments include, but are not limited to, revenue recognition including performance obligations, variable consideration and other obligations such as product returns and incentives; allowance for credit losses; warranty costs; valuation of goodwill and acquired intangible assets; evaluating loss contingencies; accounting for stock-based compensation including performance-based assessments; and accounting for income taxes and related valuation allowances. We base these estimates and judgments on historical experience, market participant fair value considerations, projected future cash flows and various other factors that we believe are reasonable under the circumstances. Actual results may differ from our estimates. Additional information about these critical accounting policies may be found in the "Management’s Discussion and Analysis of Financial Condition and Results of Operations" section included in our Annual Report on Form 10-K for the fiscal year ended December 28, 2019.

Effective December 29, 2019, we adopted the new credit losses standard under Accounting Standards Codification 326. The new standard did not result in an adjustment upon adoption. Although the Company historically has not experienced significant credit losses as it relates to trade accounts receivable, the COVID-19 pandemic has caused uncertainty in some customer accounts. As a result, the Company recorded its estimate of credit losses, resulting in an increase to the reserve and bad debt expense of $4.5 million during the three months ended March 28, 2020. As of March 28, 2020, the Company has an allowance for credit losses of $5.7 million. We have updated our accounting policy in Note 2 of the consolidated financial statements.

Overview of Results of Operations

The following table sets forth our results of operations as a percentage of revenue:

	Three Months Ended	
	March 28, 2020	March 30, 2019
Revenue	100.0 %	100.0%
Cost of revenue:		
Cost of product revenue	59.4	48.4
Amortization of acquired intangible assets	0.1	1.3
Total cost of revenue	59.5	49.7
Gross profit	40.5	50.3
Operating expenses:		
Research and development	19.1	14.8
Selling and marketing	19.0	16.4
General and administrative	12.8	9.6
Amortization of acquired intangible assets	0.1	0.1
Total operating expenses	51.0	40.9
Operating (loss) income	(10.5)	9.4
Other (expense) income, net	—	0.5
(Loss) income before income taxes	(10.5)	9.9
Income tax (benefit) expense	(1.1)	0.4
Net (loss) income	(9.4)%	9.5%

Comparison of Three Months Ended March 28, 2020 and March 30, 2019

Revenue

	Three Months Ended			
	March 28, 2020	March 30, 2019	Dollar Change	Percent Change
	(In thousands)			
Revenue	$ 192,535	$ 237,661	$ (45,126)	(19.0)%

Revenue for the three months ended March 28, 2020 decreased $45.1 million to $192.5 million, or 19.0%, compared to $237.7 million for the three months ended March 30, 2019. Our revenue during the first quarter of 2020 was negatively affected primarily by our ability to fulfill all first-quarter demand for certain products due to design-driven supply chain challenges that were further complicated by the impact of COVID-19 on our organization, our contract manufacturers and some suppliers. Our revenue was also affected to a much lesser extent by suboptimal manufacturing volumes for the first quarter of 2020 in China as our contract manufacturers did not ramp back up to full capacity until late March. Another secondary factor impacting first-quarter revenue was order reductions, delays and cancelations for our products by retailers resulting from the COVID-19 pandemic. The average gross selling price decreased 1.9% for the three months ended March 28, 2020 as compared to the three months ended March 30, 2019. Total robots shipped in the three months ended March 28, 2020 decreased 17.7% to approximately 0.7 million units, compared to the three months ended March 30, 2019. In the three months ended March 28, 2020, domestic revenue decreased $32.1 million, or 28.1%, and international revenue decreased $13.0 million, or 10.5%, as compared to the three months ended March 30, 2019. We anticipate that revenue in the second quarter of 2020 will be modestly below our first quarter results given the impact of the pandemic on our retail partners and consumers.

