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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2021

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: 001-38703

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

Delaware	**83-1138508**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification Number)**
5521 Hellyer Avenue	
San Jose, CA	**95138**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (669) 275-2251

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.0001 per share	**VLDR**	**The Nasdaq Stock Market LLC**
Warrants, each exercisable for three-quarters of one share of common stock	**VLDRW**	**The Nasdaq Stock Market LLC**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐	Non-accelerated filer	☒	Smaller reporting company	☒	Emerging growth company	☒

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

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

As of July 30, 2021, the registrant had 195,558,910 shares of common stock, $0.0001 par value per share, outstanding.

VELODYNE LIDAR, INC. AND SUBSIDIARIES

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the federal securities laws and particularly in Item 2: “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Quarterly Report on Form 10-Q. These statements are based on the expectations and beliefs of management of Velodyne Lidar, Inc. (Velodyne) in light of historical results and trends, current conditions and potential future developments, and are subject to a number of factors and uncertainties that could cause actual results to differ materially from forward-looking statements. These forward-looking statements include statements about the future performance and opportunities of Velodyne; statements of the plans, strategies and objectives of management for future operations of Velodyne; and statements regarding future market opportunities, economic conditions or performance. Forward-looking statements may contain words such as “will be,” “will,” “expect,” “anticipate,” “continue,” “project,” “believe,” “plan,” “could,” “estimate,” “forecast,” “guidance,” “intend,” “may,” “possible,” “potential,” “predict,” “pursue,” “should,” “target,” “likely” or similar expressions, and include the assumptions that underlie such statements.

The following factors, among others, could cause actual results to differ materially from forward-looking statements:

- Velodyne’s future performance, including Velodyne’s revenue, costs of revenue, gross profit or gross margin, and operating expenses;
- the sufficiency of Velodyne’s cash and cash equivalents to meet its operating requirements;
- Velodyne’s ability to sell its products to new customers;
- the success of Velodyne’s customers in developing and commercializing products using Velodyne’s solutions, and the market acceptance of those products;
- the amount and timing of future sales;
- Velodyne’s future market share;
- competition from existing or future businesses and technologies;
- the impact of the COVID-19 pandemic on Velodyne’s business and the business of its customers;
- the market for and adoption of lidar and related technology;
- Velodyne’s ability to effectively manage its growth and future expenses;
- Velodyne’s ability to compete in a market that is rapidly evolving and subject to technological developments;
- Velodyne’s ability to maintain, protect, and enhance its intellectual property;
- Velodyne’s ability to comply with modified or new laws and regulations applying to its business;
- the attraction and retention of qualified employees and key personnel;
- Velodyne’s ability to introduce new products that meet its customers’ requirements and to continue successfully transitioning the manufacturing of its products to third-party manufacturers;
- Velodyne’s anticipated investments in and results from sales and marketing and research and development; and
- the increased expenses associated with Velodyne being a public company.

The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with the other risk factors herein discussed under Item 1A: “Risk Factors.” Forward-looking statements reflect current views about Velodyne’s plans, strategies and prospects, which are based on information available as of the date of this Quarterly Report on Form 10-Q. Except to the extent required by applicable law, Velodyne undertakes no obligation (and expressly disclaims any such obligation) to update or revise any forward-looking statements whether as a result of new information, future events or otherwise.

Forward-looking statements are subject to risks and uncertainties, many of which are outside our control, which could cause actual results to differ materially from these statements. Therefore, you should not place undue reliance on those statements, which speak only as of the date of this Quarterly Report on Form 10-Q.
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PART I. Financial Information

Item 1. Consolidated Financial Statements

VELODYNE LIDAR, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data)

	June 30, 2021 (Unaudited)	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 76,084	$ 204,648
Short-term investments	277,546	145,636
Accounts receivable, net	9,473	13,979
Inventories, net	16,675	18,132
Prepaid and other current assets	10,231	22,319
Total current assets	390,009	404,714
Property, plant and equipment, net	14,652	16,805
Goodwill	1,189	1,189
Intangible assets, net	434	627
Contract assets	10,378	8,440
Other assets	19,935	937
Total assets	$ 436,597	$ 432,712
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 5,940	$ 7,721
Accrued expense and other current liabilities	25,280	50,349
Contract liabilities	8,736	7,323
Total current liabilities	39,956	65,393
Long-term tax liabilities	570	569
Other long-term liabilities	30,378	25,927
Total liabilities	70,904	91,889
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock	—	—
Common stock	20	18
Additional paid-in capital	800,040	656,717
Accumulated other comprehensive loss	(216)	(230)
Accumulated deficit	(434,151)	(315,682)
Total stockholders' equity	365,693	340,823
Total liabilities and stockholders' equity	$ 436,597	$ 432,712

See accompanying notes to unaudited condensed consolidated financial statements.

VELODYNE LIDAR, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except share and per share data)
(Unaudited)

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Revenue:				
Product	$ 11,970	$ 11,427	$ 22,563	$ 27,849
License and services	1,626	16,959	8,759	17,568
Total revenue	13,596	28,386	31,322	45,417
Cost of revenue:				
Product	19,210	14,419	34,839	29,545
License and services	170	81	349	384
Total cost of revenue	19,380	14,500	35,188	29,929
Gross profit (loss)	(5,784)	13,886	(3,866)	15,488
Operating expenses:				
Research and development	17,009	14,591	35,387	29,118
Sales and marketing	47,176	3,373	54,251	8,672
General and administrative	19,133	5,630	36,169	16,363
Restructuring	—	(3)	—	1,043
Total operating expenses	83,318	23,591	125,807	55,196
Operating loss	(89,102)	(9,705)	(129,673)	(39,708)
Interest income	109	5	212	117
Interest expense	(41)	(32)	(77)	(38)
Other income (expense), net	10,136	22	10,119	(143)
Loss before income taxes	(78,898)	(9,710)	(119,419)	(39,772)
Provision for (benefit from) income taxes	339	17	635	(6,660)
Net loss	$ (79,237)	$ (9,727)	$ (120,054)	$ (33,112)
Net loss per share:				
Basic and diluted	$ (0.41)	$ (0.07)	$ (0.63)	$ (0.24)
Weighted-average shares used in computing net loss per share:				
Basic and diluted	193,002,807	139,863,194	191,123,251	138,887,585

See accompanying notes to unaudited condensed consolidated financial statements.

VELODYNE LIDAR, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net loss	$ (79,237)	$ (9,727)	$ (120,054)	$ (33,112)
Other comprehensive income (loss), net of tax:				
Changes in unrealized gain on available for sale securities	22	—	11	—
Foreign currency translation adjustments	14	(32)	3	(34)
Total other comprehensive income (loss), net of tax	36	(32)	14	(34)
Comprehensive loss	$ (79,201)	$ (9,759)	$ (120,040)	$ (33,146)

See accompanying notes to unaudited condensed consolidated financial statements.

VELODYNE LIDAR, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share and per share data)
(Unaudited)

	Series A Convertible Pref (Pre-Combination)	
	Shares	
Balance at December 31, 2020	—	$
Issuance of common stock under warrant exercises	—	
Issuance of common stock under employee stock award plans, net of taxes	—	
Share-based compensation	—	
Other comprehensive loss, net of tax	—	
Adjustment for previously issued warrants (Note 9)	—	
Net loss	—	
Balance at March 31, 2021	—	
Issuance of common stock under warrant exercises	—	
Issuance of common stock under employee stock award plans, net of taxes	—	
Share-based compensation	—	
Other comprehensive loss, net of tax	—	
Net loss	—	
Balance at June 30, 2021	—	$

	Series A Convertible (Pre-Combination)	
	Shares	
Balance at December 31, 2019, as previously reported	8,772,852	
Retroactive application of the recapitalization	(8,772,852)	
Balance at December 31, 2019, as adjusted	—	
Share-based compensation	—	
Other comprehensive loss, net of tax	—	
Net loss	—	
Balance at March 31, 2020	—	
Issuance of Series B-1 convertible preferred stock at $10.25 per share on April 1, 2020, net of issuance cost of $81	—	
Share-based compensation	—	
Other comprehensive loss, net of tax	—	
Net loss	—	
Balance at June 30, 2020	—	

See accompanying notes to unaudited condensed consolidated financial statements.

VELODYNE LIDAR, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Cash flows from operating activities:		
Net loss	$ (120,054)	$ (33,112)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	4,114	4,251
Reduction in carrying amount of ROU assets	1,533	—
Stock-based compensation	64,725	156
Provision for doubtful accounts	2,425	509
Gain from forgiveness of notes payable	(10,124)	—
Other	550	70
Changes in operating assets and liabilities:		
Accounts receivable, net	2,082	(23,914)
Inventories, net	1,457	2,195
Prepaid and other current assets	3,512	2,939
Contract assets	(2,438)	(8,439)
Other assets	6	264
Accounts payable	(1,680)	645
Accrued expenses and other liabilities	(9,161)	(9,506)
Contract liabilities	264	11,397
Net cash used in operating activities	(62,789)	(52,545)
Cash flows from investing activities:		
Purchase of property, plant and equipment	(1,779)	(1,723)
Proceeds from sales of short-term investments	2,000	—
Proceeds from maturities of short-term investments	55,943	2,200
Purchase of short-term investments	(190,376)	—
Investment in notes receivable	(750)	—
Net cash provided by (used in) investing activities	(134,962)	477
Cash flows from financing activities:		
Proceeds from issuance of preferred stock, net of issuance costs	—	19,919
Payment of transaction costs related to Business Combination	(20,005)	—
Proceeds from warrant exercises	89,244	—
Tax withholding payment for vested equity awards	(37)	—
Cash paid for IPO costs	—	(1,196)
Proceeds from notes payable	—	10,000
Net cash provided by financing activities	69,202	28,723
Effect of exchange rate fluctuations on cash and cash equivalents	(15)	(30)
Net decrease in cash and cash equivalents	(128,564)	(23,375)
Beginning cash and cash equivalents	204,648	60,004
Ending cash and cash equivalents	$ 76,084	$ 36,629
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 77	$ 38
Cash paid for (received from) income taxes, net	682	(7,811)
Cash paid for operating leases	2,256	—
Supplemental disclosure of noncash investing and financing activities:		
Changes in accrued purchases of property, plant and equipment	$ 5	$ 97
Assets held for sale reclassification	—	4,746
ROU assets obtained in exchange for new operating lease liabilities	340	—
Transaction costs included in accrued liabilities	5,000	1,186

See accompanying notes to unaudited condensed consolidated financial statements.

Notes to Condensed Consolidated Financial Statements
(Unaudited)

Note 1. Description of Business and Summary of Significant Accounting Policies

Description of Business, Background and Nature of Operations

Velodyne Lidar, Inc. (the Company, Velodyne or Velodyne Lidar) provides smart vision solutions that are advancing the development of safe automated systems throughout the world. The Company's technology, which is used in various automotive and non- automotive applications, is empowering the autonomous revolution by allowing machines to see their surroundings in real-time and in 3D.

Graf Industrial Corp. (Graf), the Company's predecessor, was originally incorporated in Delaware as a special purpose acquisition company (SPAC). On September 29, 2020 (the Closing Date), Graf consummated a business combination (the Business Combination) with Velodyne Lidar, Inc. (the pre-combination Velodyne). Immediately upon the consummation of the Business Combination, Graf merged into the pre-combination Velodyne, with the pre-combination Velodyne surviving as a wholly-owned subsidiary of the Company. Graf changed its name to Velodyne Lidar, Inc. and the pre-combination Velodyne changed its name to Velodyne Lidar USA, Inc.

On September 30, 2020, Velodyne Lidar's common stock and warrants began trading on the Nasdaq Global Select Market under the symbol "VLDR" and "VLDRW," respectively. Unless the context otherwise requires, "we," "us," "our," "Velodyne," "Velodyne Lidar" and the "Company" refers to Velodyne Lidar Inc., the combined company and its subsidiaries following the Business Combination. Refer to Note 2 for further discussion of the Business Combination.

The Company has evaluated how it is organized and managed and has identified only one operating segment.

Basis of Presentation

The accompanying condensed consolidated financial statements include the accounts of the Company's wholly-owned subsidiaries, and have been prepared in accordance with generally accepted accounting principles in the United States (GAAP) for interim financial information. All intercompany transactions and balances have been eliminated in consolidation. The financial information included herein is unaudited, and reflects all adjustments which are, in the opinion of management, of a normal recurring nature and necessary for the fair presentation of the company's financial position, results of operations, comprehensive loss, cash flows and stockholders' equity for the interim periods presented, but are not necessarily indicative of the results of operations to be anticipated for any future annual or interim period. These unaudited interim consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and related notes contained in its amended Annual Report on Form 10-K for the year ended December 31, 2020.

The Business Combination is accounted for as a reverse recapitalization as the pre-combination Velodyne was determined to be the accounting acquirer under Financial Accounting Standards Board (FASB)'s Accounting Standards Codification Topic 805, Business Combinations (ASC 805). In connection with the Business Combination, outstanding capital stock of the pre-combination Velodyne was converted into common stock of the Company, par value $0.0001 per share, representing a recapitalization, and the net assets of the Company were acquired at historical cost, with no goodwill or intangible assets recorded. The pre-combination Velodyne was deemed to be the predecessor of the Company, and the consolidated assets and liabilities and results of operations prior to the Closing Date are those of the pre-combination Velodyne. The shares and corresponding capital amounts and net loss per share available to common stockholders, prior to the Business Combination, have been retroactively restated as shares reflecting the exchange ratio established in the Merger Agreement. The number of shares of preferred stock was also retroactively restated in shares reflecting the exchange ratio, and the carrying amounts of preferred stock are based on the fair value of its redemption amount on each reporting date. All preferred stock was converted into shares of the Company's common stock on the Closing Date. Refer to Note 9, Stockholders' Equity, and Note 11, Net Loss Per Share, for further discussion of the recapitalization and share adjustments.

Liquidity

The Company has funded its operations primarily through the Business Combination, PIPE offering, private placements of the pre-combination Velodyne convertible preferred stock and sales to customers. As of June 30, 2021, the Company's existing sources of liquidity included cash, cash equivalents and short-term investments of $353.6 million and available borrowing capacity of $25.0 million under a revolving credit facility. The Company has incurred losses and negative cash flows from operations. If the Company incurs additional losses in the future, it may need to raise additional capital through issuances of equity and debt. There can be no assurance that the Company would be able to raise such capital. However, management believes that the Company's existing sources of liquidity are adequate to fund its operations for at least twelve months from the date the unaudited condensed consolidated financial statements for the quarter ended June 30, 2021 were available for issuance.

Emerging Growth Company

As of December 31, 2020, the Company is an "emerging growth company," as defined in Section 2(a) of the Securities Act of 1933, as amended (the Securities Act), as modified by the Jumpstart Our Business Startups Act of 2012 (the JOBS Act), and it may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

Further, Section 102(b)(1) of the JOBS Act exempts emerging growth companies from being required to comply with new or revised financial accounting standards until private companies are required to comply with the new or revised financial accounting standards. The JOBS Act provides that an emerging growth company can elect to opt out of the extended transition period and comply with the requirements that apply to non-emerging growth companies but any such election to opt out is irrevocable. The Company has opted to take advantage of such extended transition period available to emerging growth companies which means that when a standard is issued or revised and it has different application dates for public or private companies, the Company, as an emerging growth company, can adopt the new or revised standard at the time private companies adopt the new or revised standard. This may make comparison of the Company's financial statements with another public company which is neither an emerging growth company nor an emerging growth company which has opted out of using the extended transition period difficult or impossible because of the potential differences in accounting standards used.

Based on the Company's aggregate worldwide market value of voting and non-voting common equity held by non-affiliates as of June 30, 2021, the Company will become a "large accelerated filer" and lose its emerging growth company status upon the filing of its Annual Report on Form 10-K for the year ending December 31, 2021.

Concentration of Risk

Financial instruments that subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments, and accounts receivable. The Company maintains its cash and cash equivalents, and short-term investments with high-quality financial institutes with investment-grade ratings. A majority of the cash balances are with U.S. banks and are insured to the extent defined by the Federal Deposit Insurance Corporation.

The Company's accounts receivable are derived from customers located both inside and outside the U.S. The Company mitigates its credit risks by performing ongoing credit evaluations of its customers' financial conditions and requires customer advance payments in certain circumstances. The Company does not require collateral.

The Company's concentration of risk related to accounts receivable and accounts payable was as follows:

	June 30, 2021	December 31, 2020
Number of customers accounted for 10% or more of accounts receivable	1	3
Number of vendors accounted for 10% or more of accounts payable	1	3

One customer accounted for 29% of the Company's accounts receivable as of June 30, 2021. Two customers accounted for a total of 47%, of the Company's accounts receivable as of December 31, 2020. One vendor accounted for 45% and 34%, respectively, of accounts payable as of June 30, 2021 and December 31, 2020.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include standalone selling price (SSP) for each distinct performance obligation in its customer contracts, total estimated future patents and their corresponding estimated development costs, total estimated costs and related progress towards complete satisfaction of performance obligation in certain services arrangements, allowances for doubtful accounts, inventory reserves, warranty reserves, valuation allowance for deferred tax assets, stock-based compensation, useful lives of property, plant, and equipment and intangible assets, income tax uncertainties, and other loss contingencies. The Company bases its estimates on historical experience and also on assumptions that it believes are reasonable. Actual results could differ from those estimates, and such differences could be material to the Company’s consolidated financial condition and results of operations.

Significant Accounting Policies

Except for the change in certain policies upon adoption of the accounting standards described below, there have been no material changes to the Company's significant accounting policies, compared to the accounting policies described in Note 1, Description of Business and Summary of Significant Accounting Policies, in Notes to Consolidated Financial Statements in Item 8 of Part II of the Annual Report on Form 10-K for the year ended December 31, 2020.

Allowance for Doubtful Accounts

The Company’s allowance for doubtful accounts includes estimated losses that result from uncollectible accounts receivable. The Company determines the allowance by considering a number of factors, including the length of time trade accounts receivable are past due, its customer’s current financial condition and payment history, the condition of the general economy and the industry as a whole, and other relevant facts and circumstances. The Company continuously monitors collections and payments from its customers and maintains a provision for estimated credit losses based upon the aforementioned factors and any specific customer collection issues that have been identified. Significant changes in one or more of these considerations may require adjustments affecting the net income (loss) and net carrying value of the account receivable. Provisions for the estimated allowance for doubtful accounts are recorded in general and administrative expense at the end of each reporting period.

Recently Adopted Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update (ASU) 2016-02, Leases (Topic 842), which supersedes FASB Accounting Standards Codification Topic 840, Leases (Topic 840), and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. Among its provisions, this standard requires lessees to recognize right-of-use (ROU) assets and lease liabilities on the balance sheets for operating leases, and also requires additional qualitative and quantitative disclosures about lease arrangements. The Company adopted the new standard in the first quarter of 2021 using the modified retrospective method, under which the Company applies Topic 842 to existing and new leases as of January 1, 2021, but prior periods are not restated and continue to be reported under Topic 840 guidance in effect during those periods. Upon adoption, the Company recorded net ROU assets of $19.4 million and lease liabilities of $20.4 million and there were no cumulative effect adjustments as of January 1, 2021. The standard did not have a material effect on the Company’s condensed consolidated statements of operations and the condensed consolidated statement of cash flows. See Note 6. “Leases” for further information.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. This standard simplifies the accounting for income taxes by, among other things, eliminating certain exceptions related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 is effective for public business entities for fiscal years beginning after December 15, 2020, with early adoption permitted. Upon adoption, the Company must apply certain aspects of this standard retrospectively for all periods presented while other aspects are applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. The Company adopted the new standard on January 1, 2021. The adoption of this new standard did not have a significant effect on our consolidated financial statements.

Leases

The Company determines if an arrangement is a lease at inception. The Company evaluates classification of leases at commencement and, as necessary, at modification. As of June 30, 2021, all leases are classified as operating leases except for certain immaterial equipment finance leases. Operating leases, consisting primarily office leases, are included in operating lease ROU assets, other current liabilities, and operating lease liabilities on the Company's Condensed Consolidated Balance Sheets. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease.