Cost of Product Revenue

	Three Months Ended						
	March 28, 2020		March 30, 2019		Dollar Change		Percent Change
	(In thousands)						
Cost of product revenue	$	114,295	$	115,038	$	(743)	(0.6)%
As a percentage of revenue		59.4%		48.4%			

Cost of product revenue decreased slightly to $114.3 million in the three months ended March 28, 2020, compared to $115.0 million in the three months ended March 30, 2019. The $0.7 million decrease in cost of product revenue is primarily due to the decrease in revenue, offset by the higher Section 301 List 3 tariffs on our Roomba products imported into the United States from China. Effective September 24, 2018, these tariffs were set at 10%, and effective May 10, 2019, these tariffs were further increased to 25%. On April 24, 2020, we were granted a temporary exclusion from Section 301 List 3 tariffs by the United States Trade Representative. This exclusion eliminates the 25% tariff on Roomba products until August 7, 2020 and entitles us to a refund of approximately $57.0 million in tariffs paid since the date the Section 301 List 3 tariffs were imposed, none of which have been recorded as a benefit in the consolidated financial statements as of and for the three months ended March 28, 2020. We expect to recognize this one-time benefit of approximately $47.0 million of tariffs paid in 2018 and 2019 to cost of product revenue in the quarter ending June 27, 2020.

Gross Profit

	Three Months Ended						
	March 28, 2020		March 30, 2019		Dollar Change		Percent Change
	(In thousands)						
Gross profit	$	77,955	$	119,546	$	(41,591)	(34.8)%
Gross margin		40.5%		50.3%			

Gross margin decreased to 40.5% in the three months ended March 28, 2020 compared to 50.3% in the three months ended March 30, 2019. The decrease in gross margin is primarily related to increased promotional activity and pricing reductions for certain products and to a lesser extent by higher tariff expenses. We anticipate gross margin in future quarters to continue to be lower than the comparable periods of 2019 due primarily to higher promotional costs and lower pricing, offset by relief from the temporary exclusion of tariffs through August 7, 2020. As noted under "Cost of Product Revenue" above, we expect that our gross profit for the second quarter ending June 27, 2020 will benefit from the recognition of the refund of approximately $47.0 million in tariffs that were paid in 2018 and 2019, which will be recorded to cost of product revenue.

Research and Development

	Three Months Ended						
	March 28, 2020		March 30, 2019		Dollar Change		Percent Change
	(In thousands)						
Research and development	$	36,759	$	35,269	$	1,490	4.2%
As a percentage of revenue		19.1%		14.8%			

Research and development expenses increased $1.5 million, or 4.2%, to $36.8 million (19.1% of revenue) in the three months ended March 28, 2020 from $35.3 million (14.8% of revenue) in the three months ended March 30, 2019. This increase is primarily due to increases in people-related and program-related costs of $0.9 million and $0.7 million, respectively.

Selling and Marketing

	Three Months Ended						
	March 28, 2020		March 30, 2019		Dollar Change		Percent Change
	(In thousands)						
Selling and marketing	$	36,594	$	38,836	$	(2,242)	(5.8)%
As a percentage of revenue		19.0%		16.4%			

Selling and marketing expenses decreased $2.2 million, or 5.8%, to $36.6 million (19.0% of revenue) in the three months ended March 28, 2020 from $38.8 million (16.4% of revenue) in the three months ended March 30, 2019. This decrease was primarily attributable to delayed implementation of certain marketing activities as a result of the pandemic. We expect selling and marketing costs will increase during the second quarter of 2020, consistent with historical trending as we accelerate working media to drive demand around the Mother's Day holiday and other events in the second quarter.

General and Administrative

	Three Months Ended			
	March 28, 2020	March 30, 2019	Dollar Change	Percent Change
	(In thousands)			
General and administrative	$ 24,573	$ 22,907	$ 1,666	7.3%
As a percentage of revenue	12.8%	9.6%		

General and administrative expenses increased $1.7 million, or 7.3%, to $24.6 million (12.8% of revenue) in the three months ended March 28, 2020 from $22.9 million (9.6% of revenue) in the three months ended March 30, 2019 primarily attributable to an increase of $4.5 million in the allowance for credit losses associated with the uncertainty of collection from certain customer accounts resulting from the global pandemic, offset by lower stock-based and other incentive compensation costs of $2.3 million.