Operating lease ROU assets and liabilities are recognized on the commencement date based on the present value of lease payments over the lease term. The operating lease ROU asset also includes any lease payments made prior to lease commencement and excludes lease incentives. Variable lease payments not dependent on an index or a rate, are expensed as incurred and are not included within the ROU asset and lease liability calculation. Variable lease payments primarily include reimbursements of costs incurred by lessors for common area maintenance and utilities. The Company's lease terms are the noncancelable period, including any rent-free periods provided by the lessor, and include options to extend or terminate the lease when it is reasonably certain that it will exercise that option. At lease inception, and in subsequent periods as necessary, the Company estimates the lease term based on its assessment of extension and termination options that are reasonably certain to be exercised. As the Company's leases do not provide an implicit rate, the Company uses an incremental borrowing rate based on information available at the commencement date in determining the present value of lease payments over the lease term. The incremental borrowing rate is a hypothetical rate based on the Company's understanding of what its credit rating would be for a secured borrowing where the lease was executed. Lease costs are recognized on a straight-line basis over the lease term.

The Company does not recognize ROU assets and lease liabilities for short-term leases, which have a lease term of twelve months or less and do not include an option to purchase the underlying asset that the Company is reasonably certain to exercise.

Note 2. Business Combination and Related Transactions

On September 29, 2020, the Company consummated a business combination with the pre-combination Velodyne. Pursuant to ASC 805, for financial accounting and reporting purposes, the pre-combination Velodyne was deemed the accounting acquirer and the Company was treated as the accounting acquiree, and the Business Combination was accounted for as a reverse recapitalization. Accordingly, the Business Combination was treated as the equivalent of the pre-combination Velodyne issuing stock for the net assets of Graf, accompanied by a recapitalization. Under this method of accounting, the consolidated financial statements of the Company are the historical financial statements of the pre-combination Velodyne. The net assets of Graf were stated at historical costs, with no goodwill or other intangible assets recorded, and are consolidated with the pre-combination Velodyne's financial statements on the Closing date. The shares and net income (loss) per share available to holders of the Company’s common stock, prior to the Business Combination, have been retroactively restated as shares reflecting the exchange ratio established in the Merger Agreement.

In connection with the Business Combination, Graf entered into subscription agreements with certain investors (the PIPE Investors), whereby it issued 15,000,000 shares of common stock at $10.00 per share (the Private Placement Shares) for an aggregate purchase price of $150.0 million (the Private Placement), which closed simultaneously with the consummation of the Business Combination. Upon the closing of the Business Combination, the Private Placement Shares were automatically converted into shares of the Company's common stock on a one-for-one basis.

The aggregate consideration for the Business Combination and proceeds from the Private Placement was approximately $1.8 billion, consisting of (i) $222.1 million in cash at the closing of the Business Combination, net of transaction expenses, and (ii) 150,277,532 shares of common stock valued at $10.25 per share, totaling $1,540.3 million. The common stock consideration consists of up to (1) 143,575,763 shares of Company common stock, including shares issuable in respect of vested equity awards of the pre-combination Velodyne, plus (2) 2,000,000 shares of Company common stock earned due to the satisfaction of the Earnout Condition on July 30, 2020, including 187,861 Earnout RSUs, which are subject to a six-month service condition and are not legally issued and outstanding shares of Company common stock at Closing, plus (3) 4,702,304 shares of Company common stock that were issued to Velodyne equity holders that did not opt to have their respective shares repurchased by the pre-combination Velodyne for cash in a pre-closing tender offer conducted by the pre-combination Velodyne (the Pre-Closing Tender Offer). The Company used $1.8 million of the proceeds to repurchase and retire 175,744 shares of Company common stock from certain stockholders in the Pre-Closing Tender Offer.

In connection with the Business Combination, the Company incurred direct and incremental costs of approximately $29.1 million related to the equity issuance, consisting primarily of investment banking, legal, accounting and other professional fees, which were recorded to additional paid-in capital as a reduction of proceeds. As of June 30, 2021, the Company has $5.0 million of accrued transaction costs, consisting primarily of investment banking fees, in accrued expenses on the consolidated balance sheet.

Note 3. Revenue

Disaggregation of Revenues

The Company disaggregates its revenue from contracts with customers by geographic region based on the shipping location of the customer, type of good or service and timing of transfer of goods or services to customers (point-in-time or over time), as it believes it best depicts how the nature, amount, timing and uncertainty of its revenue and cash flows are affected by economic factors.

Total revenue based on the disaggregation criteria described above is as follows (dollar in thousands):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2021		2020		2021		2020	
	Revenue	% of Revenue	Revenue	% of Revenue	Revenue	% of Revenue	Revenue	% of Revenue
Revenue by geography:								
North America	$ 5,271	38 %	$ 4,650	16 %	$ 10,315	33 %	$ 13,903	30 %
Asia Pacific	5,255	39 %	20,150	71 %	14,761	47 %	25,774	57 %
Europe, Middle East and Africa	3,070	23 %	3,586	13 %	6,246	20 %	5,740	13 %
Total	$ 13,596	100 %	$ 28,386	100 %	$ 31,322	100 %	$ 45,417	100 %
Revenue by products and services:								
Products	$ 11,970	88 %	$ 11,427	40 %	$ 22,563	72 %	$ 27,849	61 %
License and services	1,626	12 %	16,959	60 %	8,759	28 %	17,568	39 %
Total	$ 13,596	100 %	$ 28,386	100 %	$ 31,322	100 %	$ 45,417	100 %
Revenue by timing of recognition:								
Goods transferred at a point in time	$ 12,272	90 %	$ 28,198	99 %	$ 28,942	92 %	$ 44,922	99 %
Goods and services transferred over time	1,324	10 %	188	1 %	2,380	8 %	495	1 %
Total	$ 13,596	100 %	$ 28,386	100 %	$ 31,322	100 %	$ 45,417	100 %

In June 2020, the Company entered into a patent cross-license agreement related to its litigation settlement with a customer in Asia Pacific. Under the terms of the arrangement, the customer agreed to make a one-time license payment upon settlement, will make annual fixed royalty payments through 2023, and thereafter, will make product sales royalty payments through February 2030. In September 2020, Velodyne entered into another patent cross-license agreement related to its litigation with a different customer in Asia Pacific. The Company recorded license revenue of $0.9 million and $7.3 million, respectively, related to these patent cross-license agreements for the three and six months ended June 30, 2021. As of June 30, 2021 and December 31, 2020, the Company recorded $3.5 million and $3.4 million, respectively, in current deferred revenue, and $13.0 million and $13.7 million, respectively, in long-term deferred revenue associated with the rights granted as part of these patent cross-license agreements to receive future patents as they represent stand ready obligations. As of

June 30, 2021 and December 31, 2020, the Company also recorded $13.7 million and $11.3 million, respectively, of contract assets related to these patent cross-license agreements.

Contract Assets and Contract Liabilities

Contract assets primarily relates to unbilled accounts receivable. Unbilled amounts arise when the timing of billing differs from the timing of revenue recognized, such as when revenue recognized on the guaranteed minimums at the inception of the contract when there is not yet a right to invoice in accordance with contract terms. Unbilled amounts are recorded as a contract asset when the revenue associated with the contract is recognized prior to billing and reclassified to accounts receivable when billed in accordance with the terms of the contract.

Contract liabilities consist of deferred revenue, customer advanced payments and customer deposits. Deferred revenue includes billings in excess of revenue recognized related to product sales, licenses, extended warranty and other services revenue, and is recognized as revenue when the Company performs under the contract. The long-term portion of deferred revenue, mostly related to obligations under license arrangements and extended warranty, is classified as non-current contract liabilities and is included in other long-term liabilities in the Company's consolidated balance sheets. Customer advanced payments represent required customer payments in advance of product shipments according to customer's payment term. Customer advance payments are recognized as revenue when control of the performance obligation is transferred to the customer. Customer deposits represent consideration received from a customer which can be applied to future product or service purchases, or refunded.

Contract assets and contract liabilities consisted of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Contract assets, current		
Unbilled accounts receivable	$ 3,313	$ 2,813
Contract assets, long-term		
Unbilled accounts receivable	10,378	8,440
Total contract assets	$ 13,691	$ 11,253
Contract liabilities, current		
Deferred revenue, current	$ 8,573	$ 7,143
Customer advance payment	163	180
Total	8,736	7,323
Contract liabilities, long-term		
Deferred revenue, long-term	13,583	14,732
Total contract liabilities	$ 22,319	$ 22,055

The following table shows the significant changes in contract assets and contract liabilities balances (in thousands):

	Six Months Ended June 30,	
	2021	2020
Contract assets:		
Beginning balance	$ 11,253	$ —
Transferred to receivables from contract assets recognized at the beginning of the period	(2,813)	—
Increase due to unbilled and recognized as revenue in excess of billings during the period, net of amounts transferred to receivables	5,251	8,439
Ending balance	$ 13,691	$ 8,439
Contract liabilities:		
Beginning balance	$ 22,055	$ 19,164
Revenue recognized that was included in the contract liabilities beginning balance	(5,972)	(750)
Increase due to cash received and not recognized as revenue and billings in excess of revenue recognized during the period	6,236	18,231
Customer deposits reclassified to refund liabilities	—	(6,083)
Ending balance	$ 22,319	$ 30,562

During the six months ended June 30, 2020, the Company reclassified customer deposit of $6.1 million to refund liabilities and refunded the entire amount to a customer.

Note 4. Fair Value Measurement

The Company categorizes assets and liabilities recorded at fair value on the consolidated balance sheet based on the level of judgment associated with inputs used to measure their fair value. For assets and liabilities measured at fair value, fair value is the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining fair value, the Company considers the principal or most advantageous market in which the Company would transact, and the Company considers assumptions that market participants would use when pricing the asset or liability.

The three levels of inputs that may be used to measure fair value are:

- Level 1 — Quoted prices in active markets for identical assets or liabilities.
- Level 2 — Observable inputs other than Level 1 prices, such as quoted prices for similar assets and liabilities in active markets or quoted prices in less active market. All significant inputs used in the valuations are observable or can be directly or indirectly through market corroboration, for substantially the full term of the assets or liabilities.
- Level 3 — Unobservable inputs are based on assumptions used to measure assets and liabilities at fair value. The inputs require significant management judgment or estimation. The Company monitors and review the inputs to ensure the fair value measurements are reasonable and consistent with market experience in similar asset classes.

The following table summarize the Company's assets measured at fair value on a recurring basis, by level, within the fair value hierarchy (in thousands):

	June 30, 2021			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market fund	$ 41,270	$ —	$ —	$ 41,270
Total cash equivalents	41,270	—	—	41,270
Short-term investments:				
Commercial paper	—	164,651	—	164,651
Corporate debt securities	—	112,895	—	112,895
Total short-term investments	—	277,546	—	277,546
Total assets measured at fair value	$ 41,270	$ 277,546	$ —	$ 318,816

	December 31, 2020			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market fund	$ 74,107	$ —	$ —	$ 74,107
Treasury bill and U.S. government and agency securities	19,999	—	—	19,999
Corporate debt securities	—	2,003	—	2,003
Commercial paper	—	33,295	—	33,295
Total cash equivalents	94,106	35,298	—	129,404
Short-term investments:				
Commercial paper	—	122,265	—	122,265
Corporate debt securities	—	23,371	—	23,371
Total short-term investments	—	145,636	—	145,636
Total assets measured at fair value	$ 94,106	$ 180,934	$ —	$ 275,040

Cash equivalents consist primarily of money market funds with original maturities of three months or less at the time of purchase, and the carrying amount is a reasonable estimate of fair value. Short-term investments represent highly liquid commercial paper and corporate debt securities with maturities greater than 90 days at the date of purchase. Marketable securities with maturities greater than one year are classified as current assets because management considers all marketable securities to be available for current operations.

Note 5. Balance Sheet Components

Accounts Receivables, Net

Accounts receivables, net consist of the following (in thousands):

	June 30, 2021	December 31, 2020
Accounts receivable	$ 12,773	$ 14,855
Allowance for doubtful accounts	(3,300)	(876)
Accounts receivable, net	$ 9,473	$ 13,979

Inventories, Net

Inventories, net of reserve, consist of the following (in thousands):

	June 30, 2021	December 31, 2020
Raw materials	$ 5,539	$ 6,876
Work-in-process	2,960	4,347
Finished goods	8,176	6,909
Total inventories	$ 16,675	$ 18,132

Prepaid and Other Current Assets

Prepaid and other current assets consist of the following (in thousands):

	June 30, 2021	December 31, 2020
Prepaid expenses and deposits	$ 3,927	$ 5,698
Due from contract manufacturers and vendors	1,504	2,944
Prepaid taxes	58	1,612
Contract assets	3,313	2,813
Receivable from warrant exercises	—	9,074
Other	1,429	178
Total prepaid and other current assets	$ 10,231	$ 22,319

Property, Plant and Equipment, Net

Property, plant and equipment, at cost, consist of the following (in thousands):

	June 30, 2021	December 31, 2020
Machinery and equipment	$ 33,884	$ 32,688
Leasehold improvements	5,921	5,905
Furniture and fixtures	1,481	1,479
Vehicles	360	360
Software	1,360	1,357
Assets under construction	976	641
	43,982	42,430
Less: accumulated depreciation and amortization	(29,330)	(25,625)
Property, plant and equipment, net	$ 14,652	$ 16,805
Finance lease equipment	$ 888	$ 888
Less: accumulated depreciation	(470)	(381)
Finance lease equipment, net	$ 418	$ 507

The aggregate depreciation and amortization related to property, plant and equipment was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Depreciation and amortization on property, plant and equipment	$ 1,964	$ 1,984	$ 3,921	$ 4,059
Depreciation on finance lease equipment	44	44	89	89

Intangible Assets, Net

Intangible assets, net, consist of the following (in thousands):

	Gross Carrying Amount	Accumulated Amortization	Net Book Value
As of June 30, 2021:			
Developed technology	$ 1,200	$ 766	$ 434
As of December 31, 2020:			
Developed technology	$ 1,200	$ 573	$ 627

Amortization of intangible assets is as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Amortization of intangible assets	$ 97	$ 96	$ 193	$ 192

Other Assets

Other assets, non-current, consist of the following (in thousands):

	June 30, 2021	December 31, 2020
Operating lease ROU assets	$ 18,254	$ —
Notes receivable	750	—
Other	931	937
Total other assets	$ 19,935	$ 937

In May 2021, the Company entered into a convertible note receivable agreement (the Note) with a borrower wherein Velodyne agreed to lend $750,000 at an interest rate of 0% per annum as a nonrecourse investment. The Note is convertible into equity at the election of the borrower or the Company upon occurrence of certain new financing or corporate transactions. The maturity date of the Note is May 11, 2024.

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following (in thousands):

	June 30, 2021	December 31, 2020
Accrued payroll expenses	$ 8,812	$ 11,877
Accrued manufacturing costs	1,849	8,003
Accrued transaction costs	5,000	25,057
Accrued professional and consulting fees	2,519	965
Accrued warranty costs	1,153	2,204
Accrued taxes	1,000	1,074
Lease liabilities	2,819	—
Legal proceedings accrual	800	75
Other	1,328	1,094
Total accrued expense and other current liabilities	$ 25,280	$ 50,349

Long-Term Liabilities

Long-term liabilities consisted of the following (in thousands):

	June 30, 2021	December 31, 2020
PPP Loan	$ —	$ 10,000
Contract liabilities, long-term	13,583	14,732
Lease liabilities, long-term	16,380	—
Other	415	1,195
Total long-term liabilities	$ 30,378	$ 25,927

Note 6. Leases

The Company leases real estate, equipment and automobiles in the U.S. and internationally. The Company leases office facilities under non-cancelable operating leases that expire on various dates through December 2027, including office and manufacturing space in San Jose, California used as its corporate headquarters. The lessor entity is owned by one of the Company's former officers. Please see Note 17, Related Party Transactions. The leases do not contain any material residual value guarantees or restrictive covenants.

Lease cost, which consisted primarily of operating lease cost, was $1.1 million and $2.2 million, respectively, for the three and six months ended June 30, 2021. Under ASC 840, the previous lease standard, total rent expense under operating leases during the three and six months ended June 30, 2020 was $1.1 million and $2.2 million, respectively.

Other information related to leases were as follows (in thousands, except years and percentages):

	Six Months Ended June 30, 2021
Supplemental cash flow information:	
Cash paid for operating leases included in operating cash flows	$ 2,256
ROU assets obtained in exchange for new operating lease liabilities	$ 340

	June 30, 2021
Supplemental balance sheet information:	
Other assets	$ 18,254
Total operating ROU assets	$ 18,254
Other current liabilities	$ 2,819
Other long-term liabilities	16,380
Total lease liabilities	$ 19,199
Weighted average remaining lease term (years)	6.30
Weighted average discount rate	6.36 %

As of June 30, 2021, maturities of lease liabilities were as follows:

Years Ending December 31,	Finance Leases	Operating Leases
2021 (remaining six months)	$ 92	$ 2,102
2022	14	3,466
2023	—	3,358
2024	—	3,459
2025	—	3,563
Thereafter	—	7,450
Total lease payments	106	$ 23,398
Less amount representing interest	(2)	(4,199)
Present value of lease liabilities	$ 104	$ 19,199

Note 7. Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss was comprised of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Foreign currency translation loss	$ (167)	$ (170)
Unrealized loss on investments	(49)	(60)
Total accumulated other comprehensive loss	$ (216)	$ (230)

During the three and six months ended June 30, 2021 and June 30, 2020, there were no significant amounts related to foreign currency translation loss or realized gains or loss on investments reclassified to net loss from accumulated other comprehensive loss.

Note 8. Credit Facilities and Notes Payable

In January 2020, the Company entered into a loan and security agreement with a financial institution (the 2020 Revolving Line), as amended in September 2020, December 2020 and March 2021, which provides a revolving line of credit of $25.0 million, with an option to increase the credit limit up to additional $15.0 million with the bank's approval. As part of the Revolving Line, there is a letters of credit sub-limit of $5.0 million. The advances under the Revolving Line bear interest at a rate per annum equal to prime rate plus an applicable margin of 1.5% for prime rate advances, or LIBOR rate plus an applicable margin of 2.5% for LIBOR advances. Unused revolving line facility fee is 0.15% per annum of average unused portion of the Revolving Line. In addition, there is a $50,000 non-refundable commitment fee if the Company exercises the Incremental Revolving Line option. The Revolving Line is secured by certain assets of the Company. The 2020 Revolving Line expired on February 27, 2021 and was extended to February 26, 2022. The Company had no outstanding borrowings and was in compliance with the financial covenants associated with the facility as of June 30, 2021.

On April 8, 2020, the Company received loan proceeds of $10.0 million under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) Paycheck Protection Program (PPP). The principal and accrued interest are forgivable after 24 weeks as long as the borrower uses the loan proceeds for eligible purposes, including payroll, benefits, rent and utilities, and maintains its payroll levels and that approval is received from the relevant government entity. The unforgiven portion of the PPP loan is payable in two years at an interest rate of 1% per annum, with a deferral of interest payments for ten months after the expiration of the 24-week covered period. The Company filed for the forgiveness of the PPP loan and was approved for forgiveness of such loan and interest on June 30, 2021. The Company recorded a $10.1 million gain from the forgiveness of the PPP loan in other income for the three months ended June 30, 2021.

Note 9. Stockholders' Equity

Common Stock

On September 30, 2020, Velodyne Lidar's common stock and warrants began trading on the Nasdaq Global Select Market under the symbol "VLDR" and "VLDRW," respectively. As discussed in Note 2, Business Combination, the Company has retroactively adjusted the pre-combination common and preferred shares issued and outstanding prior to September 29, 2020 to give effect to the exchange ratio established in the Merger Agreement to determine the number of shares of common stock into which they were converted.

The Company is authorized to issue up to 2,250,000,000 shares of common stock, each with a par value of $0.0001 per share. The following summarizes the Company's common stock outstanding as of June 30, 2021 and December 31, 2020:

	June 30, 2021	**December 31, 2020**
Converted pre-combination Velodyne common stock outstanding	89,164,440	101,849,2
Converted pre-combination Velodyne preferred stock outstanding	24,772,759	24,772,7
Graf Founder shares	412,641	2,575,0
Other stockholders	80,877,974	46,715,18
Total common stock issued and outstanding	195,227,814	175,912,1

Preferred Stock

The Company is authorized to issue up to 25,000,000 shares of preferred stock, each with a par value of $0.0001 per share. As of June 30, 2021, no shares of preferred stock were issued and outstanding.

Warrants

Upon the closing of the Business Combination, there were 24,876,512 outstanding warrants to purchase shares of the Company's common stock that were issued by Graf prior to the Business Combination. Each whole warrant entitles the holder to purchase three-quarters of one share of the Company's common stock at a price of $11.50 per share, subject to adjustments. The warrants are exercisable at any time commencing 30 days after the completion of the Business Combination and expire five years after the completion of the Business Combination. The Company may redeem the outstanding warrants in whole and not in part at a price of $0.01 per warrant at any time after they become exercisable, provided that the last sale price of the Company's common stock equals or exceeds $18.00 per share, subject to adjustments, for any 20-trading days within a 30-trading day period ending three business days prior to the date on which the Company sends the notice of redemption to the warrant holders.

In connection with the Business Combination, on October 19, 2020, the Company registered the issuance of an aggregate of up to 18,657,384 shares of its common stock that are issuable upon the exercise of its warrants including up to 375,000 shares of its common stock issuable upon exercise of its working capital warrants issued to Graf LLC. The exercise price of the warrants is $11.50 per share. The following summarizes the Company's common stock issuance related to the warrant exercises:

	June 30, 2021	December 31, 2020
Warrants outstanding upon Closing	24,876,512	24,876,512
Warrants exercised to date	18,899,642	9,598,538
Warrants outstanding	5,976,870	15,277,974
Aggregated common shares issuable upon exercise of warrants	18,657,384	18,657,384
Common shares issued upon exercise of warrants	14,174,709	7,198,898
Remaining common shares issuable upon exercise of warrants	4,482,675	11,458,486

On April 12, 2021, the Acting Director of the Division of Corporation Finance and Acting Chief Accountant of the Securities and Exchange Commission (the SEC) issued a statement regarding accounting and reporting considerations for warrants issued by SPACs. In light of the issues raised by the SEC, the Company re-evaluated its accounting position for the warrants and concluded that certain warrants should have been classified as a liability measured at fair value for the 30-day period from September 29, 2020 to October 29, 2020.

Accounting for these warrants as a liability instead of equity would have reduced non-operating expense and net loss by $1.6 million for the year ended December 31, 2020. Additionally, a corresponding $1.6 million adjustment would have been made to reduce its accumulated deficit with an offsetting adjustment to additional paid in capital in its equity accounts at December 31, 2020. Accounting for these warrants as a liability instead of equity would not have any effect on Velodyne's previously reported revenues, assets, liabilities, total equity, or cash flows for the year ended December 31, 2020. Velodyne has concluded the effects of accounting for the warrants as a liability instead of equity were immaterial to the previously issued financial statements. The Company has made an immaterial adjustment to its equity accounts for the effects of the accounting for the warrants in its condensed consolidated statement of stockholders' equity and balance sheet at March 31, 2021 by decreasing its accumulated deficit by $1.6 million with an offsetting decrease to its additional paid in capital.

Dividends

The Company has not paid any cash dividends on the common stock to date. The Company may retain future earnings, if any, for future operations, expansion and debt repayment and has no current plans to pay cash dividends for the foreseeable future. Any decision to declare and pay dividends in the future will be made at the discretion of the Board and will depend on, among other things, the Company's results of operations, financial condition, cash requirements, contractual restrictions and other factors that the Board may deem relevant. In addition, the Company's ability to pay dividends may be limited by covenants of any existing and future outstanding indebtedness the Company or its subsidiaries incur.

Note 10. Stock-Based Compensation

2020 Equity Incentive Plans

2020 Equity Plan

In connection with the Business Combination, on September 29, 2020, the Company's stockholders approved the 2020 Equity Plan. The 2020 Equity Plan provides for the grant of stock options, stock appreciation rights, restricted stock units (RSUs) and other stock or cash-based awards. The Company initially reserved 27,733,888, approximately 16% of the number of shares of its common stock outstanding upon the Closing, as the "Initial Limit" for the issuance of awards under the 2020 Equity Plan. The number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2021 and ending on (and including) January 1, 2030, by a number equal to the least of (a) 5% of the total number of Common Shares actually issued and outstanding on the last day of the preceding fiscal year, (b) 10,000,000 Common Shares, or (c) a number of Common Shares determined by the Board. This limit is subject to adjustment in the event of a stock split, stock dividend or other change in the Company's capitalization. The number of shares reserved was 36,738,678 and the remaining shares available for issuance under the 2020 Equity Plan was 17,433,350 as of June 30, 2021.

In January 2021, the Company adopted the sell-to-cover method as the tax withholding method for stock awards upon settlement, pursuant to which shares with a market value equivalent to the tax withholding obligation are sold on behalf of the holder of the awards to cover the tax withholding liability and the cash proceeds from such sales are remitted by the Company to taxing authorities.

2020 Employee Stock Purchase Plan

In connection with the Business Combination, on September 29, 2020, the Company's stockholders approved the 2020 Employee Stock Purchase Plan (the 2020 ESPP). Under the 2020 ESPP, 3,492,097 authorized but unissued or reacquired shares of common stock were initially reserved for issuance. Beginning on January 1, 2021, an additional number of shares will be reserved annually on the first day of each fiscal year for a period of not more than 20 years in an amount equal to the least of (i) 1% of the outstanding shares of our common stock on such date, (ii) 2,500,000 shares of our common stock or (iii) a lesser amount determined by the Compensation Committee or the Board.

The ESPP is implemented by overlapping, twelve-month offering periods and each offering period may contain up to two purchase periods of six months each. At any one time, there may be up to two offering periods under the ESPP. In general, a new twelve-month offering period commences on each June 1st and December 1st of a calendar year.

Common stock may be purchased under the ESPP at a price equal to 85% of the fair market value of our common stock on either the date of purchase or the first day of an offering period, whichever is lower. Eligible employees may elect to withhold up to 15% of their compensation through payroll deductions during an offering period for the purchase of stock. The ESPP contains a reset provision whereby if the price of our common stock on the first day of a new offering period is less than the price on the first day of any preceding offering period, all participants in a preceding offering period with a higher first day price will be automatically withdrawn from such offering periods and re-enrolled in the new offering period. The reset feature, when triggered, will be accounted for as a modification to the original offering period, resulting in incremental expense to be recognized over the twelve-month period of the new offering.

The ESPP limits the maximum number of shares that may be purchased by any one participant in an offering period to 3,000 shares. In addition, the Internal Revenue Code limits purchases under an ESPP to $25,000 worth of stock in any one calendar year, valued as of the first day of an offering period. As of June 30, 2021, 5,293,055 shares of common stock were reserved and available for future purchase.

2020 Phantom Stock Incentive Plan

In March 2021, the Board adopted the 2020 Phantom Stock Incentive Plan, which provides for the granting of up to 7,635,000 phantom stock units to certain employees that settle, or are expected to settle, with cash payments upon vesting. Like equity-settled awards, phantom stock units are awarded with vesting conditions and are subject to certain forfeiture provisions prior to vesting. Phantom stock unit activity for the six months ended June 30, 2021 was not significant.

Stock Incentive Awards

As of June 30, 2021, the Company has certain equity incentive awards outstanding, which include stock options, RSAs, RSUs and phantom stock units under its stock incentive plans. In the six months ended June 30, 2021, the Company granted RSUs to certain employees and directors pursuant to its 2020 Stock Plan. The RSUs are subject to time-based vesting criteria and vest on a quarterly basis over a four-year period, or 25% upon the one-year anniversary date from initial vesting date, with the remainder vesting quarterly over the following three years.

A summary of stock option activities is as follows:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (In thousands)
Option:				
Options outstanding as of December 31, 2020	597,354	$5.86		
Granted	—			
Options outstanding as of June 30, 2021	597,354	$5.86	6.80	$ 2,857
Options exercisable as of June 30, 2021	312,754	$5.97	4.88	$ 1,460
Options vested and expected to vest as of June 30, 2021	597,354	$5.86	6.80	$ 2,857

A summary of RSA and RSU activities is as follows:

	Shares	Weighted Average Grant Date Fair Value per Share
RSA:		
RSAs outstanding as of December 31, 2020	4,183,624	$1.37
Released	(4,183,624)	
RSAs outstanding as of June 30, 2021	—	
RSU:		
RSUs outstanding as of December 31, 2020	11,983,636	$12.43
Granted	2,515,134	$11.96
Released	(8,159,316)	$12.50
Forfeited	(1,098,559)	$12.41
RSUs outstanding as of June 30, 2021	5,240,895	$12.10
PRSU:		
PRSUs outstanding as of December 31, 2020	1,101,683	$6.72
Granted	9,141	$1.97
PRSUs outstanding as of June 30, 2021	1,110,824	$6.68

The Company uses primarily the sell-to-cover method as the tax withholding method for stock awards upon settlement, pursuant to which shares with a market value equivalent to the tax withholding obligation are sold on behalf of the holder of the awards to cover the tax withholding liability and the cash proceeds from such sales are remitted by the Company to taxing authorities.

Stock-Based Compensation Expense

Prior to the business combination, no compensation expense had been recognized for the RSAs granted under the pre-combination Velodyne's stock incentive plans because the liquidity event vesting condition was not probable of being met. As a result of the Business Combination, on May 18, 2021, the Board waived the liquidity event vesting condition applicable to the pre-combination Velodyne's RSAs. Therefore, the Company's outstanding RSAs vested to the extent the applicable service condition was satisfied as of such date. The vesting of the RSAs resulted in approximately $45.1 million of incremental stock-based compensation expense in the second quarter of 2021.

The Company uses the Black-Scholes option pricing model to determine the fair value of purchase rights issued under the ESPP. The computation of the expected volatility assumption is based on a weighting of historical and implied volatilities. The risk-free interest rate for the period within the expected term is based on the U.S. Treasury yield curve for the comparable term in effect at the time of grant. The expected dividend yield used in the calculation is zero because the Company has not historically paid and currently does not expect to pay dividends in the foreseeable future. The weighted-average grant date fair value of purchase rights granted under the ESPP and the weighted-average assumptions used in the model were as follows:

	Six Months Ended June 30, 2021
Weighted average grant date fair value of purchase rights issued under ESPP	$4.59
Expected term, in years	0.75
Expected volatility	97.90%
Risk-free interest rate	4%
Expected dividend yield	0.00%

The following table presents stock-based compensation expense included in the Company’s consolidated statements of operations (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Cost of revenue	$ 431	$ —	$ 967	$ —
Research and development	2,754	21	7,664	21
Sales and marketing	41,616	—	43,602	—
General and administrative	8,404	—	12,502	135
Total stock-based compensation expense	$ 53,205	$ 21	$ 64,735	$ 156

The Company recognizes forfeitures as they occur. As of June 30, 2021, unrecognized compensation cost related to RSUs, ESPP and stock options was $62.2 million, $1.5 million and $0.6 million, respectively, which was expected to be recognized over a weighted average period of 2.66 years, 0.66 years and 2.43 years, respectively.

Phantom stock units are recorded as a liability at their current market value and are included in other current liabilities. These grants remain subject to vesting 25% upon the one-year anniversary date from initial vesting date, with the remainder vesting quarterly over the following three years. Based on the trading price of the Company's common stock, the amount of liability recorded related to phantom stock units was not significant at June 30, 2021.

Note 11. Net Loss Per Share

Pursuant to the Amended and Restated Certificate of Incorporation and as a result of the Business Combination and reverse recapitalization, the Company has retrospectively adjusted the weighted average shares outstanding prior to September 29, 2020 to give effect to the exchange ratio used to determine the number of shares of common stock into which the pre-combination Velodyne common and preferred stock converted.

Basic net income (loss) per share is computed based on the weighted average number of shares of common stock outstanding during the period. Diluted net income (loss) per share is computed based on the weighted average number of common shares outstanding plus the effect of dilutive potential common shares outstanding during the period using the treasury stock method. During the periods when there is a net loss, potentially dilutive common stock equivalents have been excluded from the calculation of diluted net loss per share as their effect is anti-dilutive.

Warrants to purchase 24,876,512 shares of common stock at $11.50 per share were issued during Graf’s initial public offering. As of June 30, 2021, there were 18,899,642 warrants exercised and 14,174,709 shares of common stocks issued under warrant exercises. The 5,976,870 outstanding warrants were excluded from the basic and diluted net loss per share as they were anti-dilutive given the Company had a net loss for all periods presented.

The following common stock equivalents have also been excluded from the computation of diluted net loss per share for the periods presented because including them would have been antidilutive (in thousands):

	Three and Six Months Ended June 30,	
	2021	2020
Stock options	597	597
RSAs	—	4,184
RSUs (non-vested)	6,060	12,074
Total	6,657	16,855

Note 12. Retirement Plan

The Company has a 401(k) savings and profit-sharing plan (the 401(k) Plan), which is intended to be a tax-qualified defined contribution plan that covers all eligible employees, as defined in the applicable plan documents. Under the 401(k) Plan, eligible employees may elect salary deferral contributions, not to exceed limitations established annually by the Internal Revenue Service (IRS). The Company matches 25% of employees' eligible contributions. The Company's matching contributions were $0.3 million and $0.5 million, respectively, for the three and six months ended June 30, 2021, and $0.2 million and $0.5 million, respectively, for the three and six months ended June 30, 2020.

Note 13. Restructuring

In March 2020, the Company initiated a restructuring plan to downsize the manufacturing function and related engineering and administrative functions in its California locations, which was completed in 2020. The purposes of this plan were to align resource requirements with the Company's initiatives to lower the Company's cost structure and to increase its production capacity by outsourcing a majority of its manufacturing activities. The Company's restructuring expenses incurred primarily related to employee termination costs. The Company incurred restructuring costs of $1.0 million for the six months ended June 30, 2020.

Note 14. Income Taxes

The following table summarizes the Company's loss before income taxes and provision for (benefit from) income taxes (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Loss before income taxes	$ (78,898)	$ (9,710)	$ (119,419)	$ (39,772)
Provision for (benefit from) income taxes	339	17	635	(6,660)
Effective tax rate	(0.4)%	(0.2)%	(0.5)%	16.7 %

The quarterly income tax provision reflects an estimate of the corresponding year's annual effective tax rate and includes, when applicable, adjustments for discrete items. The tax provision for the periods presented primarily relates to income taxes of non-U.S. operations as the U.S. operations were in a loss position and the Company maintains a full valuation allowance against its U.S. deferred tax assets.

The Company is subject to income taxes in the United States, China and Germany. The Company's effective tax rate changed from 16.7% in the six months ended June 30, 2020 to (0.5)% in the six months ended June 30, 2021. This change was primarily due to the $6.7 million tax benefit related to the release of a valuation allowance associated with carrying back a portion of our 2019 net operating losses to 2017 that is allowed by the CARES Act in the first quarter of 2021.

Enacted on March 27, 2020, the CARES Act provides emergency assistance and health care response for businesses affected by the coronavirus pandemic. The CARES Act, among other things, permits net operating loss carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. Additionally, the CARES Act allows net operating losses incurred in 2018, 2019 and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. In May 2020, the Company received a $7.1 million tax refund related to the carryback of a portion of its 2019 net operating losses to 2017. As of December 31, 2020, the Company had $173.5 million of U.S. federal and $105.5 million of state net operating loss carryforwards available to reduce future taxable income, which will be carried forward indefinitely for U.S. federal tax purposes and will expire beginning in 2028 through 2040 for state tax purposes. Based on the Company's analysis, the relief provisions will not have additional material impact on its 2021 consolidated financial statements.

Note 15. Commitments and Contingencies

Purchase and Other Commitments

The following table summarizes contractual obligations and commitments as of June 30, 2021 (in thousands):

Years Ending December 31,	Purchase Commitments	Other Contractual Commitments
2021 (remaining six months)	$ 28,358	$ 1,127
2022	—	797
2023	—	51
Total	$ 28,358	$ 1,975

Purchase commitments represent outstanding purchase orders or commitments for goods or services with contract manufacturers and vendors that range mostly from one month up to a year. The Company uses several contract manufacturers to manufacture components, subassemblies and products. The Company provides these contract manufacturers with demand information and they use this information to acquire components and build products. Contract manufacturer commitments consist of obligations for on-hand inventories and non-cancelable purchase orders with contract manufactures. If the Company cancels all or part of the orders, it may still be liable to the contract manufacturers for the cost of the materials and components purchased by the subcontractors to manufacture the Company's products. The Company also obtains individual components for its products from a wide variety of individual suppliers. In addition, the Company has other contractual obligations for goods or services associated with its ordinary course of business.

Product Warranties

The Company typically provides a one-year warranty on its products. Estimated future warranty costs are accrued and charged to cost of revenue in the period that the related revenue is recognized. These estimates are based on historical warranty experience and any known or expected changes in warranty exposure, such as trends of product reliability and costs of repairing and replacing defective products. The Company periodically assesses the adequacy of its recorded warranty liabilities and adjusts the amounts as necessary.

Changes in the Company's accrued warranty liability, which is included as a component of other accrued expenses was as follows (in thousands):

	Six Months Ended June 30,	
	2021	2020
Balance as of the beginning of the period	$ 2,204	$ 4,322
Warranty provision	898	2,918
Consumption	(649)	(940)
Changes in provision estimates	(1,300)	(3,104)
Balance as of the end of the period	$ 1,153	$ 3,196

Legal Proceedings

From time to time, the Company is involved in actions, claims, suits and other proceedings in the ordinary course of business, including assertions by third parties relating to intellectual property infringement, breaches of contract or warranties or employment-related matters. The Company is defending all current litigation matters. Although there can be no assurances and the outcome of these matters is currently not determinable (except as specifically described below), the Company currently believes that none of these claims or proceedings are likely to have a material adverse effect on the Company's financial position.

Arbitration Proceeding Against David Hall

On June 9, 2021, the Company initiated an arbitration proceeding against David Hall, alleging breach of contract and misappropriation of the Company's confidential, proprietary, and trade secret information. To protect its intellectual property and in aid of the arbitration process, on July 2, 2021 the Company filed an application with the Santa Clara County Superior Court for a temporary restraining order and preliminary injunction to prohibit Mr. Hall from any further copying, disclosure or use of the Company's intellectual property and to require him to return all such property to the Company. The parties engaged in a preliminary conference on August 4, 2021, and the arbitrator set a hearing date of September 2, 2021 for a hearing on the Company's motion for preliminary injunctive relief.

Discrimination Proceeding by Marta Hall

On August 2, 2021, the Company received a Charge of Discrimination dated July 27, 2021, indicating that former Chief Marketing Officer, Marta Hall, has filed a charge of employment discrimination under Title VII of the Civil Rights Act, alleging sexual discrimination and retaliation. The Charge indicates that there is no action required by the Company at this time and that Ms. Hall needs to submit a perfected charge, containing a description of the underlying facts giving rise to her claim, and then the Company will need to respond in writing to the claims.

Quanergy Litigation

In September 2016, Quanergy Systems, Inc. (Quanergy) filed a complaint against the Company and one of its customers in the Northern District of California (the District Court litigation), seeking a declaratory judgment of non-infringement of one of the Company's patents, U.S. Patent No. 7,969,558 (the '558 patent) and asserting state and federal trade secret misappropriation claims against the Company and its customer and breach of contract and constructive fraud claims against its customer. In November 2016, Quanergy filed an amended complaint, removing its trade secret misappropriation claims against the Company, dropping its customer from the suit and dropping the related claims of breach and constructive fraud. The amended complaint maintained only the declaratory judgment of non-infringement action against the Company. In December 2016, the Company filed an answer generally denying the allegations and relief requested in Quanergy's amended complaint. The Company's answer also included counterclaims against Quanergy asserting direct, indirect, and willful infringement of the '558 patent. In January 2017, Quanergy filed an answer generally denying the allegations in the Company's patent infringement counterclaims and requesting relief. The court held a claim construction hearing on September 13, 2017 and issued a claim construction order on October 4, 2017, which adopted the majority of the Company's proposed constructions. In June 2018, the district court entered an order granting a joint stipulation to stay the litigation.

Quanergy filed two petitions for inter partes review with the U.S. Patent Office's Patent Trials and Appeal Board (PTAB) in November 2017, challenging all claims of the '558 patent that we asserted. The Company filed its Patent Owner Preliminary Response to Quanergy's petitions on March 7, 2018. The PTAB issued an institution decision on May 25, 2018, instituting review of all challenged claims. The Company subsequently filed its Patent Owner Response and a Contingent Motion to amend the claims. The PTAB held oral argument on February 27, 2019. On May 23, 2019, the PTAB issued a Final Written Decision upholding the validity of all the challenged claims, finding that Quanergy did not prove by a preponderance of the evidence that any of the challenged claims of the '558 patent were unpatentable, and denying the Company's contingent motion as moot. In June 2019, Quanergy filed a request for rehearing. On July 21, 2020, Quanergy filed a Notice of Appeal, appealing the PTAB decision to the U.S. Court of Appeals for the Federal Circuit. Quanergy's opening appeal brief was filed on January 22, 2021. The Company's responsive appeal brief was filed on April 2, 2021. Quanergy filed its reply brief on April 23, 2021. The Federal Circuit held oral arguments on the appeal on July 7, 2021. The Company believes the allegations in the actions are without merit, and intends to defend the actions vigorously.