Amortization of Acquired Intangible Assets

	Three Months Ended			
	March 28, 2020	March 30, 2019	Dollar Change	Percent Change
	(In thousands)			
Cost of revenue	$ 285	$ 3,077	$ (2,792)	(90.7)%
Operating expense	254	271	(17)	(6.3)%
Total amortization expense	$ 539	$ 3,348	$ (2,809)	(83.9)%
As a percentage of revenue	0.3%	1.4%		

The decrease in amortization of acquired intangible assets in the three months ended March 28, 2020 as compared to the three months ended March 30, 2019, was primarily related to the reacquired distribution rights intangible asset which was fully amortized in the fourth quarter of 2019.

Other (Expense) Income, Net

	Three Months Ended			
	March 28, 2020	March 30, 2019	Dollar Change	Percent Change
	(In thousands)			
Other (expense) income, net	$ (19)	$ 1,280	$ (1,299)	(101.5)%
As a percentage of revenue	— %	0.5%		

Other (expense) income, net, amounted to $0.0 million and $1.3 million for the three months ended March 28, 2020 and March 30, 2019, respectively. Other income, net includes interest income, interest expense, foreign currency gains (losses) as well as gains (losses) from strategic investments.

Income Tax (Benefit) Expense

	Three Months Ended			
	March 28, 2020	March 30, 2019	Dollar Change	Percent Change
	(In thousands)			
Income tax (benefit) expense	$ (2,109)	$ 1,023	$ (3,132)	(306.2)%
Effective income tax rate	10.4%	4.3%		

We recorded an income tax benefit of $2.1 million and income tax expense of $1.0 million for the three months ended March 28, 2020 and March 30, 2019, respectively. The $2.1 million income tax benefit for the three months ended March 28, 2020 resulted in an effective income tax rate of 10.4%. The $1.0 million income tax expense for the three months ended March 30, 2019 resulted in an effective income tax rate of 4.3%. The increase in the effective income tax rate was primarily due to the recognition of a valuation allowance on certain state income tax credits and lower tax benefits recognized related to stock-based compensation.

Our effective income tax rate of 10.4% for the three months ended March 28, 2020 differed from the federal statutory tax rate of 21% primarily due to the recognition of a valuation allowance on certain state income tax credits and tax expense related to stock-based compensation.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted in response to the COVID-19 pandemic. We are currently evaluating the impact of the CARES Act, but at present do not expect the CARES Act would result in any material tax benefit.

Liquidity and Capital Resources

At March 28, 2020, our principal sources of liquidity were cash and cash equivalents totaling $248.8 million and short-term investments of $14.8 million. Our working capital, which represents our total current assets less total current liabilities, was $351.2 million as of March 28, 2020, compared to $321.8 million as of March 30, 2019.

We manufacture and distribute our products through contract manufacturers and third-party logistics providers. We believe this approach gives us the advantages of relatively low capital investment and significant flexibility in scheduling production and managing inventory levels. By leasing our office facilities, we also minimize the cash needed for expansion. Accordingly, our capital spending is generally limited to machinery and tooling, leasehold improvements, business applications software and computer and equipment. In the three months ended March 28, 2020 and March 30, 2019, we spent $7.3 million and $6.0 million, respectively, on capital expenditures.

Our strategy for delivering consumer products to our distributors and retail customers gives us the flexibility to provide container shipments directly from our contract manufacturers in Southern China and Malaysia to our customers and, alternatively, allows our distributors and certain retail customers to take possession of product on a domestic basis. Accordingly, our inventory consists of goods shipped to our third-party logistics providers for the fulfillment of distributor, retail and direct-to-consumer sales. Our contract manufacturers are also responsible for purchasing and stocking components required for the production of our products, and they typically invoice us when the finished goods are shipped.

As a result of the COVID-19 pandemic, we have taken, and are continuing to take, certain actions to increase liquidity and strengthen our financial position. We implemented cost-reduction actions in April 2020 that are aimed at generating net savings of approximately $30.0 million in 2020 while enabling us to accelerate investment in key initiatives. Our actions included reducing our workforce by approximately 5%, furloughing retail-facing marketing staff in Europe, reducing hiring plans, suspending go-to-market and development plans for our Terra robot mower, adjusting short-term incentive compensation and curtailing working media spending. On April 24, 2020, we were granted a temporary exclusion from Section 301 List 3 tariffs by the United States Trade Representative. This exclusion eliminates the 25% tariff on Roomba products until August 7, 2020 and entitles us to a refund of approximately $57.0 million in tariffs paid since the date the Section 301 List 3 tariffs were imposed, of which approximately $47.0 million will be recognized as a benefit to cost of product revenue in the quarter ending June 27, 2020. We expect to receive the refund of approximately $57.0 million within the next twelve months, which we believe is likely to be distributed in multiple payments, subject to the timing of releases from U.S. Customs.

We historically experience cash outflows during the second and third quarters, and our cash burn will likely be exacerbated over the next two quarters given our anticipated near-term fundamentals and the need to build inventory in advance of the holiday sales season. While this is likely to require drawing down on our revolving line of credit, we expect that any borrowing will be short-term in nature if and to the extent order levels recover during the second half of the year.

Cash provided by operating activities

Net cash provided by operating activities for the three months ended March 28, 2020 was $40.7 million, of which the principal components were favorable changes in working capital of $45.2 million and non-cash charges of $13.7 million, partially offset by our net loss of $18.1 million resulting directly and indirectly from the challenges associated with COVID-19. The changes in working capital include decreases in accounts receivable, inventory and accounts payable and accrued expenses of $108.8 million, $9.8 million and $67.8 million, respectively.

Cash used in investing activities

Net cash used in investing activities for the three months ended March 28, 2020 was $5.4 million. During the three months ended March 28, 2020, we invested $7.3 million in the purchase of property and equipment, including machinery and tooling for new products. In addition, we made strategic investments of $1.6 million, while proceeds from the sales and maturities of marketable securities amounted to $3.5 million.

Cash used in financing activities

Net cash used in financing activities for the three months ended March 28, 2020 was $25.9 million, which primarily reflects the repurchase of 663,602 shares of our common stock for $25.0 million under the stock repurchase program.

Working Capital Facilities

Credit Facility

In June 2018, we entered into a new agreement with Bank of America, N.A., increasing the amount of our unsecured revolving line of credit from $75.0 million to $150.0 million and extending the term of the credit facility to June 2023. As of March 28, 2020, we had no outstanding borrowings under our revolving credit facility. The revolving line of credit is available to fund working capital and other corporate purposes. The interest on loans under our credit facility accrues, at our election, at either (1) LIBOR plus a margin, currently equal to 1.0%, based on our ratio of indebtedness to Adjusted EBITDA (the "Eurodollar Rate"), or (2) the lender's base rate. The lender's base rate is equal to the highest of (1) the federal funds rate plus 0.5%, (2) the lender's prime rate and (3) the Eurodollar Rate plus 1.0%. In the event that LIBOR is discontinued as expected in 2021, we expect the interest rates for our debt following such event will be based on either alternate base rates or agreed upon replacement rates. While we do not expect a LIBOR discontinuation would affect our ability to borrow or maintain already outstanding borrowings, it could result in higher interest rates.

The credit facility contains customary terms and conditions for credit facilities of this type, including restrictions on our ability to incur or guarantee additional indebtedness, create liens, enter into transactions with affiliates, make loans or investments, sell assets, pay dividends or make distributions on, or repurchase, our stock, and consolidate or merge with other entities. In addition, we are required to meet certain financial covenants customary with this type of agreement, including maintaining a maximum ratio of indebtedness to Adjusted EBITDA and a minimum specified interest coverage ratio.

The credit facility contains customary events of default, including for payment defaults, breaches of representations, breaches of affirmative or negative covenants, cross defaults to other material indebtedness, bankruptcy and failure to discharge certain judgments. If a default occurs and is not cured within any applicable cure period or is not waived, our obligations under the credit facility may be accelerated.

As of March 28, 2020, we were in compliance with all covenants under the revolving credit facility.