Criterion ITC Litigation

In July 2021, Criterion Technology, Inc. (Criterion) filed complaints against the Company and one of its suppliers in the International Trade Commission (ITC) and Northern District of California. The complaints allege claims of trade secret misappropriation, breach of contract, and unfair business practices under federal and California law. Criterion's claims are directed to optical enclosures in Lidar products. Both litigations are in their early stages. The ITC investigation was instituted on August 4, 2021. The Company believes the allegations in the actions are without merit and intends to defend the actions vigorously.

Employment Matters

On June 8, 2020, a former employee filed a class action lawsuit in the Santa Clara County Superior Court of the State of California. The complaint alleges that, among other things, the Company failed to pay minimum and overtime wages, final wages at termination, and other claims based on meal periods and rest breaks. The plaintiff is bringing this lawsuit on behalf of herself and other similarly situated plaintiffs who have not been identified and is seeking to certify the action as a class action. The plaintiff has now filed a First Amended Complaint that adds a claim pursuant to California's Private Attorneys General Act. The First Amended Complaint does not specify the amount the plaintiff seeks to recover. Velodyne's response to the First Amended Complaint was filed on November 16, 2020 and the parties are in the process of beginning discovery concerning class certification issues. On August 5, 2021, the parties reached a tentative settlement, subject to court approval, whereby the Company will pay $0.8 million.

Securities Litigation Matters

On March 3, 2021, a purported shareholder of Velodyne filed a complaint for a putative class action against Velodyne, Anand Gopalan and Andrew Hamer in the United States District Court, Northern District of California, entitled Moradpour v. Velodyne Lidar, Inc., et al., No. 3:21-cv-01486-SI. The complaint alleges purported violations of the federal securities laws and that, among other things, the defendants made materially false and/or misleading statements and failed to disclose material facts about the Company's business, operations and prospects. The complaint alleges that purported class members have suffered losses. The complaint seeks, among other things, an award of compensatory damages on behalf of a putative class of persons who purchased or otherwise acquired the Company's securities between November 9, 2020 and February 19, 2021. On March 12, 2021, a putative class action entitled Reese v. Velodyne Lidar, Inc., et al., No. 3:21-cv-01736-VC, was filed against the Company, Mr. Gopalan and Mr. Hamer in the United States District Court for the Northern District of California, based on allegations similar to those in the earlier class action and seeking recovery on behalf of the same putative class. On March 19, 2021, another putative class action entitled Nick v. Velodyne Lidar, Inc., et al., No. 4:21-cv-01950-JST, was filed in the United States District Court for the Northern District of California, against the Company, Mr. Gopalan, Mr. Hamer, two current or former directors, and three other entities. The complaint alleges purported violations of the federal securities laws and that, among other things, the defendants made materially false and/or misleading statements and failed to disclose material facts about the Company's business, operations, controls and prospects and seeks, among other things, an award of compensatory damages on behalf of a putative class of persons who purchased or otherwise acquired the Company's securities between July 2, 2020 and March 17, 2021. The class actions have been consolidated, lead plaintiffs have been appointed and an amended consolidated complaint is scheduled to be filed by September 1, 2021. The Company believes the allegations in the actions are without merit, and intends to defend the actions vigorously.

On March 12, 2021, a putative shareholder derivative lawsuit entitled D'Arcy v. Gopalan, et al., No. 1:21-cv-00369-MN, was filed in the United States District Court for the District of Delaware against current and former directors and/or officers Anand Gopalan, Andrew Hamer, David S. Hall, Marta Thoma Hall, Joseph B. Culkin, Michael E. Dee, James A. Graf, Barbara Samardzich, and Christopher A. Thomas, and names the Company as a nominal defendant. The complaint asserts claims for breach of fiduciary duty, unjust enrichment, abuse of control, gross mismanagement, and waste of corporate assets against all of the individual defendants, and asserts a contribution claim under the federal securities laws against Mr. Gopalan and Mr. Hamer. On March 16, 2021, a second shareholder derivative lawsuit entitled Kondner, et al. v. Culkin, et al., No. 1:21-cv-00391-MN, was filed in the United States District Court for the District of Delaware against most of the same defendants named in the earlier derivative complaint, and asserts claims against the individual defendants for alleged breaches of fiduciary duty and waste of corporate assets. Both derivative actions are based on allegations similar to those in the class actions discussed above, and have now been consolidated.

Contingency Assessment

The Company records accruals for outstanding legal proceedings, investigations or claims when it is probable that a liability will be incurred and the amount of loss can be reasonably estimated. The Company evaluated developments in legal proceedings, investigations or claims that could affect the amount of any accrual, as well as any developments that would result in a loss contingency to become both probable and reasonably estimable. As of June 30, 2021, other than the $0.8 million litigation accrual related to the employment matter, the Company has not recorded any significant accrual for loss contingencies associated with such legal claims or litigation discussed above.

Note 16. Segment, Geographic and Customer Concentration Information

The Company conducts its business in one operating segment that develops and produces Lidar sensors for use in industrial, 3D mapping, drones and auto applications. The Company's Chief Executive Officer (CEO), or the Office of CEO, is the chief operating decision maker (CODM). The CODM allocates resources and makes operating decisions based on financial information presented on a consolidated basis, accompanied by disaggregated information about sales and gross margin by product group. The profitability of the Company's product group is not a determining factor in allocating resources and the CODM does not evaluate profitability below the level of the consolidated company.

The Company reports revenue by region and country based on the location where its customers accept delivery of its products and services. Revenue by region was as follows (dollar amount in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue by region:				
North America	$ 5,271	$ 4,650	$ 10,315	$ 13,903
Asia Pacific	5,255	20,150	14,761	25,774
Europe, Middle East and Africa	3,070	3,586	6,246	5,740
Total	$ 13,596	$ 28,386	$ 31,322	$ 45,417
% of Revenue by region:				
North America	38 %	16 %	33 %	30 %
Asia Pacific	39 %	71 %	47 %	57 %
Europe, Middle East and Africa	23 %	13 %	20 %	13 %
Total	100 %	100 %	100 %	100 %

Revenue by countries and customers accounted for more than 10% of revenue was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Countries over 10% of revenue:				
U.S.	37 %	15 %	31 %	21 %
China	24 %	65 %	36 %	46 %
Sweden	15 %	*	14 %	*
Number of customers accounted for over 10% of revenue:	1	1	2	1

The Company's long-lived assets, consisting primarily of property, plant and equipment, were primarily located in the United States as of June 30, 2021 and December 31, 2020.

Note 17. Related Party Transactions

Certain holders of the pre-combination Velodyne's convertible preferred stock (which converted into common stock of the Company upon the Business Combination) purchased products and services, directly or through a third party, from the Company. Revenue and accounts receivable for these holders were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue:				
Stockholder A	$ 44	$ 35	$ 83	$ 278
Stockholder B[(1)]	*	—	*	3,544
Stockholder C	—	439	—	439

	June 30, 2021	December 31, 2020
Accounts receivable:		
Stockholder B[(1)]	*	3,085

(1) Stockholder B sold all its shares of the Company's common stock in the fourth quarter of 2020.

In April 2019, the Company entered into a manufacturing agreement with one of its Series B Preferred Stockholders (Stockholder D), and the Company has one product that is currently being manufactured by Stockholder D. As of June 30, 2021 and December 31, 2020, the Company had zero and $6.3 million, respectively, of payable and accrued purchases and $0.2 million and $15.0 million, respectively, of outstanding purchase commitments for products with this stockholder. The Company procures equipment, materials and components for Stockholder D to build the product and had $0.1 million and $1.5 million, respectively, of receivables from this stockholder which was included in other current assets as of June 30, 2021 and December 31, 2020. The Company also loaned to Stockholder D manufacturing equipment with a net book value of $0.4 million and $0.4 million, respectively, as of June 30, 2021 and December 31, 2020, which was included in the Company's balance sheet within property, plant and equipment, net.

The Company rents its corporate headquarters facility in San Jose, California from a company owned by one of its former officers. In May 2021, the building was sold to a third-party but the lease terms remain unchanged. The lease was executed in January 2017 and expires in December 2027, as amended. Lease cost or rent expense under this lease was $0.6 million and $1.4 million, respectively, for the two and five months ended May 31, 2021, and $0.8 million and $1.7 million, respectively, for the three and six months ended June 30, 2020.

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

The following discussion of Velodyne's results of operations and financial condition should be read in conjunction with the information set forth in Velodyne's financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements based upon our current expectations, estimates and projections that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements due to, among other considerations, the matters discussed under "Cautionary Note Regarding Forward-Looking Statements" and Item 1A: "Risk Factors."

Overview

Velodyne, the first pure-play lidar company, is a global leader in lidar technology providing real-time 3D vision for autonomous systems. Our lidar solutions are advancing the development of safe automated systems throughout the world, thereby empowering the autonomous revolution by allowing machines to see their surroundings. Our lidar-based smart vision solutions are also deployed in many non-automotive applications, including autonomous mobile robots, unmanned aerial vehicles (UAV), drones, last-mile delivery, precision agriculture, advanced security systems, and smart city initiatives.

We also license our technology and provide development services to customers and business partners. Of the more than 300 customers that purchased smart vision solutions from us and our distributors in the last two fiscal years, approximately 200 are using our smart vision solutions for non-automotive applications. For the six months ended June 30, 2021, we generated over half of our revenue from sales to customers deploying our smart vision solutions in non-automotive applications. In addition, we are transitioning from field programmable gate arrays to ASICs in order to further improve performance of our products, lower costs and reduce reliance on any key suppliers.

Impact of COVID-19

The extensive impact of the pandemic caused by the novel coronavirus (COVID-19) has resulted and will likely continue to result in significant disruptions to the global economy, as well as businesses and capital markets around the world.

The timing of customer orders and our ability to fulfill orders we received was impacted by various COVID-19 related government mandates across our worldwide operations. We witnessed certain current and prospective customers delaying purchases based on budget constraints or project delays related to COVID-19. While the broader and long-term implications of the COVID-19 pandemic on our workforce, operations and supply chain, customer demand, results of operations and overall financial performance remain uncertain, we continued to experience disruptions to our business due to the COVID-19 pandemic during the first six months of 2021.

The impact of COVID-19 and measures to prevent its spread have been impactful and continue to affect our business in several ways.

- *Operations and supply chain.* As a result of COVID-19, we experienced some production delays during the first six months of 2021 due to travel restrictions to Thailand, the location of one of our key manufacturing partners. The San Jose factory continued to produce the major lidar products to support customer demand, augmented by our contract manufacturing partners. The San Jose factory confirmed several cases of COVID-19 from external exposure. As part of our continuing COVID-19 mitigation efforts, we perform audits of our supply chain and work with key suppliers to proactively mitigate potential supply constraints. Supply chain disruption due to COVID-19 has been minimal, however, the global supply of certain components, especially in the semiconductor space, requires ongoing vigilance as both lead times and prices reflect demand exceeding industry supply, and our plans to transition production from our San Jose factory to our contract manufacturing partners have experienced delays as a result of travel restrictions.

- *Demand for our products.* While we continue to engage with current and potential customers, we believe some customers may delay purchases from us because their development programs may also be delayed as a result of COVID-19.

- *Positive customer trend in the pandemic.* The global pandemic accelerated a few key robotic programs, which partially offset the impact of some of our customers' delayed purchasing decisions. The accelerated programs include robots that disinfect the air and surfaces, providing more sanitized environments, and touchless delivery robots for food and medical supplies.

- *Liquidity, working capital, and the CARES Act.* On March 27, 2020, the U.S. government enacted the CARES Act. On April 8, 2020, we received loan proceeds of $10.0 million under the CARES Act's Paycheck Protection Program to help us offset delays in production and customer purchases. We filed a request for PPP loan forgiveness, and the approval was granted on June 30, 2021.

See Item 1A: "*Risk Factors*" for further discussion of the possible impact of COVID-19 on our business.

Factors Affecting Our Performance

Design wins. We are developing our smart vision solutions as a key enabling technology for OEMs in automotive and other applications. Because our solutions must be integrated into a broader platform by the OEM, it is critical that we achieve design wins with these customers. The time necessary to achieve design wins varies based on the market and application. The design cycle in the automotive market tends to be substantially longer and more onerous than in other markets. Even within the automotive market, achieving a design win with an automotive OEM takes considerably longer than a design cycle for an aftermarket application. We consider design wins to be critical to our future success, although the revenue generated by each design win and the time necessary to achieve such a win can vary significantly, making it difficult to predict our future financial performance.

Pricing, product cost and margins. Our pricing and margins will depend on the volumes and the features of the solutions we provide to our customers. To date, most of our revenue has been generated by selling our smart vision solutions that have cost less for us to manufacture and that incorporate new features. In general, solutions incorporated into development-phase products require more complex configurations, have higher prices and higher gross margins. As our markets reach maturity and commercialization, we expect prices and margins will generally decrease. Our commercial-stage customers will require that our smart vision solutions be manufactured and sold at per-unit prices that enable mass market adoption. To meet the technological and pricing needs of customers reaching commercial scale, we are making significant investments in new solutions for both cost improvements and new features. Our ability to compete in key markets will depend on the success of these investments and our efforts to efficiently and reliably produce cost-effective smart vision solutions for our commercial-stage customers. We have customers with technologies in various stages of development. We anticipate that our prices will vary by market and application due to market-specific supply and demand dynamics and product lifecycles.

Commercialization of lidar-based applications. Our revenue has been subject to significant fluctuations. Our customers in pre-commercial development phase may have purchased their requirements of our products in earlier periods and we do not expect them begin purchasing again in volume unless and until they reach commercial deployments. As a number of our target markets reach commercialization, we expect there to be a shift towards higher unit volume at lower per-unit prices, with more predictable customer demand. We expect that our results of operations, including revenue and gross margins, will continue to fluctuate on a quarterly basis for the foreseeable future as our customers continue research and development projects and begin to commercialize autonomous solutions that rely on lidar technology. As more customers reach the commercialization phase and as the market for lidar solutions matures, these fluctuations in our operating results may become less pronounced. However, in the near term, our revenue may not grow as we expect until more customers commercialize their products.

End market demand. We sell our products to customers in a number of end markets. We believe our entry into new markets will continue to facilitate revenue growth and customer diversification. While we will continue to expand the end markets we serve, we anticipate that sales to a limited number of end markets will continue to account for a significant portion of our total revenue for the foreseeable future. Success in an end market, or commercialization, is uncertain and may develop differently in each case, with unique pricing, volume and cost dynamics. Additionally, as production scales in order to meet the demands of commercialization, pricing pressure increases and the amount of that pressure is expected to vary by market.

Sales volume. A typical design win can generate a wide range of sales volumes for our solutions, depending on the end market demand for our customers' products. This can depend on several factors, including the reputation of the end customer, market penetration, product capabilities, size of the end market that the product addresses and our end customers' ability to sell their products. In addition to end market demand, sales volumes also depend on whether our customer is in the development, commercialization or production phase. In certain cases, we may provide volume discounts on sales of our solutions, which may or may not be offset by lower manufacturing costs related to higher volumes.

Continued investment and innovation. We believe that we are the industry-leading lidar provider with proven designs, extensive product offerings and advanced manufacturing capabilities. Our financial performance is significantly dependent on our ability to maintain this leading position. This is further dependent on the investments we make in research and development. We must continually identify and respond to rapidly evolving customer requirements, develop and introduce innovative new products, enhance and service existing products and generate active market demand for our products. If we fail to do this, our leading market position and revenue may be adversely affected, and our investments in that area will not be recovered.

Components of Results of Operations

Revenue

The majority of our revenue comes from the sale of our lidar sensors directly to end users and through our network of U.S. and international distributors. Product revenue is recognized when control of the products is transferred to the customer, which is generally upon shipment. For custom products that require engineering and development based on customer requirements, revenue is recognized over time using an output method based on units of product shipped to date relative to total production units under the contract. We also generate a portion of our revenue from intellectual property licensing, royalties and the sale of services related to product development, validation, extended warranty and product repair services. License revenue is recognized upon delivery of the intellectual property if there are no substantive future obligations to perform under the arrangement. Royalties are recognized at the later of the period the sales occur or the satisfaction of the performance obligation to which some or all of the royalties have been allocated. As our manufacturing partners to whom we have licensed our technology start selling to customers we expect royalty revenue to increase as a percentage of total revenue. Service revenue is recognized as the services are performed.

Cost of Revenue

Cost of revenue includes the manufacturing cost of our lidar sensors, which primarily consists of personnel-related costs directly associated with our manufacturing organization, and amounts paid to our third-party contract manufacturers and vendors. Our cost of revenue also includes depreciation and amortization, cost of component inventory, product testing costs, costs of providing services, an allocated portion of overhead, facility and IT costs, warranty costs, excess and obsolete inventory and shipping costs. We expect cost of revenue to increase in absolute dollars in future periods.

Gross Profit and Gross Margin

Our gross profit in future periods will depend on a variety of factors, including: market conditions that may impact our pricing, including our desire to broaden customer adoption of lidar across multiple industries and markets; product mix changes between established products and new products and licenses; excess and obsolete inventories; our cost structure for manufacturing operations, including third-party manufacturers, relative to volume; and product support obligations. Additionally, we believe our transition to an outsourced manufacturing model will favorably impact our gross profit over time. Our gross margin varies by product. In addition, our license revenue has lower cost, and therefore it contributes to higher gross margin. We expect our gross margins to fluctuate over time, depending on the factors described above.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of personnel-related costs directly associated with our research and development organization, with the remainder being prototype expenses, third-party engineering and contractor costs, an allocated portion of facility and IT costs and depreciation. Our research and development efforts are focused on enhancing and developing additional functionality for our existing products and on new product development, including new releases and upgrades to our lidar sensors. We expense research and development costs as incurred. We expect our research and development expenses to increase in absolute dollars as we increase our investment in software development to broaden the capabilities of our solutions and introduce new products and features.

Sales and Marketing Expenses

Our sales and marketing expenses consist primarily of personnel-related costs directly associated with our sales and marketing activities. These include the cost of sales commissions, marketing programs, trade shows, consulting services, promotional materials, demonstration equipment, an allocated portion of facility and IT costs and depreciation. We expect that our sales and marketing expenses will increase in absolute dollars over time as we hire additional sales and marketing personnel, increase our marketing activities, grow our domestic and international operations, and build brand awareness.

General and Administrative Expenses

General and administrative expenses primarily consist of personnel-related expenses associated with our general and administrative organization, professional fees for legal, accounting, and other consulting services, an allocated portion of facility and IT costs and depreciation. We expect to incur additional general and administrative expenses as a result of operating as a public company, including expenses related to compliance with the rules and regulations of the SEC and stock exchange listing standards, additional insurance expenses (including directors’ and officers’ insurance), investor relations activities and other administrative and professional services. We also expect to increase the size of our general and administrative function to support the growth of our business.

Restructuring Expenses

Restructuring expenses primarily consist of costs of employee termination benefits incurred in connection with our restructuring plan to downsize the manufacturing function and related engineering and administrative functions in our California locations in March 2020. The purposes of this plan are to align resource requirements with our initiatives to lower our cost structure and to increase our production capacity by outsourcing a majority of manufacturing activities. The plan included a reduction of workforce and has been completed as of December 31, 2020.

Stock-Based Compensation

Stock-based compensation expense primarily related to our RSUs, RSAs, stock options and Employee Stock Purchase Plan (ESPP). Compensation expense related to RSUs and RSAs granted under the pre-combination Velodyne’s stock incentive plans remained unrecognized until the liquidity event vesting condition, which is (i) an initial public offering, or (ii) a Company sale event, was satisfied. The liquidity-event vesting condition was not satisfied upon the completion of the Business Combination. However, the Board waived such condition applicable to the pre-combination Velodyne RSUs and RSAs on October 30, 2020 and May 18, 2021, respectively, in order to provide the holders of such awards with the treatment that they would have received if the pre-combination Velodyne had completed an initial public offering. As a result of these determinations, our outstanding RSUs and RSAs vested to the extent the applicable service condition was satisfied as of such date. The vesting of these outstanding RSUs and RSAs resulted in approximately $77.5 million and $45.1 million, respectively, of incremental stock-based compensation expense in the fourth quarter of 2020 and second quarter of 2021, respectively.

Interest Income and Expense

Interest income consists primarily of income earned on our cash equivalents and investments in marketable securities. These amounts will vary based on our cash, cash equivalents and short-term investment balances, and also with market rates. Interest expense consists primarily of interest on our equipment capital leases and credit facility.