Lines of Credit

We have an unsecured letter of credit facility with Bank of America, N.A., available to fund letters of credit up to an aggregate outstanding amount of $5.0 million. As of March 28, 2020, we had letters of credit outstanding of $0.5 million under our letter of credit facility.

We have an unsecured guarantee line of credit with Mizuho, Bank Ltd., available to fund import tax payments up to an aggregate outstanding amount of 220.0 million Japanese Yen. As of March 28, 2020, we had no outstanding balance under the guarantee line of credit.

Working Capital and Capital Expenditure Needs

We currently have no material cash commitments, except for normal recurring trade payables, expense accruals, capital expenditures and operating leases, all of which we anticipate funding through working capital, funds provided by operating activities and our existing revolving line of credit. We believe our outsourced approach to manufacturing provides us with flexibility in both managing inventory levels and financing our inventory. We believe our existing cash and cash equivalents, short-term investments, and funds available through our revolving line of credit will be sufficient to meet our working capital and capital expenditure needs over at least the next twelve months. In the event our revenue plan does not meet our expectations, we may eliminate or curtail expenditures to mitigate the impact on our working capital. Our future capital requirements will depend on many factors, including our rate of revenue growth or decline, the expansion or contraction of our marketing and sales activities, the timing and extent of spending to support product development efforts, the timing of introductions of new products and enhancements to existing products, the acquisition of new capabilities or technologies, the continuing market acceptance of our products and services, and the impact of COVID-19 on our business. Moreover, to the extent existing cash and cash equivalents, short-term investments, cash from operations, and cash from short-term borrowing are insufficient to fund our future activities, we may need to raise additional funds through public or private equity or debt financing. As part of our business strategy, we may consider additional acquisitions of companies, technologies and products, which could also require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us or at all.

Contractual Obligations

The disclosure of our contractual obligations and commitments is set forth under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations - Contractual Obligations" in our Annual Report on Form 10-K for the year ended December 28, 2019. Our principal commitments generally consist of obligations under our credit facility, leases for office space and minimum contractual obligations. Other obligations consist of primarily of subscription services. There have been no material changes in our contractual obligations and commitments since December 28, 2019.

Off-Balance Sheet Arrangements

As of March 28, 2020, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K.

Recently Adopted Accounting Pronouncements

See Note 2 to the Consolidated Financial Statements for a discussion of recently adopted accounting pronouncements.

Recently Issued Accounting Pronouncements

See Note 2 to the Consolidated Financial Statements for a discussion of recently issued accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosure About Market Risk

Exchange Rate Sensitivity

Our international revenue and expenses are denominated in multiple currencies, including British Pounds, Canadian Dollars, Chinese Renminbi, Euros and Japanese Yen. As such, we have exposure to adverse changes in exchange rates associated with the revenue and operating expenses of our foreign operations. Any fluctuations in other currencies will have minimal direct impact on our international revenue.

In addition to international business conducted in foreign currencies, we have international revenue denominated in U.S. dollars. As the U.S. dollar strengthens or weakens against other currencies, our international distributors may be impacted, which could affect their profitability and our ability to maintain current pricing levels on our international consumer products.

We regularly monitor the forecast of non-U.S. dollar revenue and expenses and the level of non-U.S. dollar monetary asset and liability balances to determine if any actions, including possibly entering into foreign currency contracts should be taken to minimize the impact of fluctuating exchange rates on our results of operations. Periodically, we enter into forward exchange contracts to hedge against foreign currency fluctuations. These contracts may or may not be designated as cash flow hedges for accounting purposes. We use cash flow hedges primarily to reduce the effects of foreign exchange rate changes on sales in Euros and Japanese Yen. At March 28, 2020 and December 28, 2019, we had outstanding cash flow hedges with a total notional value of $388.4 million and $424.6 million, respectively.

We also enter into economic hedges that are not designated as hedges from an accounting standpoint to reduce or eliminate the effects of foreign exchange rate changes typically related to short term trade receivables and payables. These contracts have maturities of twelve months or less. At March 28, 2020 and December 28, 2019, we had outstanding economic hedges with a total notional value of $72.5 million and $58.4 million, respectively.

At March 28, 2020, assuming all other variables are constant, if the U.S. Dollar weakened or strengthened by 10%, the fair market value of our foreign currency contracts would increase or decrease by approximately $38.7 million.

Item 4. Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act as of the end of the period covered by this report. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures as of the end of the period covered by this report were effective at a reasonable assurance level in ensuring that information required to be disclosed by us in reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission’s rules and forms; and (ii) accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely discussions regarding required disclosure. We believe that a control system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the control system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

There was no change in our internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) that occurred during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Part II. Other Information

Item 1. Legal Proceedings

This information is included in Note 11, Commitments and Contingencies, in the accompanying notes to the unaudited consolidated financial statements and is incorporated herein by reference from Item 1 of Part I.

Item 1A. Risk Factors

We operate in a rapidly changing environment that involves a number of risks that could materially affect our business, financial condition or future results, some of which are beyond our control. In addition to the other information set forth in this report, the risks and uncertainties that we believe are most important for you to consider are discussed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 28, 2019, which could materially affect our business, financial condition or future results. Additional risks and uncertainties not presently known to us, which we currently deem immaterial or which are similar to those faced by other companies in our industry or business in general, may also impair our business operations. There are no material changes to the Risk Factors described in our Annual Report on Form 10-K for the year ended December 28, 2019, other than as set forth below:

Our business has been, and will continue to be, adversely affected by the ongoing coronavirus pandemic.

The outbreak of the novel coronavirus has evolved into a global pandemic. The coronavirus has already directly and indirectly impacted our business and operating results but the full extent of its impact will depend on future developments that are uncertain and cannot be accurately predicted, including new information that may emerge concerning the coronavirus and the actions to contain the coronavirus or treat its impact, among others. The ultimate impact of the current pandemic, or any other health epidemic, is highly uncertain and subject to change not only with the spread of the disease, but also with the scope and timing of governmental, regulatory, fiscal, monetary and public health responses.

As the coronavirus continues to spread, our business operations could be further disrupted or delayed. The pandemic has already resulted in, and may continue to result in, work stoppages, slowdowns and delays, travel restrictions, event cancellation, and other factors that cause an increase in costs or order cancellations, reductions or delays. For example, our manufacturing supply chain has been and may continue to be adversely affected with production delays or limited manufacturing volumes associated with factory shutdowns or reduced numbers of workers or working hours in the factories, limits on component supplies and diminished capability to implement engineering and design changes in a timely manner. In addition, quarantines, stay at home orders and other travel limitations (whether voluntary or required) impede our employees’ ability to efficiently conduct research and development activities or oversee manufacturing activities, which may slow innovation, lead to higher costs or both. Further, if the spread of the coronavirus pandemic continues and our operations continue to be adversely impacted, we risk a delay, default, violation and/or non-compliance under existing agreements.

The spread of the coronavirus, which has caused a broad impact globally, including restrictions on travel and quarantine policies put into place by businesses and governments, has had and may continue to have a material economic effect on our business. For example, the pandemic and related measures taken to limit the spread of disease has resulted in higher unemployment and greater economic uncertainty, which may adversely affect consumer purchasing behavior. Further, retail store closures, whether temporary or permanent, as well as limited operating hours and restrictions on foot traffic in stores may continue to adversely affect sales of our products. Certain retailers, who we rely on for a significant portion of our revenue, have begun, and may continue, to unilaterally stretch payables to us that may increase our accounts receivable, strain our liquidity, and increase the likelihood of our failure to collect on product previously sold.

While the potential economic impact and the duration of the pandemic may be difficult to assess or predict, it has already caused, and is likely to result in further, significant disruption of global financial markets. In addition, a recession, depression or other sustained adverse market event resulting from the spread of the coronavirus could materially and adversely affect our business, our access to needed capital and liquidity, and the value of our common stock. We do not yet know the full extent of potential delays or impacts on our business, our industry or the global economy as a whole. Additionally, while significant efforts are underway to slow the spread of the disease, develop vaccines and therapeutics, it is unclear when or whether progress in any of those areas will translate into an economic recovery that will restore consumer confidence and accelerate consumer spending. Accordingly, given that the potential of these effects of the current pandemic on our operations has been and will likely continue to be material, we will continue to monitor the situation closely.