Other Income (Expense), Net

Other income (expense), net consists primarily of foreign currency transaction gains and losses related to the impact of transactions denominated in a foreign currency other than the U.S. Dollar. As we have expanded our international operations, our exposure to fluctuations in foreign currencies has increased, and we expect this to continue. For the three and six months ended June 30, 2021, we recorded a $10.1 million gain from forgiveness of our PPP loan and related interest in other income.

Provision for Income Taxes

Our provision for income taxes consists of federal, state and foreign current and deferred income taxes. As we expand the scale and scope of our international business activities, any changes in the United States and foreign taxation of such activities may increase our overall provision for income taxes in the future.

We have a full valuation allowance for our net deferred tax assets, including federal and state net operating loss carryforwards and research and development credit carryforwards. We expect to maintain this valuation allowance until it becomes more likely than not that the benefit of our federal and state deferred tax assets will be realized by way of expected future taxable income.

We believe that we have adequately reserved for our uncertain tax positions, although we can provide no assurance that the final outcome of these matters will not be materially different. To the extent that the final outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made and could have a material impact on our financial condition and results of operations.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with U.S. generally accepted accounting principles. The preparation of these consolidated financial statements requires us to make estimates, assumptions and judgments that can significantly impact the amounts we report as assets, liabilities, revenue, costs and expenses and the related disclosures. We base our estimates on historical experience and other assumptions that we believe are reasonable under the circumstances. Our actual results could differ significantly from these estimates under different assumptions and conditions. We believe that the accounting policies discussed below are critical to understanding our historical and future performance as these policies involve a greater degree of judgment and complexity.

During the six months ended June 30, 2021, there were no significant changes in our critical accounting policies and estimates as compared to those previously disclosed in “Critical Accounting Estimates” in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our 2020 Annual Report on Form 10-K.

Recent Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, Measurement of Credit Losses on Financial Instruments, which has subsequently been amended by ASU No. 2018-19, ASU No. 2019-04, ASU No. 2019-05, ASU No. 2019-11, ASU 2020-02 and ASU 2020-03 to provide additional guidance on the credit losses standard. The objective of the guidance in ASU 2016-13 is to allow entities to recognize estimated credit losses in the period that the change in valuation occurs. ASU 2016-13 requires an entity to present financial assets measured on an amortized cost basis on the balance sheet net of an allowance for credit losses. Available for sale and held to maturity debt securities are also required to be held net of an allowance for credit losses. For emerging growth companies, the standard is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Early adoption is permitted. We expect to adopt the new standard in the first quarter of 2023 and are currently evaluating the impact this standard will have on our consolidated financial statements and related disclosures.

In October 2020, the FASB issued ASU 2020-10, Codification Improvements, which updates various codification topics by clarifying or improving disclosure requirements to align with the SEC's regulations. ASU 2020-10 is effective for public companies, other than smaller reporting companies, for fiscal years beginning after December 15, 2020. For all other entities, ASU 2020-10 is effective for fiscal years beginning after December 15, 2021, and interim periods beginning after December 15, 2022. We are currently evaluating the impact of adoption of ASU 2020-10 on our consolidated financial statements and related footnote disclosures.

Results of Operations

The results of operations presented below should be reviewed in conjunction with the consolidated financial statements and notes included elsewhere in this prospectus. The following table sets forth our consolidated results of operations data for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)			
Revenue:				
Product	$ 11,970	$ 11,427	$ 22,563	$ 27,849
License and services	1,626	16,959	8,759	17,568
Total revenue	13,596	28,386	31,322	45,417
Cost of revenue:				
Product(1)	19,210	14,419	34,839	29,545
License and services	170	81	349	384
Total cost of revenue(1)	19,380	14,500	35,188	29,929
Gross profit (loss)	(5,784)	13,886	(3,866)	15,488
Operating expenses(1):				
Research and Development	17,009	14,591	35,387	29,118
Sales and Marketing	47,176	3,373	54,251	8,672
General and administrative	19,133	5,630	36,169	16,363
Restructuring	—	(3)	—	1,043
Total operating expense	83,318	23,591	125,807	55,196
Operating loss	(89,102)	(9,705)	(129,673)	(39,708)
Interest income	109	5	212	117
Interest expenses	(41)	(32)	(77)	(38)
Other income (expense), net	10,136	22	10,119	(143)
Loss before income taxes	(78,898)	(9,710)	(119,419)	(39,772)
Provision for (benefit from) income taxes	339	17	635	(6,660)
Net loss	$ (79,237)	$ (9,727)	$ (120,054)	$ (33,112)

The following table sets forth the components of our consolidated statements of operations data as a percentage of revenue for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue:				
Product	88 %	40 %	72 %	61 %
License and services	12	60	28	39
Total revenue	100	100	100	100
Cost of revenue:				
Product	141	51	111	65
License and services	1	—	1	1
Total cost of revenue	143	51	112	66
Gross profit (loss)	(43)	49	(12)	34
Operating expenses:				
Research and Development	125	51	113	64
Sales and Marketing	347	12	173	19
General and administrative	141	20	115	36
Restructuring	—	—	—	2
Total operating expense	613	83	401	122
Operating loss	(655)	(34)	(414)	(88)
Interest income	1	—	1	—
Interest expenses	—	—	—	—
Other income (expense), net	75	—	32	—
Loss before income taxes	(580)	(34)	(381)	(88)
Provision for (benefit from) income taxes	2	—	2	(15)
Net loss	(582)%	(34)%	(383)%	(73)%

(1) Includes stock-based compensation expense as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)			
Cost of revenue	$ 431	$ —	$ 967	$ —
Research and Development	2,754	—	7,664	21
Sales and Marketing	41,616	—	43,602	—
General and administrative	8,404	135	12,502	135
Total stock-based compensation expense	$ 53,205	$ 135	$ 64,735	$ 156

Prior to the Business Combination, compensation expense related to RSAs and RSUs granted under the pre-combination Velodyne's stock incentive plans remained unrecognized because the performance vesting condition, which is (i) an initial public offering, or (ii) a Company sale event, was not probable of being met. As a result of the Business Combination, the Board waived the liquidity event vesting condition applicable to the pre-combination Velodyne's RSUs and RSAs, respectively, on October 30, 2020 and May 18, 2021. Therefore, our outstanding RSUs vested to the extent the applicable service condition was satisfied as of such dates. The vesting of these outstanding RSUs and RSAs resulted in approximately $77.5 million and $45.1 million, respectively, of incremental stock-based compensation expense in the fourth quarter of 2020 and second quarter of 2021.

Comparison of the Three and Six Months Ended June 30, 2021 and 2020

Revenue

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Change $	Change %
	(Dollars in thousands)			
Revenue:				
Products	$ 11,970	$ 11,427	$ 543	5 %
License and services	1,626	16,959	(15,333)	(90)
Total	$ 13,596	$ 28,386	$ (14,790)	(52)
Revenue by geographic location:				
North America	$ 5,271	$ 4,650	$ 621	13 %
Asia and Pacific	5,255	20,150	(14,895)	(74)
Europe, Middle East and Africa	3,070	3,586	(516)	(14)
Total	$ 13,596	$ 28,386	$ (14,790)	(52)

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020	Change $	Change %
	(Dollars in thousands)			
Revenue:				
Products	$ 22,563	$ 27,849	$ (5,286)	(19)%
License and services	8,759	17,568	(8,809)	(50)
Total	$ 31,322	$ 45,417	$ (14,095)	(31)
Revenue by geographic location:				
North America	$ 10,315	$ 13,903	$ (3,588)	(26)%
Asia and Pacific	14,761	25,774	(11,013)	(43)
Europe, Middle East and Africa	6,246	5,740	506	9
Total	$ 31,322	$ 45,417	$ (14,095)	(31)

Total revenue decreased by $14.8 million, or 52%, to $13.6 million for the three months ended June 30, 2021 from $28.4 million for the three months ended June 30, 2020. The $0.5 million increase in product revenue reflected increase in product shipment offset by decrease in product price. The $15.3 million decrease in license and service revenue was primarily driven by our patent cross license agreements.

The $0.6 million increase in North America revenue for the three months ended June 30, 2021 was due to an increase of $2.4 million in volume of sensors sold partially offset by a decrease of $1.6 million related to reduction of average selling price of units sold, and a decrease of $0.5 million as a result of the mix of units sold. The $14.9 million decrease in Asia-Pacific revenue was primarily due to a $15.7 million decrease in license revenue from our patent cross license agreements, an increase of approximately $1.8 million related to mix of units sold and an increase of $1.9 million in volume, partially offset by a decrease of approximately $3.0 million due to reduction of average selling price of units sold. The $0.5 million decrease in Europe, Middle East and Africa revenue was due to a decrease of $3.0 million due to reduction of average selling price and a decrease of $0.4 million as a result of the mix of units sold, partially offset by an increase of $2.8 million related to volume.

Total revenue decreased by $14.1 million, or 31%, to $31.3 million for the six months ended June 30, 2021 from $45.4 million for the six months ended June 30, 2020. The $5.3 million decrease in product revenue reflected a decrease of $14.4 million related to reduction in average selling price for lidar sensors, partially offset by an increase of $8.5 million in volume and an increase of approximately $0.8 million related to the mix of sensors sold. The timing of customer orders and our ability to fulfill orders we received was impacted by various COVID-19 related government mandates across our worldwide operations. The reduction in average selling price reflected our continued objective to drive additional adoption of our smart vision solutions in multiple end markets. Our revenue has been subject to significant fluctuations. Our customers in pre-commercial development phase may have purchased their requirements of our products in earlier periods and are not expected to begin purchasing again in volume unless and until they reach commercial deployments. As a number of our target markets reach commercialization, we expect there to be a shift towards higher unit volume at lower per-unit prices, with more predictable customer demand. The $8.8 million decrease in license and service revenue was primarily driven by license revenue from the patent cross-license agreements entered into during the second and third quarter of 2020.

The $3.6 million decrease in North America revenue for the six months ended June 30, 2021 was due to a decrease of $2.7 million related to reduction of average selling price of units sold, a decrease of $4.3 million as a result of the mix of units sold, partially offset by an increase of $3.3 million in volume. The $11.0 million decrease in Asia-Pacific revenue was primarily due to a $9.3 million decrease in license revenue from our patent cross license agreements, an increase of approximately $4.1 million related to mix of units sold, partially offset by a decrease of approximately $5.9 million due to reduction of average selling price of units sold. The $0.5 million increase in Europe, Middle East and Africa revenue was due to a decrease of $5.8 million due to reduction of average selling price, partially offset by an increase of $5.2 million related to volume and a $1.0 million increase related to the mix of sensors sold.

Cost of Revenue and Gross Margin

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Change $	Change %
	(Dollars in thousands)			
Cost of revenue:				
Product	$ 19,210	$ 14,419	$ 4,791	33 %
License and services	170	81	89	110 %
Total cost of revenue	$ 19,380	$ 14,500	$ 4,880	34 %
Gross margin	(43)%	49 %		

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020	Change $	Change %
	(Dollars in thousands)			
Cost of revenue:				
Product	$ 34,839	$ 29,545	$ 5,294	18 %
License and services	349	384	(35)	(9)%
Total cost of revenue	$ 35,188	$ 29,929	$ 5,259	18 %
Gross margin	(12)%	34 %		

Cost of revenue increased by $4.9 million, or 34%, to $19.4 million for the three months ended June 30, 2021 from $14.5 million for the three months ended June 30, 2020. The $4.8 million product cost increase reflects $5.9 million related to the increase in volume and mix of sensors sold and $0.4 million in additional stock-based compensation, partially offset by cost savings as a result of our transition to contract manufacturers.

Cost of revenue increased by $5.3 million, or 18%, to $35.2 million for the six months ended June 30, 2021 from $29.9 million for the six months ended June 30, 2020. The $5.3 million product cost increase was primarily driven by increases of $9.0 million related to volume and mix of units sold, and an increase of $1.0 million in stock-based compensation, partially offset by cost savings as a result of our transition to contract manufacturers.

Gross margin decreased from 49% and 34%, respectively, for the three and six months ended June 30, 2020 to (43)% and (12)% for the three and six months ended June 30, 2021, primarily reflecting the timing of high margin license and services revenues and reductions in the average selling price for sensors. We expect to decrease manufacturing labor and overhead costs as we outsource production to our contract manufacturing partners, with the objective of reducing the per unit cost of revenue.

Operating Expenses

	Three Months Ended June 30, 2021	2020	Change $	Change %
	(Dollars in thousands)			
Research and development	$ 17,009	$ 14,591	$ 2,418	17 %
Sales and marketing	47,176	3,373	43,803	1,299
General and administrative	19,133	5,630	13,503	240
Restructuring	—	(3)	3	(100)
Total operating expenses	$ 83,318	$ 23,591	$ 59,727	253

	Six Months Ended June 30, 2021	2020	Change $	Change %
	(Dollars in thousands)			
Research and development	$ 35,387	$ 29,118	$ 6,269	22 %
Sales and marketing	54,251	8,672	45,579	526
General and administrative	36,169	16,363	19,806	121
Restructuring	—	1,043	(1,043)	(100)
Total operating expenses	$ 125,807	$ 55,196	$ 70,611	128

Research and Development

Research and development expenses increased by $2.4 million, or 17%, to $17.0 million for the three months ended June 30, 2021 from $14.6 million for the three months ended June 30, 2020. The increase was primarily due to increases of $2.8 million in stock-based compensation expense, $0.2 million in depreciation expense, partially offset by decreases of $0.2 million in allocated facility and IT expenses, and $0.8 million in personnel related costs.

Research and development expenses increased by $6.3 million, or 22%, to $35.4 million for the six months ended June 30, 2021 from $29.1 million for the six months ended June 30, 2020. The increase was primarily due to increases of $7.6 million in stock-based compensation expense, $0.3 million in depreciation expense, partially offset by decreases of $0.7 million in allocated facility and IT expenses, $0.4 million in prototype product development costs, $0.2 million in travel expenses, and $1.0 million in personnel related costs.

Sales and Marketing

Sales and marketing expenses increased by $43.8 million, or 1,299%, to $47.2 million for the three months ended June 30, 2021 from $3.4 million for the three months ended June 30, 2020. The increase was primarily attributable to increases of $41.6 million in stock-based compensation expense, $1.2 million in personnel related expense, $0.4 million in evaluation units, $0.2 million in travel expenses and $0.1 million in trade show expenses, partially offset by a decrease of $0.1 million in depreciation expense.

Sales and marketing expenses increased by $45.6 million, or 526%, to $54.3 million for the six months ended June 30, 2021 from $8.7 million for the six months ended June 30, 2020. The increase was primarily attributable to increases of $43.6 million in stock-based compensation expense and $0.4 million in evaluation units, partially offset by decreases of $0.7 million in travel and trade show expenses, $0.1 million in commission expense and $0.1 million in depreciation expense.

General and Administrative

General and administrative expenses increased by $13.5 million, or 240%, to $19.1 million for the three months ended June 30, 2021 from $5.6 million for the three months ended June 30, 2020. The increase was primarily attributable to increases of $8.3 million in stock-based compensation expense, $0.8 million in accrued litigation settlements, $0.8 million in personnel-related costs, $0.8 million in legal expenses, $1.0 million in professional services and $0.5 million in bad debt expense.

General and administrative expenses increased by $19.8 million, or 121%, to $36.2 million for the six months ended June 30, 2021 from $16.4 million for the six months ended June 30, 2020. The increase was primarily attributable to increases of $12.4 million in stock-based compensation expense, $2.4 million in personnel-related costs, $2.0 million in professional services and $1.9 million in bad debt expense, partially offset by $2.5 million decrease in legal expenses.

For the three and six months ended June 30, 2021, general and administrative expenses included $1.4 million and $3.7 million, respectively, in legal and professional expenses in connection with our Audit Committee's investigation, announced in the first quarter of 2021, into conduct by David Hall, the Company's former Chairman, and Marta Hall, the Company's former Chief Marketing Officer and a current director of the Company. The general and administrative expenses for the three and six months ended June 30, 2021 also included a litigation settlement accrual of $0.8 million related to employee matters. The amount was lower than the Company's original estimate and resulted in higher general and administrative expenses and net loss as reported in the Company's condensed consolidated statements of operations for the three and six months ended June 30, 2021 in its Current Report on Form 8-K filed with the SEC on August 5, 2021.

Restructuring

In March 2020, we initiated a restructuring plan to downsize the manufacturing function and related engineering and administrative functions in our California locations. The plan included a reduction in our workforce and has been completed in 2020. As a result of the restructuring program, we incurred restructuring charges totaling $1.0 million for the six months ended June 30, 2020, primarily related to employee severance related costs.

Interest Income, Interest Expense and Other Expense, Net

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Change $	Change %
	(Dollars in thousands)			
Interest income	$ 109	$ 5	$ 104	2,080 %
Interest expense	(41)	(32)	(9)	28
Other income, net	10,136	22	10,114	45,973

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020	Change $	Change %
	(Dollars in thousands)			
Interest income	$ 212	$ 117	$ 95	81 %
Interest expense	(77)	(38)	(39)	103
Other income (expense), net	10,119	(143)	10,262	(7,176)

Interest income was primarily related to our short-term investments and was insignificant for the three and six months ended June 30, 2021 and 2020.

Interest expense was primarily related to our capital leases and was insignificant for the three and six months ended June 30, 2021 and 2020.

Other income, net for the three and six months ended June 30, 2021 was primarily related to the $10.1 million gain from forgiveness of our PPP loan and related interest under the Coronavirus Aid, Relief, and Economics Security Act (the CARES Act). Other changes were primarily related to foreign exchange gain or loss resulting from foreign currency exchange rate fluctuations during the three and six months ended June 30, 2021 and 2020.

Income Taxes

	Three Months Ended June 30, 2021	2020	Change $	Change %
	(Dollars in thousands)			
Loss before income taxes	$ (78,898)	$ (9,710)	$ (69,188)	713 %
Provision for income taxes	339	17	322	1,894 %
Effective tax rate	(0.4)%	(0.2)%		

	Six Months Ended June 30, 2021	2020	Change $	Change %
	(Dollars in thousands)			
Loss before income taxes	$ (119,419)	$ (39,772)	$ (79,647)	200 %
Provision for (benefit from) income taxes	635	(6,660)	7,295	(110)%
Effective tax rate	(0.5)%	16.7 %		

We are subject to income taxes in the United States, China and Germany. Our effective tax rate changed from (0.2)% and 16.7%, respectively, in the three and six months ended June 30, 2020 to (0.4)% and (0.5)%, respectively, in the three and six months ended June 30, 2021. The change for the six-month period was primarily due to the $6.7 million tax benefit related to the release of a valuation allowance in the first quarter of 2021 associated with carrying back a portion of our 2019 net operating losses to 2017 that is allowed by the Coronavirus Aid, Relief, and Economic Security (CARES) Act.

Enacted on March 27, 2020, the CARES Act provides emergency assistance and health care response for businesses affected by the coronavirus pandemic. The CARES Act, among other things, permits net operating loss carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. Additionally, the CARES Act allows net operating losses incurred in 2018, 2019 and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. In May 2020, we received a $7.1 million tax refund related to the carryback of a portion of our 2019 net operating losses to 2017. As of December 31, 2020, we had $173.5 million of U.S. federal and $105.5 million of state net operating loss carryforwards available to reduce future taxable income, which will be carried forward indefinitely for U.S. federal tax purposes and will expire beginning in 2028 through 2040 for state tax purposes. Based on our analysis, the relief provisions will not have additional material impact on our 2021 consolidated financial statements.

Liquidity and Capital Resources

Sources of Liquidity

As of June 30, 2021, we had cash, cash equivalents and short-term investments totaling $353.6 million, which were held for working capital purposes. Our cash equivalents and short-term investments are comprised of money market funds, U.S. government and agency securities, corporate debt securities and commercial paper. To date, our principal sources of liquidity have been payments received from sales to customers and the net proceeds we received through the Business Combination, PIPE offering and private placements of the pre-combination Velodyne convertible preferred stock. As of June 30, 2021, we received $247.0 million in net proceeds from the Business Combination and PIPE offering on September 29, 2020 and $163.0 million in net proceeds from the exercises of our public warrants.

In January 2020, we entered into a loan and security agreement with a financial institution which provides a $25.0 million revolving line of credit (the “2020 Revolving Line”), as amended in September 2020, December 2020 and March 2021, with an option to increase the credit limit up to an additional $15.0 million with the bank’s approval (Incremental Revolving Line). As part of the 2020 Revolving Line, there is a letter of credit sublimit of $5.0 million. The advances under the 2020 Revolving Line bear interest at a rate per annum equal to the prime rate plus an applicable margin of 1.5% for prime rate advances, or LIBOR rate plus an applicable margin of 2.5% for LIBOR advances. The unused revolving line facility fee is 0.15% per annum of the average unused portion of the Revolving Line. In addition, there is a $50,000 non-refundable commitment fee if we exercise the Incremental Revolving Line option. The revolving line of credit is secured by certain of our assets. The 2020 Revolving Line matured on February 27, 2021 and was extended to February 26, 2022. There were no outstanding borrowings under the 2020 Revolving Line as of June 30, 2021.

On April 8, 2020, we received loan proceeds of $10.0 million under the CARES Act's Paycheck Protection Program ("PPP"). The principal and accrued interest are forgivable after 24 weeks as long as the borrower uses the loan proceeds for eligible purposes, including payroll, benefits, rent and utilities, and maintains its payroll levels and that approval is received from the relevant government entity. The unforgiven portion of the PPP loan is payable over two years at an interest rate of 1% per annum, with a deferral of interest payments for ten months after the expiration of the 24-week covered period. We filed for the forgiveness of the PPP loan and were approved for forgiveness of such loan and interest on June 30, 2021.

We have incurred negative cash flows from operating activities and significant losses from operations in the past as reflected in our accumulated deficit of $434.2 million as of June 30, 2021. We expect to continue to incur operating losses at least for the next 12 months due to the investments that we intend to make in our business and, as a result, we may require additional capital resources to grow our business. We believe that current cash, cash equivalents, short-term investments and available borrowing capacity under the revolving credit facility will be sufficient to fund our operations for at least the next 12 months. Our future capital requirements, however, will depend on many factors, including our lidar sales volume, the timing and extent of spending to support our research and development efforts in smart vision technology, the expansion of sales and marketing activities, and market adoption of new and enhanced products and features. We may in the future enter into arrangements to acquire or invest in complementary businesses, services, and technologies, including intellectual property rights. From time to time, we may seek to raise additional funds through equity and debt. If we are unable to raise additional capital when desired and on reasonable terms, our business, results of operations, and financial condition be adversely affected.

Cash Flow Summary

The following table summarizes our cash flows for the periods presented:

	Six Months Ended June 30,	
	2021	2020
	(In thousands)	
Net cash provided by (used in):		
Operating activities	$ (62,789)	$ (52,545)
Investing activities	(134,962)	477
Financing activities	69,202	28,723

Operating Activities

During the six months ended June 30, 2021, operating activities used $62.8 million in cash. The primary factors affecting our operating cash flows during this period were our net loss of $120.1 million, impacted by our non-cash charges of $63.2 million primarily consisting of stock-based compensation of $64.7 million, depreciation and amortization of $4.1 million, provision for doubtful accounts of $2.4 million, reduction in carrying amount of the ROU assets of $1.5 million and gain on extinguishment of debt of $10.1 million. The cash used in changes in our operating assets and liabilities of $13.3 million was primarily due to an increase of $2.4 million in contract assets, a decrease of $1.7 million in accounts payable and a decrease of $9.2 million in accrued expenses and other liabilities due to timing of payments. These amounts were partially offset by cash provided from changes in our operating assets and liabilities of $7.3 million which primarily consists of a decrease of $3.5 million in prepaid expenses, a decrease of $1.5 million in inventory due to decreased sales volume of certain products, a decrease of $2.1 million in accounts receivable and an increase of $0.3 million in contract liabilities due to the timing of billings and cash received in advance of revenue.

During the six months ended June 30, 2020, operating activities used $52.5 million in cash. The primary factors affecting our operating cash flows during this period were our net loss of $33.1 million, impacted by our non-cash net expense of $5.0 million primarily consisting of stock-based compensation of $0.2 million, depreciation and amortization of $4.2 million and provision for doubtful accounts of $0.5 million. The cash used in changes in our operating assets and liabilities of $41.9 million which primarily consists of an increase of $23.9 million in accounts receivable, an increase of $8.4 million in unbilled receivables from a licensing arrangement with a customer, and a decrease of $9.5 million in accrued expenses and other liabilities primarily due to timing of payments. These amounts were partially offset by cash provided from changes in our operating assets and liabilities of $17.4 million was primarily due to an increase of $11.4 million in contract liabilities primarily due to billings in excess of revenue recognition related to product sales and licensing arrangement, a decrease of

$2.9 million in prepaid and other current assets, a decrease of $2.2 million in inventories due to increased sales volume of certain products, and an increase of $0.6 million in accounts payable.

Investing Activities

During the six months ended June 30, 2021, cash used in investing activities was $135.0 million, which was primarily used to purchase short-term investments of $190.4 million, purchase property, plant and equipment of $1.8 million and invest in notes receivable of $0.8 million, partially offset by proceeds from sales and maturities of short-term investments of $57.9 million.

During the six months ended June 30, 2020, cash provided by investing activities was $0.5 million, which was primarily from sales and maturities of short-term investments of $2.2 million, partially offset by cash used to purchase property, plant and equipment of $1.7 million.

Our machinery and equipment is depreciated over a useful life of approximately five years.

Financing Activities

During the six months ended June 30, 2021, cash provided by financing activities was $69.2 million, consisting primarily of net proceeds of $89.2 million from exercises of public warrants, partially offset by $20.0 million cash paid for transaction costs related to the Business Combination.

During the six months ended June 30, 2020, cash provided by financing activities was $28.7 million consisting primarily of $19.9 million from issuance of preferred stock and proceeds of $10.0 million from the PPP loan, partially offset by $1.2 million cash paid for IPO costs.

Off-Balance Sheet Arrangements

As of June 30, 2021, we have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign currency exchange rates.

We do not believe that inflation has had a material effect on our business, results of operations or financial condition. Nonetheless, if our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs. Our inability or failure to do so could harm our business, results of operations or financial condition.

Interest Rate Risk

As of June 30, 2021, we had cash, cash equivalents, short-term and long-term investments of approximately $353.6 million, which are comprised of money market funds, U.S. government and agency securities, corporate debt securities and commercial paper, which carries a degree of interest rate risk. A hypothetical 10% change in interest rates would not have a material impact on our financial condition or results of operations due to the short-term nature of our investment portfolio.

Foreign Currency Exchange Risk

Our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. Substantially all of our revenue is generated in U.S. dollars. Our expenses are generally denominated in the currencies of the jurisdictions in which we conduct our operations, which are primarily in the U.S. and to a lesser extent in Asia and Europe. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. The effect of a hypothetical 10%

change in foreign currency exchange rates applicable to our business would not have a material impact on our historical consolidated financial statements. To date, we have not engaged in any hedging strategies. As our international operations grow, we will continue to reassess our approach to manage our risk relating to fluctuations in currency rates.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief financial officer, who is also our principal executive officer, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. The term “disclosure controls and procedures,” as defined in Rules 13a15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, (the Exchange Act), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the rules and forms of the SEC. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost benefit relationship of possible controls and procedures. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework (2013). Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q, our chief financial officer, who is also our principal executive officer, concluded that our disclosure controls and procedures were not effective as of such date because of the material weaknesses in our internal control over financial reporting identified as of December 31, 2020 in connection with our failure to adequately review revenue schedules associated with nonstandard revenue arrangements, and accounting for complex financial instruments such as our working capital warrants.

Remediation Plan and Status

We have implemented the following processes to remediate the identified material weaknesses:

- We have implemented additional supervision and technical accounting review by qualified personnel;
- We have enhanced the review process surrounding the quarterly and annual assessment of the ongoing status of standard and non-standard agreements and schedules;
- We have designed new controls and procedures associated with non-standard agreements and schedules, which requires incremental levels of accounting review; and
- We have engaged additional resources with the relevant experience to strengthen our contract review processes.

While we have made progress to enhance our internal control over financial reporting, additional time is required to complete implementation and to assess and ensure the sustainability of these procedures. We will continue to devote time and attention to these remedial efforts. Accordingly, the remaining material weaknesses cannot be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. As of June 30, 2021, we believe that the material weaknesses will be considered fully remediated as of the end of 2021.

Changes in Internal Control Over Financial Reporting

Other than the remediation steps taken above, there were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) or 15d-15(d) of the Exchange Act during the quarter ended June 30, 2021 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. Other Information

Item 1. Legal Proceedings

The information set forth under the "Legal Proceedings" section in Note 15, Commitments and Contingencies, in Notes to Condensed Consolidated Financial Statements in Item 1 of Part I of this Report, is incorporated herein by reference.

Item 1A. Risk Factors

You should carefully consider the risks described below in addition to the other information set forth in this Quarterly Report on Form 10-Q, including Item 2: Management's Discussion and Analysis of Financial Conditions and Results of Operations section and the consolidated financial statements and related notes. Our business, prospects, financial condition, operating results or the trading price of our securities could be harmed by any of these risks, as well as other risks not known to us or that we consider immaterial.

Summary of Principal Risk Factors

- Our business could be materially and adversely affected by the current global COVID-19 pandemic.
- Since many of the markets in which we compete are new and rapidly evolving, it is difficult to forecast long-term end-customer adoption rates and demand for our products.
- Despite the actions we are taking to defend and protect our intellectual property, we may not be able to adequately protect or enforce our intellectual property rights or prevent unauthorized parties from copying or reverse engineering our solutions. Our efforts to protect and enforce our intellectual property rights and prevent third parties from violating our rights may be costly.
- We depend on our ability to attract and retain key management and technical personnel.
- We continue to implement strategic initiatives designed to grow our business. These initiatives may prove more costly than anticipated and we may not succeed in increasing our revenue in an amount sufficient to offset the costs of these initiatives and to achieve and maintain profitability.
- Because our sales have been primarily to customers making purchases for research and development projects and our orders are project-based, we expect our results of operations to fluctuate on a quarterly and annual basis, which could cause our stock price to fluctuate or decline.
- Our transition to an outsourced manufacturing business model may not be successful, which could harm our ability to deliver products and recognize revenue.
- Adverse conditions in the automotive industry or the global economy more generally could have adverse effects on our results of operations.
- Although we believe that lidar is the industry standard for autonomous vehicles and other emerging markets, market adoption of lidar is uncertain. If market adoption of lidar does not continue to develop, or develops more slowly than we expect, our business will be adversely affected.
- Our investments in educating our customers and potential customers about the advantages of lidar and our applications may not result in sales of our products.
- We have identified material weaknesses in our internal control over financial reporting, and the failure to achieve and maintain effective internal control over financial reporting could harm our business and negatively impact the market price of our common stock.

Risks Related to Our Business

Our business could be materially and adversely affected by the current global COVID-19 pandemic.

The COVID-19 pandemic has disrupted and affected our business. For example, from March until June of 2020, due to the rapid spread of COVID-19, our manufacturing facility in San Jose, California was not able to operate at our full capacity. Additionally, we observed delayed customer purchases and longer sales cycles with customers that are addressing budget constraints, delayed projects or other hardships related to the COVID-19 pandemic. We have a global customer base operating in a wide range of industries that has been impacted in different ways by the pandemic. We also depend on suppliers and manufacturers worldwide. Depending upon the duration of the pandemic, the associated business interruptions and the recovery, our customers, suppliers, manufacturers and partners may suspend or delay their engagement with us. If the pandemic worsens, if the economic recovery is delayed or if there are further business interruptions or changes in customer purchasing behavior, our business, results of operations and ability to raise capital may be materially and adversely affected. Our response to the COVID-19 pandemic may prove to be inadequate and we may be unable to continue our operations in the manner it had prior to the outbreak, and may endure further interruptions, reputational harm, delays in our product development and shipments, all of which could have an adverse effect on our business, operating results, and financial condition. In addition, when the pandemic subsides, we cannot assure you as to the timing of any economic recovery, which could continue to have a material adverse effect on our target markets and our business.

Any projections we may provide about our business or expected future results may differ significantly from actual results.

From time to time we have shared our views in press releases or SEC filings, on public conference calls and in other contexts about current business conditions and our expectations as to our future results of operations, including our previously announced projected revenues for years subsequent to 2020. Correctly identifying the key factors affecting business conditions and predicting future events is inherently an uncertain process. Given the complexity and volatility of our business, the impact of the recurring COVID-19 pandemic on our business and that of our customers and partners, uncertainty related to the transition of the United States government and overall global economic conditions, it is likely that our prior forecasts for periods subsequent to 2020 will prove to be incorrect. In particular, in January 2021, as a result of these uncertainties, we withdrew our previously announced financial guidance for 2021. We offer no assurance that such predictions or analysis will ultimately be accurate, and investors should treat any such predictions or analysis with appropriate caution. If any analysis or forecast that we make ultimately proves to be inaccurate, our stock price may be adversely affected.

Any financial projections we have provided, including projections related to our future revenues, reflect numerous qualitative estimates and assumptions including assumptions with respect to general business, economic, market, regulatory and financial conditions and various other factors, all of which are difficult to predict and many of which are beyond our control. The projections are not predictive of our actual future results and should not be construed as financial guidance for any future period. In addition, any projections should be read in conjunction with the accounting policies included in Note 1, Description of Business and Summary of Significant Accounting Policies, in Notes to Consolidated Financial Statements in Item 8 of Part II of the Annual Report on Form 10-K for fiscal year 2020.

Since many of the markets in which we compete are new and rapidly evolving, it is difficult to forecast long-term end-customer adoption rates and demand for our products.

We are pursuing opportunities in markets that are undergoing rapid changes, including technological and regulatory changes, and it is difficult to predict the timing and size of the opportunities. For example, autonomous driving and lidar-based ADAS applications require complex technology. Because these automotive systems depend on technology from many companies, commercialization of autonomous driving or ADAS products could be delayed or impaired on account of certain technological components of Velodyne or others not being ready to be deployed in vehicles. Although some companies have released systems and vehicles using our products, others may not be able to commercialize this technology immediately, or at all. Regulatory, safety or reliability developments, many of which are outside of our control, could also cause delays or otherwise impair commercial adoption of these new technologies, which will adversely affect our growth. Our future financial performance will depend on our ability to make timely investments in the correct market opportunities. If one or more of these markets experience a shift in customer or prospective customer demand, our products may not compete as effectively, if at all, and they may not be designed into commercialized products. Given the evolving nature of the markets in which we operate, it is difficult to predict customer demand or adoption rates for our products or the future growth of the markets in which we operate. As a result, the financial projections we have made or may in the future make necessarily reflect various estimates and assumptions that may not prove accurate. If demand does not develop or if we cannot accurately forecast customer demand, the size of our markets, inventory requirements or our future financial results, our business, results of operations and financial condition will be adversely affected.

We depend on our ability to attract and retain key management and technical personnel.

For our business to be successful, we need to attract and retain highly qualified key management and technical personnel. Competition for highly-skilled personnel is often intense, especially in the San Francisco Bay Area where we are located, and we may incur significant costs to attract them. We had in the past been dependent on David Hall, our former executive chairman. Mr. Hall resigned as executive chairman in January 2021 and as a member of our Board in March 2021. We have been expanding our management team as well as other key areas of our business, including product development. The resignation of Mr. Hall could adversely affect our business as it might make it more difficult to, among other things, compete with other market participants, manage our research and development activities and retain existing customers or cultivate new ones. Furthermore, subsequent to the removal of Mr. Hall as the chair of our Board and these resignations, Mr. Hall has made statements to the press and in a Schedule 13D criticizing our Board and management. Furthermore, on June 9, 2021, we initiated an arbitration proceeding against David Hall, alleging breach of contract and misappropriation of our confidential, proprietary, and trade secret information. To protect our intellectual property and in aid of the arbitration process, on July 2, 2021 we filed an application with the Santa Clara County Superior Court for a temporary restraining order and preliminary injunction to prohibit Mr. Hall from any further copying, disclosure or use of our intellectual property and to require him to return all such property to us. The parties engaged in a preliminary conference on August 4, 2021, and the arbitrator set a hearing date of September 2, 2021 for a hearing on our motion for preliminary injunctive relief. This publicity could make it more difficult for us to attract and retain key personnel. Any actual or perceived uncertainties as to our relationship with Mr. Hall, who holds voting rights with respect to a significant amount of our voting stock, or persons aligned with Mr. Hall, may make it more difficult to attract and retain our qualified personnel and directors.

Our former Chief Executive Officer resigned, effective as of July 30, 2021, and our board of directors established a new “Office of the Chief Executive” reporting to the board of directors to serve the functions of the CEO until such time that we hire a new CEO. We also may not be successful in attracting, integrating, or retaining qualified personnel to fulfill our current or future needs. We have, from time to time, experienced, and we expect to continue to experience, difficulty in hiring and retaining highly skilled employees with appropriate qualifications. In addition, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. If the perceived value of our equity is not higher than other companies with which we compete for employees, it may adversely affect our ability to retain highly skilled employees. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business and future growth prospects could be adversely affected.

We continue to implement strategic initiatives designed to grow our business. These initiatives may prove more costly than it currently anticipates and we may not succeed in increasing our revenue in an amount sufficient to offset the costs of these initiatives and to achieve and maintain profitability.

We continue to make investments and implement initiatives designed to grow our business, including:

- investing in research and development;
- expanding our sales and marketing efforts to attract new customers across industries;
- investing in new applications and markets for our products;
- further enhancing our manufacturing processes and partnerships;
- pursuing litigation to protect our intellectual property; and
- investing in legal, accounting, and other administrative functions necessary to support our operations as a public company.

These initiatives may prove more expensive than it currently anticipates, and we may not succeed in increasing our revenue, if at all, in an amount sufficient to offset these higher expenses and to achieve and maintain profitability. Although we generated net income of $15.8 million for 2017, we have incurred net losses in the past, including net losses of $120.1 million for the six months ended June 30, 2021, $149.9 million for 2020, $67.2 million for 2019 and $62.3 million for 2018. The market opportunities we are pursuing are at an early stage of development, and it may be many years before the end markets we expect to serve generate demand for our products at scale, if at all. Our revenue may be adversely affected for a number of reasons, including the development and/or market acceptance of new technology that competes with our lidar products, if certain automotive OEMs or other market participants change their autonomous vehicle technology, failure of our customers to commercialize autonomous systems that include our smart vision solutions, our inability to effectively manage our inventory or manufacture products at scale, our inability to enter new markets or help our customers adapt our products for new applications or our failure to attract new customers or expand orders from existing customers or increasing competition. Furthermore, it is difficult to predict the size and growth rate of our target markets, customer demand for our products, commercialization timelines, developments in autonomous sensing and related technology, the entry of competitive products, or the success of existing competitive products and services. For these reasons, we do not expect to achieve profitability over the near term. If our revenue does not grow over the long term, our ability to achieve and maintain profitability may be adversely affected, and the value of our business may significantly decrease.

Because our sales have been primarily to customers making purchases for research and development projects and our orders are project-based, we expect our results of operations to fluctuate on a quarterly and annual basis, which could cause our stock price to fluctuate or decline.

Our quarterly results of operations have fluctuated in the past and may vary significantly in the future, and our revenue has declined in three consecutive fiscal years. As such, historical comparisons of our operating results may not be meaningful. In particular, because our sales to date have primarily been to customers making purchases for research and development, sales in any given quarter can fluctuate based on the timing and success of our customers' development projects. Accordingly, the results of any one quarter should not be relied upon as an indication of future performance. Our quarterly financial results may fluctuate as a result of a variety of factors, many of which are outside of our control and may not fully reflect the underlying performance of our business. These fluctuations could adversely affect our ability to meet our expectations or those of securities analysts or investors. If we do not meet these expectations for any period, the value of our business and our stock price could fluctuate or decline significantly. Factors that may cause these quarterly fluctuations include, without limitation, those listed below:

- The timing and magnitude of orders and shipments of our products in any quarter.
- Pricing changes we may adopt to drive market adoption or in response to competitive pressure.
- Our ability to retain our existing customers and attract new customers.
- Our ability to develop, introduce, manufacture and ship in a timely manner products that meet customer requirements.
- Disruptions in our sales channels or termination of our relationship with important channel partners.
- Delays in customers' purchasing cycles or deferments of customers' purchases in anticipation of new products or updates from us or our competitors.
- Fluctuations in demand pressures for our products.
- The mix of products sold in any quarter.
- The duration of the global COVID-19 pandemic and the time it takes for economic recovery.
- The timing and rate of broader market adoption of autonomous systems utilizing our smart vision solutions across the automotive and other market sectors.
- Market acceptance of lidar and further technological advancements by our competitors and other market participants.
- The ability of our customers to commercialize systems that incorporate our products.
- Any change in the competitive dynamics of our markets, including consolidation of competitors, regulatory developments and new market entrants.
- Our ability to effectively manage our inventory.
- Changes in the source, cost, availability of and regulations pertaining to materials we use.
- Adverse litigation, judgments, settlements or other litigation-related costs, or claims that may give rise to such costs.
- General economic, industry and market conditions, including trade disputes.