If we experience a disaster or other business continuity problem, we may not be able to recover successfully, which could cause material financial loss, loss of human capital, regulatory actions, reputational harm, or legal liability.

If we experience a local or regional disaster or other business continuity problem, such as an earthquake, terrorist attack, pandemic or other natural or man-made disaster, our continued success will depend, in part, on the availability of our personnel, our office facilities, and the proper functioning of our computer, telecommunication and other related systems and operations. As we grow our operations in new geographic regions, the potential for particular types of natural or man-made disasters, political, economic or infrastructure instabilities, or other country- or region-specific business continuity risks increases. For example, in December 2019, a strain of coronavirus has been reported to have surfaced in Wuhan, China, which has disrupted and will continue to disrupt our supply chain and manufacturers, resulting in a disruption in manufacturing our products as further discussed in the risk factors entitled "*We depend on a limited number of manufacturers, and our reputation and results of operations would be harmed if these manufacturers fail to meet our requirements*" and "*Our business has been, and will continue to be, adversely affected by the ongoing coronavirus pandemic"*.

Significant developments from the recent and potential changes in U.S. trade policies have had, and may continue to have, a material adverse effect on our business, financial condition and results of operations.

The U.S. government has indicated its intent to alter its approach to international trade policy and in some cases to renegotiate, or potentially terminate, certain existing bilateral or multi-lateral trade agreements and treaties with foreign countries. Effective September 24, 2018, the U.S. government implemented a 10% tariff on certain goods imported from China, which include the majority of those imported by the Company. These tariffs were increased to 25% on May 10, 2019 and were slated to further increase to 30% in October 2019 until a last-minute interim deal was reached between the United States and China. Although the United States and China signed a new trade agreement in January 2020, most of the previously-implemented tariffs on goods imported from China remain in place (including the tariffs described above), and uncertainty remains as to the short-term and long-term future of economic relations between the United States and China.

From September 2018 until April 2020, our Roomba products were subject to Section 301 tariffs. From September 2018 through March 28, 2020, we paid an aggregate of approximately $57.0 million in Section 301 tariffs on our Roomba products. On April 24, 2020, we were granted a temporary exclusion from Section 301 List 3 tariffs by the United States Trade Representative. This exclusion eliminates the 25% tariff on Roomba products until August 7, 2020 and entitles us to a refund of approximately $57.0 million in tariffs paid since the date the Section 301 List 3 tariffs were imposed. However, absent an extension on this exemption, on August 7, 2020, the 25% tariff will automatically reinstate. The U.S. government has not yet implemented, and may never implement, a process for extending tariff exclusions for List 3 products. If we are again subject to this tariff, we will again experience a lowering of our margin on products sold and pricing pressures on our products. The already-implemented, and any additional or increased, tariffs have caused and may in the future cause us to further increase prices to our customers which we believe has reduced, and in the future may reduce, demand for our products.

These tariffs, and other governmental action relating to international trade agreements or policies, have directly or indirectly adversely impacted demand for our products, our costs, customers, suppliers, distributors, resellers and/or the U.S. economy or certain sectors thereof and, as a result, have adversely impacted, and, if our tariff exclusion is not extended past August 7, 2020, we expect will continue to adversely impact, our business, financial condition and results of operations. It remains unclear what the U.S. or foreign governments will or will not do with respect to tariffs, international trade agreements and policies on a short-term or long-term basis. We cannot predict future trade policy or the terms of any renegotiated trade agreements and their impacts on our business. The adoption and expansion of trade restrictions, the occurrence of a trade war, or other governmental action related to tariffs or trade agreements or policies has the potential to further adversely impact demand for our products, our costs, our customers, our suppliers, and the U.S. economy, which in turn could further adversely impact our business, financial condition and results of operations.