Our transition to an outsourced manufacturing business model may not be successful, which could harm our ability to deliver products and recognize revenue.

We are transitioning from a manufacturing model in which we primarily manufactured and assembled our products at our California location, to one where we rely on third-party manufacturers in Europe and Asia. We currently have agreements with Fabrinet, Nikon and Veoneer to provide contract manufacturing of certain of our products. We believes the use of third-party manufacturers will have benefits, but in the near term, while we are beginning manufacturing with new partners, we may lose revenue, incur increased costs and harm our customer relationships.

Reliance on third-party manufacturers reduces our control over the manufacturing process, including reduced control over quality, product costs and product supply and timing. We may experience delays in shipments or issues concerning product quality from our third-party manufacturers. If any of our third-party manufacturers experience interruptions, delays or disruptions in supplying our products, including by natural disasters, the global COVID-19 pandemic or work stoppages or capacity constraints, our ability to ship products to distributors and customers would be delayed. The COVID-19 pandemic has caused interruptions in our manufacturing operations and production delays. For example, our personnel have not be able to travel to Thailand to meet with a key manufacturing partner. Additionally, if any of our third-party manufacturers experience quality control problems in their manufacturing operations and our products do not meet customer or regulatory requirements, we could be required to cover the cost of repair or replacement of any defective products. These delays or product quality issues could have an immediate and material adverse effect on our ability to fulfill orders and could have a negative effect on our operating results. In addition, such delays or issues with product quality could adversely affect our reputation and our relationship with our channel partners. If third-party manufacturers experience financial, operational, manufacturing capacity or other difficulties, or experience shortages in required components, or if they are otherwise unable or unwilling to continue to manufacture our products in required volumes or at all, our supply may be disrupted, we may be required to seek alternate manufacturers and we may be required to re-design our products. It would be time-consuming, and could be costly and impracticable, to begin to use new manufacturers and designs and such changes could cause significant interruptions in supply and could have an adverse effect on our ability to meet our scheduled product deliveries and may subsequently lead to the loss of sales. While we take measures to protect our trade secrets, the use of third-party manufacturers may also risk disclosure of our innovative and proprietary manufacturing methodologies, which could adversely affect our business.

In addition, we currently rely on third-party manufacturers to produce our custom ASICs. We have made considerable investments to develop our proprietary ASICs and our smart vision solutions depend on them. If third-party manufacturers of our custom ASICs experience interruptions, delays or disruptions in supplying our ASICs or if there are work stoppages, production delays or facility closures due to the COVID-19 pandemic, our ability to ship our smart vision solutions will be delayed and we may be unable to meet customer demand. Our ASICs may have defects or other issues if our third-party manufacturers have quality control or other problems in their operations. These defects may delay our ability to fulfill customer orders, which would have a negative effect on our brand and operating results. If we need to change manufacturers of our ASICs for any reason, we cannot guarantee that we will be able to find a replacement manufacturer willing to produce our custom ASICs at a price it deems appropriate, or at all.

Adverse conditions in the automotive industry or the global economy more generally could have adverse effects on our results of operations.

While we make our strategic planning decisions based on the assumption that the markets we are targeting will grow, our business is dependent, in large part on, and directly affected by, business cycles and other factors affecting the global automobile industry and global economy generally. Automotive production and sales are highly cyclical and depend on general economic conditions and other factors, including consumer spending and preferences, changes in interest rates and credit availability, consumer confidence, fuel costs, fuel availability, environmental impact, governmental incentives and regulatory requirements, and political volatility, especially in energy-producing countries and growth markets. In addition, automotive production and sales can be affected by our automotive OEM customers' ability to continue operating in response to challenging economic conditions and in response to labor relations issues, regulatory requirements, trade agreements and other factors. The volume of automotive production in North America, Europe and the rest of the world has fluctuated, sometimes significantly, from year to year, and we expect such fluctuations to give rise to fluctuations in the demand for our products. Any significant adverse change in any of these factors may result in a reduction in automotive sales and production by our automotive OEM customers and could have a material adverse effect on our business, results of operations and financial condition.

Although we believe that lidar is the industry standard for autonomous vehicles and other emerging markets, market adoption of lidar is uncertain. If market adoption of lidar does not continue to develop, or develops more slowly than we expect, our business will be adversely affected.

While our lidar-based smart vision solutions can be applied to different use cases across end markets, approximately 41% of our revenue during the six months ended June 30, 2021, 57% and 45% of our revenue during 2020 and 2019, respectively, was generated from automotive applications. Despite the fact that the automotive industry has engaged in considerable effort to research and test lidar products for ADAS and autonomous driving applications, the automotive industry may not introduce lidar products in commercially available vehicles. We continually study emerging and competing sensing technologies and methodologies and we may add new sensing technologies such as radar and cameras to our offering to, for example, address lidar's relative deficiencies in detecting colors and low reflectivity objects and performing in extreme weather conditions. However, lidar products remain relatively new and it is possible that other sensing modalities, or a new disruptive modality based on new or existing technology, including a combination of technology, will achieve acceptance or leadership in the ADAS and autonomous driving industries. Even if lidar products are used in initial generations of autonomous driving technology and certain ADAS products, we cannot guarantee that lidar products will be designed into or included in subsequent generations of such commercialized technology. In addition, we expect that initial generations of autonomous vehicles will be focused on limited applications, such as robo-taxis, and that mass market adoption of autonomous technology may lag behind these initial applications significantly. The speed of market growth for ADAS or autonomous vehicles is difficult if not impossible to predict, and it is more difficult to predict this market's future growth in light of the economic consequences of the COVID-19 pandemic. Although we currently believe we have the lead in lidar-based systems for the autonomous market, by the time mass market adoption of autonomous vehicle technology is achieved, we expect competition among providers of sensing technology based on lidar and other modalities to increase substantially. If commercialization of lidar products is not successful, or not as successful as we or the market expects, or if other sensing modalities gain acceptance by developers of autonomous driving systems or ADAS, automotive OEMs, regulators and safety organizations or other market participants by the time autonomous vehicle technology achieves mass market adoption, our business, results of operations and financial condition will be materially and adversely affected.

We are investing in and pursuing market opportunities outside of the automotive markets, including in UAVs, self-driving rovers, industrial and security robots, mapping applications for topography and surveying and smart city initiatives. We believe that our future revenue growth, if any, will depend in part on our ability to expand within new markets such as these and to enter new markets as they emerge. Each of these markets presents distinct risks and, in many cases, requires us to address the particular requirements of that market.

Addressing these requirements can be time-consuming and costly. The market for lidar technology outside of automotive applications is relatively new, rapidly developing and unproven in many markets or industries. Many of our customers outside of the automotive industry are still in the testing and development phases and it cannot be certain that they will commercialize products or systems with our lidar products or at all. We cannot be certain that lidar will be sold into these markets, or any market outside of automotive market, at scale. Adoption of lidar products, including our products, outside of the automotive industry will depend on numerous factors, including: whether the technological capabilities of lidar and lidar- based products meet users' current or anticipated needs, whether the benefits of designing lidar into larger sensing systems outweigh the costs, complexity and time needed to deploy such technology or replace or modify existing systems that may have used other modalities such as cameras and radar, whether users in other applications can move beyond the testing and development phases and proceed to commercializing systems supported by lidar technology and whether lidar developers such as Velodyne can keep pace with rapid technological change in certain developing markets and the global response to the COVID-19 pandemic and the length of any associated work stoppages. If lidar technology does not achieve commercial success outside of the automotive industry, or if the market develops at a pace slower than we expect, our business, results of operation and financial condition will be materially and adversely affected.

Our investments in educating our customers and potential customers about the advantages of lidar and our applications may not result in sales of our products.

Educating our prospective customers, and to a lesser extent, our existing customers, about lidar, our advantages over other sensing technologies and lidar's ability to convey value in different industries and deployments is an integral part of developing new business and the lidar market generally. If prospective customers have a negative perception of, or experience with, lidar or a competitor's lidar products they may be reluctant to adopt lidar in general or specifically our products. Adverse statements about lidar by influential market participants may also deter adoption. Some of our competitors have significant financial or marketing resources that may allow them to engage in public marketing campaigns about their alternative technology, lidar or our solutions. Our efforts to educate potential customers and the market generally and to counter any adverse statements made by competitors or other market participants will require significant financial and personnel resources. These educational efforts may not be successful and we may not offset the costs of such efforts with revenue from the new customers. If we are unable to acquire new customers to offset these expenses or if the market accepts such adverse statements, our financial condition will be adversely affected.

The markets in which we compete are characterized by rapid technological change, which requires us to continue to develop new products and product innovations, and could adversely affect market adoption of our products.

While we intend to invest substantial resources to remain on the forefront of technological development, continuing technological changes in sensing technology, lidar and the markets for these products, including the ADAS and autonomous driving industries, could adversely affect adoption of lidar and/or our products, either generally or for particular applications. Our future success will depend upon our ability to develop and introduce a variety of new capabilities and innovations to our existing product offerings, as well as introduce a variety of new product offerings, to address the changing needs of the markets in which we offer our products. For example, we are currently working on developing our Vella software, which is a data curation software platform, as well as several other new lidar products. We cannot guarantee that the Vella software or the new products will be released in a timely manner, or at all, or achieve market acceptance. For example, in 2019 we experienced delays in acceptance of certain of our new lidar products as it worked with our customers to identify, define and meet product requirements, and we may be unable to sell these or future products at scale until these issues are resolved. Delays in delivering new products that meet customer requirements could damage our relationships with customers and lead them to seek alternative sources of supply. In addition, our success to date has been based on the delivery of our smart vision solutions to research and development programs in which developers are investing substantial capital to develop new systems. Our continued success relies on the success of the research and development phase of these customers as they expand into commercialized projects. While some customers already have achieved commercialization, most of our automotive customers are just beginning on the path to commercialization. As autonomous technology reaches the stage of large scale commercialization we will be required to develop and deliver smart vision solutions at price points that enable wider and ultimately mass-market adoption. Delays in introducing products and innovations, the failure to choose correctly among technical alternatives or the failure to offer innovative products or configurations at competitive prices may cause existing and potential customers to purchase our competitors' products or turn to alternative sensing technology.

If we are unable to devote adequate resources to develop products or cannot otherwise successfully develop products or system configurations that meet customer requirements on a timely basis or that remain competitive with technological alternatives, our products could lose market share, our revenue will decline, we may experience operating losses and our business and prospects will be adversely affected.

We operate in a highly competitive market and some market participants have substantially greater resources. We compete against a large number of both established competitors and new market entrants.

The markets for sensing technology applicable to autonomous and other solutions across numerous industries are highly competitive. Our future success will depend on our ability to maintain our lead by continuing to develop and protect from infringement advanced lidar technology in a timely manner and to stay ahead of existing and new competitors. Our competitors are numerous and they compete with us directly by offering lidar products and indirectly by attempting to solve some of the same challenges with different technology. We face competition from camera and radar companies, other developers of lidar products, Tier 1 suppliers and other technology and automotive supply companies, some of which have significantly greater resources than we do. Some examples of our competitors include DENSO Corporation, Hesai, Ibeo Automotive Systems, LeddarTech, Innoviz, Luminar, Quanergy, Magna International, Valeo SA, Bosch, Continental and ZF Friedrichshafen AG. In the automotive market, our competitors have commercialized non-lidar-based ADAS technology which has achieved market adoption, strong brand recognition and may continue to improve. Other competitors are working towards commercializing autonomous driving technology and either by themselves, or with a publicly announced partner, have substantial financial, marketing, research and development and other resources. Some of our customers in the autonomous vehicle and ADAS markets have announced development efforts or made acquisitions directed at creating their own lidar-based or other sensing technologies, which would compete with our smart vision solutions. We do not know how close these competitors are to commercializing autonomous driving systems or novel ADAS applications. In markets outside of the automotive industry, our competitors, like Velodyne, seek to develop new sensing applications across industries. Even in these emerging markets, we face substantial competition from numerous competitors seeking to prove the value of their technology. Additionally, increased competition may result in pricing pressure and reduced margins and may impede our ability to increase the sales of our products or cause it to lose market share, any of which will adversely affect our business, results of operations and financial condition.

We expect to incur substantial research and development costs and devote significant resources to identifying and commercializing new products, which could significantly reduce our profitability and may never result in revenue to us.

Our future growth depends on penetrating new markets, adapting existing products to new applications and customer requirements, and introducing new products that achieve market acceptance. We plan to incur substantial and potentially increasing, research and development costs as part of our efforts to design, develop, manufacture and commercialize new products and enhance existing products. Our research and development expenses were $35.4 million during the six months ended June 30, 2021, $88.1 million and $56.9 million during 2020 and 2019, respectively, and are likely to grow in the future. Because we account for research and development as an operating expense, these expenditures will adversely affect our results to operations in the future. Further, our research and development program may not produce successful results, and our new products may not achieve market acceptance, create additional revenue or become profitable.

As part of growing our business, we may make acquisitions. If we fail to successfully select, execute or integrate our acquisitions, then our business, results of operations and financial condition could be materially adversely affected and our stock price could decline.

From time to time, we may undertake acquisitions to add new products and technologies, acquire talent, gain new sales channels or enter into new markets or sales territories. Acquisitions involve numerous risks and challenges, including relating to the successful integration of the acquired business and our key personnel, entering into new territories or markets with which we have limited or no prior experience, establishing or maintaining business relationships with new customers, channel partners, vendors and suppliers, unexpected liabilities and potential post-closing disputes.

To date, we have limited experience with acquisitions and the integration of acquired technology and personnel. Failure to successfully identify, complete, manage and integrate acquisitions could materially and adversely affect our business, financial condition and results of operations and could cause our stock price to decline.

We may need to raise additional capital in the future in order to execute our business plan, which may not be available on terms acceptable to us, or at all.

In the future, we may require additional capital to respond to technological advancements, competitive dynamics or technologies, customer demands, business opportunities, challenges, acquisitions or unforeseen circumstances and we may determine to engage in equity or debt financings or enter into credit facilities for other reasons. In order to further business relationships with current or potential customers or partners, we may issue equity or equity-linked securities to such current or potential customers or partners. We may not be able to timely secure additional debt or equity financing on favorable terms, or at all. If we raise additional funds through the issuance of equity or convertible debt or other equity- linked securities or if it issues equity or equity-linked securities to current or potential customers to further business relationships, our existing stockholders could experience significant dilution. Any debt financing obtained by us in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. If we are unable to obtain adequate financing or financing on terms satisfactory to us, when we require it, our ability to continue to grow or support our business and to respond to business challenges could be significantly limited.

We currently have and target many customers that are large corporations with substantial negotiating power, exacting product standards and potentially competitive internal solutions. If we are unable to sell our products to these customers, our prospects and results of operations will be adversely affected.

Many of our customers and potential customers are large, multinational corporations with substantial negotiating power relative to us and, in some instances, may have internal solutions that are competitive to our products. These large, multinational corporations also have significant development resources, which may allow them to acquire or develop independently, or in partnership with others, competitive technologies. Meeting the technical requirements and securing design wins with any of these companies will require a substantial investment of our time and resources. We cannot assure you that our products will secure design wins from these or other companies or that we will generate meaningful revenue from the sales of our products to these key potential customers. If our products are not selected by these large corporations or if these corporations develop or acquire competitive technology, it will have an adverse effect on our business.

If our lidar products are not selected for inclusion in autonomous driving systems or ADAS by automotive OEMs or their suppliers, our business will be materially and adversely affected.

Automotive OEMs and their suppliers design and develop autonomous driving and ADAS technology over several years. These automotive OEMs and suppliers undertake extensive testing or qualification processes prior to placing orders for large quantities of products because our lidar products will function as part of a larger system or platform and must meet certain other specifications. We spend significant time and resources to have our products selected by automotive OEMs and their suppliers, which is known as a design win. In the case of autonomous driving and ADAS technology, a design win means our lidar product has been selected for use in a particular vehicle model. If we do not achieve a design win with respect to a particular vehicle model, we may not have an opportunity to supply our products to the automotive OEM for that vehicle model for a period of many years. In many cases, this period can be as long as five to seven or more years. If our products are not selected by an automotive OEM or our suppliers for one vehicle model or if our products are not successful in that vehicle model, it is unlikely that our product will be deployed in other vehicle models of that OEM. If we fail to win a significant number of vehicle models from one or more of automotive OEMs or their suppliers, our business, results of operations and financial condition will be materially and adversely affected.

The discontinuation, lack of commercial success, or loss of business with respect to a particular vehicle model or technology package for which we are a significant supplier could reduce our sales and adversely affect our profitability.

If we are able to secure design wins and our smart vision solutions are included in these autonomous driving and ADAS products, we expect to enter into supply agreements with the relevant customer. Market practice dictates that these supply agreements typically require us to supply a customer’s requirements for a particular vehicle model or autonomous driving or ADAS product, rather than supply a set number of products. These contracts can have short terms and/or can be subject to renegotiation, sometimes as frequently as annually, all of which may affect product pricing, and may be terminated by our customers at any time. Therefore, even if we are successful in obtaining design wins and the systems into which our products are built are commercialized, the discontinuation of, the loss of business with respect to, or a lack of commercial success of a particular vehicle model or technology package for which we are a significant supplier could mean that the expected sales of our products will not materialize, materially and adversely affecting our business.

Continued pricing pressures, automotive OEM cost reduction initiatives and the ability of automotive OEMs to re-source or cancel vehicle or technology programs may result in lower than anticipated margins, or losses, which may adversely affect our business.

Cost-cutting initiatives adopted by our customers often result in increased downward pressure on pricing. We expect that our agreements with automotive OEMs may require step-downs in pricing over the term of the agreement or, if commercialized, over the period of production. In addition, our automotive OEM customers often reserve the right to terminate their supply contracts for convenience, which enhances their ability to obtain price reductions. Automotive OEMs also possess significant leverage over their suppliers, including us, because the automotive component supply industry is highly competitive, serves a limited number of customers and has a high fixed cost base. Accordingly, we expect to be subject to substantial continuing pressure from automotive OEMs and Tier 1 suppliers to reduce the price of our products. It is possible that pricing pressures beyond our expectations could intensify as automotive OEMs pursue restructuring, consolidation and cost- cutting initiatives. If we are unable to generate sufficient production cost savings in the future to offset price reductions, our gross margin and profitability would be adversely affected.

Our business could be materially and adversely affected if we lost any of our largest customers or if they were unable to pay their invoices.

Although we have and continue to pursue a broad customer base, we are dependent on a collection of large customers with strong purchasing power. In the six months ended June 30, 2021, year 2020 and 2019, our top 20 customers represented 79%, 81% and 83% of our revenue, respectively. There were two customers each accounted for more than 10% of our revenue in the six months ended June 30, 2021, year 2020 and 2019. The loss of business from any of our major customers (whether by lower overall demand for our products, cancellation of existing contracts or product orders or the failure to design in our products or award us new business) could have a material adverse effect on our business.

To the extent autonomous vehicle and ADAS systems become accepted by major automotive OEMs, we expect that we will rely increasingly for our revenue on Tier 1 suppliers through which automotive OEMs procure components. We expect that these Tier 1 suppliers will be responsible for certain hardpoint and software configuration activities specific to each OEM, and they may not exclusively carry our smart vision solutions.

There is also a risk that one or more of our major customers could be unable to pay our invoices as they become due or that a customer will simply refuse to make such payments if it experiences financial difficulties. If a major customer were to enter into bankruptcy proceedings or similar proceedings whereby contractual commitments are subject to stay of execution and the possibility of legal or other modification, we could be forced to record a substantial loss.

The period of time from a design win to implementation is long and we are subject to the risks of cancellation or postponement of the contract or unsuccessful implementation.

Prospective customers, including those in the automotive industry, generally must make significant commitments of resources to test and validate our products and confirm that they can integrate with other technologies before including them in any particular system, product or model. The development cycles of our products with new customers varies widely depending on the application, market, customer and the complexity of the product. In the automotive market, for example, this development cycle can be five to seven or more years. The development cycle in certain other markets can be months to one or two years. These development cycles result in us investing our resources prior to realizing any revenue from the commercialization. Further, we are subject to the risk that customers cancel or postpone implementation of our technology, as well as that we will not be able to integrate our technology successfully into a larger system with other sensing modalities. Further, our revenue could be less than forecasted if the system, product or vehicle model that includes our lidar products is unsuccessful, including for reasons unrelated to our technology. Long development cycles and product cancellations or postponements may adversely affect our business, results of operations and financial condition.