In response to international trade policy, as well as other risks associated with concentrated manufacturing in China, we have begun relocating a meaningful portion of our supply chain from China to Malaysia. Such relocation activities increase costs and risks associated with establishing new manufacturing facilities.

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

The following is a summary of our repurchases of our common stock during the three months ended March 28, 2020:

	Total number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
Fiscal month beginning December 29, 2019 and ended January 25, 2020	—	—	—	—
Fiscal month beginning January 26, 2020 and ended February 22, 2020	—	—	—	—
Fiscal month beginning February 23, 2020 and ended March 28, 2020	663,602	$ 37.65	663,602	$ 175,000,000
Total	663,602	$ 37.65	663,602	$ 175,000,000

(1) Consists of shares of our common stock. All repurchases were made in open market transactions and pursuant to our previously-announced stock repurchase program as further discussed below.

(2) As previously disclosed on March 10, 2020, our Board of Directors approved a stock repurchase program authorizing up to $200.0 million in share repurchases through September 2021. Under the stock repurchase program, the Company entered into a Rule 10b5-1 plan to repurchase $25.0 million of common stock in the aggregate beginning March 13, 2020 and ending April 30, 2020.

Item 5. Other Information

10b5-1 Trading Plans

Our policy governing transactions in our securities by our directors, officers, and employees permits our officers, directors, funds affiliated with our directors, and certain other persons to enter into trading plans complying with Rule 10b5-l under the Exchange Act. We have been advised that certain of our officers and directors (including Colin Angle, Chief Executive Officer and Glen Weinstein, EVP and Chief Legal Officer, as well as Mohamad Ali, Deborah Ellinger, Andrew Miller and Michelle Stacy, each a director of the Company) have entered into trading plans (each a "Plan" and collectively, the "Plans") covering periods after the date of this Quarterly Report on Form 10-Q in accordance with Rule 10b5-l and our policy governing transactions in our securities. Generally, under these trading plans, the individual relinquishes control over the transactions once the trading plan is put into place. Accordingly, sales under these plans may occur at any time, including possibly before, simultaneously with, or immediately after significant events involving the Company.

We anticipate that, as permitted by Rule 10b5-1 and our policy governing transactions in our securities, some or all of our officers, directors and employees may establish trading plans in the future. We intend to disclose the names of our executive officers and directors who establish a trading plan in compliance with Rule 10b5-1 and the requirements of our policy governing transactions in our securities in our future quarterly and annual reports on Form 10-Q and 10-K filed with the Securities and Exchange Commission. We undertake no obligation to update or revise the information provided herein.

Item 6. Exhibits

EXHIBIT INDEX

Exhibit Number	Description
31.1*	Certification Pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934
31.2*	Certification Pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934
32.1**	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
104*	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.*)

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* Filed herewith

** Furnished herewith

SIGNATURES

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

	iROBOT CORPORATION	
Date: May 1, 2020	By:	/s/ Alison Dean
		Alison Dean
		Executive Vice President and Chief Financial Officer (Duly Authorized Officer and Principal Financial Officer)

Exhibit 31.1

Certifications

I, Colin M. Angle, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of iRobot Corporation;

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: May 1, 2020

/s/ COLIN M. ANGLE

Colin M. Angle
Chairman of the Board and Chief Executive Officer

Exhibit 31.2

Certifications

I, Alison Dean, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of iRobot Corporation;

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: May 1, 2020	/s/ ALISON DEAN
	Alison Dean Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO

18 U.S.C. SECTION 1350

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of iRobot Corporation (the "Company") for the period ended March 28, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Colin M. Angle, the Chief Executive Officer of the Company and Alison Dean, the Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to our knowledge, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is being provided pursuant to 18 U.S.C. 1350 and is not to be deemed a part of the Report, nor is it to be deemed to be "filed" for any purpose whatsoever.

Date: May 1, 2020	/s/ COLIN M. ANGLE
	Colin M. Angle Chairman of the Board and Chief Executive Officer
Date: May 1, 2020	/s/ ALISON DEAN
	Alison Dean Chief Financial Officer