The complexity of our products could result in unforeseen delays or expenses from undetected defects, errors or bugs in hardware or software which could reduce the market adoption of our new products, damage our reputation with current or prospective customers, result in product returns or expose us to product liability and other claims and adversely affect our operating costs.

Our products are highly technical and very complex and require high standards to manufacture. These products have in the past and will likely in the future experience defects, errors or bugs at various stages of development. We may be unable to timely release new products, manufacture existing products, correct problems that have arisen or correct such problems to our customers' satisfaction. Additionally, undetected errors, defects or security vulnerabilities, especially as new products are introduced or as new versions are released, could result in serious injury to the end users of technology incorporating our products, or those in the surrounding area; our customers never being able to commercialize technology incorporating our products; litigation against us; negative publicity and other consequences. These risks are particularly prevalent in the highly competitive autonomous driving and ADAS markets. Some errors or defects in our products may only be discovered after they have been tested, commercialized and deployed by customers. If that is the case, we may incur significant additional development costs and product recall, repair or replacement costs. Furthermore, we could also experience higher levels of product returns in such cases, which could adversely affect our financial results in a particular quarter. These problems may also result in claims against us by our customers or others. Our reputation or brand may be damaged as a result of these problems and customers may be reluctant to buy our products, which could adversely affect our ability to retain existing customers and attract new customers, and could adversely affect our financial results.

In addition, we could face material legal claims for breach of contract, product liability, tort or breach of warranty as a result of these problems. Defending a lawsuit, regardless of its merit, could be costly and may divert management's attention and adversely affect the market's perception of Velodyne and our products. In addition, our business liability insurance coverage could prove inadequate with respect to a claim and future coverage may be unavailable on acceptable terms or at all. These product-related issues could result in claims against us and our business could be adversely affected.

If we do not maintain sufficient inventory or if we do not adequately manage our inventory, we could lose sales or incur higher inventory-related expenses, which could negatively affect our operating results.

To ensure adequate inventory supply, we must forecast inventory needs and expenses, place orders sufficiently in advance with our suppliers and manufacturing partners and manufacture products based on our estimates of future demand for particular products. Fluctuations in the adoption of lidar products may affect our ability to forecast our future operating results, including revenue, gross margins, cash flows and profitability. Our ability to accurately forecast demand for our products could be affected by many factors, including the rapidly changing nature of the markets in which we operate, including the autonomous driving, ADAS and mapping markets, the uncertainty surrounding the market acceptance and commercialization of lidar technology, the emergence of new markets, an increase or decrease in customer demand for our products or for products and services of our competitors, product introductions by competitors, the COVID-19 pandemic and any associated work stoppages or interruptions, unanticipated changes in general market conditions and the weakening of economic conditions or consumer confidence in future economic conditions. If our lidar products are commercialized in autonomous driving, ADAS or other applications experiencing rapid growth in demand, we may face challenges acquiring adequate supplies to manufacture our products and/or we and our manufacturing partners may not be able to manufacture our products at a rate necessary to satisfy the levels of demand, which would negatively affect our revenue. This risk may be exacerbated by the fact that we may not carry or be able to obtain for our manufacturers a significant amount of inventory to satisfy short-term demand increases. If we fail to accurately forecast customer demand, we may experience excess inventory levels or a shortage of products available for sale.

Inventory levels in excess of customer demand may result in inventory write-downs or write-offs and the sale of excess inventory at discounted prices, which would adversely affect our financial results, including our gross margin, and have a negative effect on our brand. Conversely, if we underestimate customer demand for our products, we, or our manufacturing partners, may not be able to deliver products to meet our requirements, and this could result in damage to our brand and customer relationships and adversely affect our revenue and operating results.

We rely on third-party suppliers and because some of the raw materials and key components in our products come from limited or sole sources of supply, we are susceptible to supply shortages, long lead times for components, and supply changes, any of which could disrupt our supply chain and could delay deliveries of our products to customers.

All of the components that go into the manufacture of our smart vision solutions are sourced from third-party suppliers. To date, we have produced our products in relatively limited quantities for use in research and development programs. We do not have any experience in managing our supply chain to manufacture and deliver our products at scale. Some of the key components used to manufacture our products come from limited or sole sources of supply. We are therefore subject to the risk of shortages and long lead times in the supply of these components and the risk that our suppliers discontinue or modify components used in our products. We have a global supply chain and the COVID-19 pandemic may adversely affect our ability to source components in a timely or cost effective manner from our third-party suppliers due to, among other things, work stoppages or interruptions. For example, our products depend on lasers and we currently consume a substantial portion of the available market. Any shortage of these lasers could materially and adversely affect our ability to manufacture our smart vision solutions. In addition, the lead times associated with certain components are lengthy and preclude rapid changes in quantities and delivery schedules. We have in the past experienced and may in the future experience component shortages and price fluctuations of certain key components and materials, and the predictability of the availability and pricing of these components may be limited. Component shortages or pricing fluctuations could be material in the future. In the event of a component shortage, supply interruption or material pricing change from suppliers of these components, we may not be able to develop alternate sources in a timely manner or at all in the case of sole or limited sources. Developing alternate sources of supply for these components may be time-consuming, difficult, and costly and we may not be able to source these components on terms that are acceptable to us, or at all, which may undermine our ability to meet our requirements or to fill customer orders in a timely manner. Any interruption or delay in the supply of any of these parts or components, or the inability to obtain these parts or components from alternate sources at acceptable prices and within a reasonable amount of time, would adversely affect our ability to meet our scheduled product deliveries to our customers. This could adversely affect our relationships with our customers and channel partners and could cause delays in shipment of our products and adversely affect our operating results. In addition, increased component costs could result in lower gross margins. Even where we are able to pass increased component costs along to our customers, there may be a lapse of time before we are able to do so such that we must absorb the increased cost. If we are unable to buy these components in quantities sufficient to meet our requirements on a timely basis, we will not be able to deliver products to our customers, which may result in such customers using competitive products instead of Velodyne’s.

The average selling prices of our products could decrease rapidly over the life of the product, which may negatively affect our revenue and gross margin.

In the past we have substantially reduced the price of certain of our products to accelerate market adoption and solidify our position as a market leader. We expect the average selling prices of our products generally to continue to decline as our customers seek to commercialize autonomous systems at prices low enough to achieve market acceptance. In order to sell products that have a falling average unit selling price and maintain margins at the same time, we will need to continually reduce product and manufacturing costs. To manage manufacturing costs, we must engineer the most cost-effective design for our products. In addition, we continuously drive initiatives to reduce labor cost, improve worker efficiency, reduce the cost of materials, use fewer materials and further lower overall product costs by carefully managing component prices, inventory and shipping cost.

We also need to continually introduce new products with higher sales prices and gross margin in order to maintain our overall gross margin. If we are unable to manage the cost of older products or successfully introduce new products with higher gross margin, our revenue and overall gross margin would likely decline.

Changes in our product mix may impact our financial performance.

Our financial performance can be affected by the mix of products it sells during a given period. If our sales include more of the lower gross margin products than higher gross margin products, our results of operations and financial condition may be adversely affected. There can be no guarantees that we will be able to successfully alter our product mix so that we are selling more of our high gross margin products. If actual results vary from this projected product mix of sales, our results of operations and financial condition could be adversely affected.

Our management team has limited experience managing a public company.

Most of the members of our management team have limited experience managing a publicly- traded company, interacting with public company investors, and complying with the increasingly-complex laws pertaining to public companies. Additionally, many members of our management team were recently hired or assumed new roles. Our management team may not successfully or efficiently manage their new roles and responsibilities, our transition to being a public company subject to significant regulatory oversight and reporting obligations under the federal securities laws and the continuous scrutiny of securities analysts and investors. In addition, we will need to implement and continue to operationalize many of the policies and controls needed to operate as a public company. These new obligations and constituents will require significant attention from our senior management and could divert their attention away from the day-to-day management of our business, which could adversely affect our business, financial condition, and operating results.

We may experience difficulties in managing our growth and expanding our operations.

We expect to experience significant growth in the scope and nature of our operations. Our ability to manage our operations and future growth will require us to continue to improve our operational, financial and management controls, compliance programs and reporting systems. We are currently in the process of strengthening our compliance programs, including our compliance programs related to export controls, privacy and cybersecurity and anti-corruption, as well as controls related to human resources. We may not be able to implement improvements in an efficient or timely manner and may discover deficiencies in existing controls, programs, systems and procedures, which could have an adverse effect on our business, reputation and financial results.

Our sales and operations in international markets expose us to operational, financial and regulatory risks.

International sales comprise a significant amount of our overall revenue. Sales to international customers accounted for 69% of our revenue during the six months ended June 30, 2021, 66% and 54% of our revenue during 2020 and 2019, respectively. We are committed to growing our international sales, and while we have committed resources to expanding our international operations and sales channels, these efforts may not be successful. International operations are subject to a number of other risks, including:

- Exchange rate fluctuations.
- Political and economic instability, international terrorism and anti-American sentiment, particularly in emerging markets.
- Global or regional health crises, such as the COVID-19 pandemic.
- Potential for violations of anti-corruption laws and regulations, such as those related to bribery and fraud.
- Preference for locally branded products, and laws and business practices favoring local competition.
- Potential consequences of, and uncertainty related to, the “Brexit” process in the United Kingdom, which could lead to additional expense and complexity in doing business there.
- Increased difficulty in managing inventory.
- Delayed revenue recognition.
- Less effective protection of intellectual property.

- Stringent regulation of the autonomous or other systems or products using our products and stringent consumer protection and product compliance regulations, including but not limited to General Data Protection Regulation in the European Union, European competition law, the Restriction of Hazardous Substances directive, the Waste Electrical and Electronic Equipment directive and the European Ecodesign directive that are costly to comply with and may vary from country to country.
- Difficulties and costs of staffing and managing foreign operations.
- Import and export laws and the impact of tariffs.
- Changes in local tax and customs duty laws or changes in the enforcement, application or interpretation of such laws.

The occurrence of any of these risks could negatively affect our international business and consequently our business, operating results and financial condition.

Our business is subject to the risks of earthquakes, fire, floods and other natural catastrophic events, global pandemics, and interruptions by man-made problems, such as network security breaches, computer viruses or terrorism. Material disruptions of our business or information systems resulting from these events could adversely affect our operating results.

A significant natural disaster, such as an earthquake, fire, flood or significant power outage or other similar events, such as infectious disease outbreaks or pandemic events, including the COVID-19 pandemic, could have an adverse effect on our business and operating results. The COVID-19 pandemic has produced meaningful operational challenges and we expect to continue to experience disruptions in our business during 2021. COVID-19 has heightened many of the other risks described herein, such as the demand for our products, our ability to achieve or maintain profitability and our ability to raise additional capital in the future. Despite the implementation of network security measures, our networks and lidar products also may be vulnerable to computer viruses, break-ins and similar disruptions from unauthorized tampering with our solutions. Both our corporate headquarters and manufacturing facility are located in the San Francisco Bay Area, a region known for seismic activity. In addition, natural disasters, acts of terrorism or war could cause disruptions in our remaining manufacturing operations, our or our customers' or channel partners' businesses, our suppliers' or the economy as a whole. We also rely on information technology systems to communicate among our workforce and with third parties. Any disruption to our communications, whether caused by a natural disaster or by manmade problems, such as power disruptions, could adversely affect our business. We do not have a formal disaster recovery plan or policy in place and does not currently require that our suppliers' partners have such plans or policies in place. To the extent that any such disruptions result in delays or cancellations of orders or impede our suppliers' ability to timely deliver product components, or the deployment of our products, our business, operating results and financial condition would be adversely affected.

Risks Related to Legal and Regulatory Matters

Changes to trade policy, tariffs and import/export regulations may have a material adverse effect on our business, financial condition and results of operations.

Changes in global political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories or countries where we currently purchase our components, sell our products or conduct our business could adversely affect our business. The U.S. has recently instituted or proposed changes in trade policies that include the negotiation or termination of trade agreements, the imposition of higher tariffs on imports into the U.S., economic sanctions on individuals, corporations or countries, and other government regulations affecting trade between the United States and other countries where we conduct our business. A number of other nations have proposed or instituted similar measures directed at trade with the U.S. in response. As a result of these developments, there may be greater restrictions and economic disincentives on international trade that could adversely affect our business. For example, such changes could adversely affect the automotive market, our ability to access key components or raw materials needed to manufacture our products (including, but not limited to, rare-earth metals), our ability to sell our products to customers outside of the U.S. and the demand for our products. It may be time-consuming and expensive for us to alter our business operations to adapt to or comply with any such changes, and any failure to do so could have a material adverse effect on our business, financial condition and results of operations.

We have in the past and may become involved in legal and regulatory proceedings and commercial or contractual disputes, which could have an adverse effect on our profitability and consolidated financial position.

We may be, from time to time, involved in litigation, regulatory proceedings and commercial or contractual disputes that may be significant. These matters may include, without limitation, disputes with our suppliers and customers, intellectual property claims, stockholder litigation, government investigations, class action lawsuits, personal injury claims, environmental issues, customs and VAT disputes and employment and tax issues. In addition, we have in the past and could face in the future a variety of labor and employment claims against it, which could include but is not limited to general discrimination, wage and hour, privacy, ERISA or disability claims. In such matters, government agencies or private parties may seek to recover from us very large, indeterminate amounts in penalties or monetary damages (including, in some cases, treble or punitive damages) or seek to limit our operations in some way. These types of lawsuits could require significant management time and attention or could involve substantial legal liability, adverse regulatory outcomes, and/or substantial expenses to defend. Often these cases raise complex factual and legal issues and create risks and uncertainties. No assurances can be given that any proceedings and claims will not have a material adverse impact on our operating results and consolidated financial position or that our established reserves or our available insurance will mitigate this impact.

We are subject to, and must remain in compliance with, numerous laws and governmental regulations concerning the manufacturing, use, distribution and sale of our products. Some of our customers also require that we comply with their own unique requirements relating to these matters.

We manufacture and sell products that contain electronic components, and such components may contain materials that are subject to government regulation in both the locations where we manufacture and assemble our products, as well as the locations where we sell our products. For example, certain regulations limit the use of lead in electronic components. Since we operate on a global basis, this is a complex process which requires continual monitoring of regulations and an ongoing compliance process to ensure that we and our suppliers are in compliance with all existing regulations. If there is an unanticipated new regulation that significantly impacts our use of various components or requires more expensive components, that regulation could materially adversely affect our business, results of operations and financial condition.

Our products are also used for autonomous driving and ADAS applications, which are subject to complicated regulatory schemes that vary from jurisdiction to jurisdiction. These are rapidly evolving areas where new regulations could impose limitations on the use of lidar generally or our products specifically. If we fail to adhere to these new regulations or fails to continually monitor the updates, we may be subject to litigation, loss of customers or negative publicity and our business, results of operations and financial condition will be adversely affected.

Concerns over environmental pollution and climate change have produced significant legislative and regulatory efforts on a global basis, and we believe this will continue both in scope and in the number of countries participating. These changes could directly increase the cost of energy, which may have an effect on the way we manufacture products or utilize energy to produce our products. In addition, any new regulations or laws in the environmental area might increase the cost of raw materials or key components we use in our products. Environmental regulations require us to reduce product energy usage, monitor and exclude an expanding list of restricted substances and to participate in required recovery and recycling of our products. We are unable to predict how any future changes will impact it and if such impacts will be material to our business.

Our business may be adversely affected by changes in automotive safety regulations or concerns that drive further regulation of the automobile safety market.

Government vehicle safety regulations are an important factor for our business. Historically, these regulations have imposed ever-more stringent safety regulations for vehicles. These safety regulations often require, or customers demand that, vehicles have more safety features per vehicle and more advanced safety products.

While we believe increasing automotive safety standards will present a market opportunity for our products, government safety regulations are subject to change based on a number of factors that are not within our control, including new scientific or technological data, adverse publicity regarding the industry recalls and safety risks of autonomous driving and ADAS, accidents involving our products, domestic and foreign political developments or considerations, and litigation relating to our products and our competitors' products. Changes in government regulations, especially in the autonomous driving and ADAS industries could adversely affect our business. If government priorities shift and we are unable to adapt to changing regulations, our business may be materially and adversely affected.

Federal and local regulators impose more stringent compliance and reporting requirements in response to product recalls and safety issues in the automotive industry. As the cars that carry our sensors go into production, we are subject to existing stringent requirements under the National Traffic and Motor Vehicle Safety Act of 1966, or the Vehicle Safety Act, including a duty to report, subject to strict timing requirements, safety defects with our products. The Vehicle Safety Act imposes potentially significant civil penalties for violations including the failure to comply with such reporting actions. We are also subject to the existing U.S. Transportation Recall Enhancement, Accountability and Documentation Act, or TREAD, which requires equipment manufacturers, such as Velodyne, to comply with “Early Warning” requirements by reporting certain information to the NHTSA, such as information related to defects or reports of injury related to our products. TREAD imposes criminal liability for violating such requirements if a defect subsequently causes death or bodily injury. In addition, the National Traffic and Motor Vehicle Safety Act authorizes NHTSA to require a manufacturer to recall and repair vehicles that contain safety defects or fail to comply with U.S. federal motor vehicle safety standards. Sales into foreign countries may be subject to similar regulations. If we cannot rapidly address any safety concerns or defects with our products, our business, results of operations and financial condition may be adversely affected.

The U.S. Department of Transportation issued regulations in 2016 that require manufacturers of certain autonomous vehicles to provide documentation covering specific topics to regulators, such as how automated systems detect objects on the road, how information is displayed to drivers, what cybersecurity measures are in place and the methods used to test the design and validation of autonomous driving systems. As cars that carry our sensors go into production, the obligations of complying with safety regulations could increase and it could require increased resources and adversely affect our business.

Failures, or perceived failures, to comply with privacy, data protection, and information security requirements in the variety of jurisdictions in which we operate may adversely impact our business, and such legal requirements are evolving, uncertain and may require improvements in, or changes to, our policies and operations.

Our current and potential future operations and sales subject it to laws and regulations addressing privacy and the collection, use, storage, disclosure, transfer and protection of a variety of types of data. For example, the European Commission has adopted the General Data Protection Regulation and California recently enacted the California Consumer Privacy Act of 2018, both of which provide for potentially material penalties for non-compliance. These regimes may, among other things, impose data security requirements, disclosure requirements, and restrictions on data collection, uses, and sharing that may impact our operations and the development of our business. While, generally, we do not have access to, collect, store, process, or share information collected by our solutions unless our customers choose to proactively provide such information to us, our products may evolve both to address potential customer requirements and to add new features and functionality. Therefore, the full impact of these privacy regimes on our business is rapidly evolving across jurisdictions and remains uncertain at this time.

We may also be affected by cyber attacks and other means of gaining unauthorized access to our products, systems, and data. For instance, cyber criminals or insiders may target us or third-parties with which we have business relationships in an effort to obtain data, or in a manner that disrupts our operations or compromises our products or the systems into which our products are integrated.

We are assessing the continually evolving privacy and data security regimes and measures it believes are appropriate in response. Since these data security regimes are evolving, uncertain and complex, especially for a global business like ours, we may need to update or enhance our compliance measures as our products, markets and customer demands further develop and these updates or enhancements may require implementation costs. The compliance measures we do adopt may prove ineffective. Any failure, or perceived failure, by us to comply with current and future regulatory or customer-driven privacy, data protection, and information security requirements, or to prevent or mitigate security breaches, cyber attacks, or improper access to, use of, or disclosure of data, or any security issues or cyber attacks affecting us, could result in significant liability, costs (including the costs of mitigation and recovery), and a material loss of revenue resulting from the adverse impact on our reputation and brand, loss of proprietary information and data, disruption to our business and relationships, and diminished ability to retain or attract customers and business partners. Such events may result in governmental enforcement actions and prosecutions, private litigation, fines and penalties or adverse publicity, and could cause customers and business partners to lose trust in us, which could have an adverse effect on our reputation and business.

Regulations related to conflict minerals may cause us to incur additional expenses and could limit the supply and increase the costs of certain metals used in the manufacturing of our products.

We are subject to the requirements under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, or the Dodd-Frank Act, that will require it to determine, disclose and report whether our products contain conflict minerals. The implementation of these requirements could adversely affect the sourcing, availability and pricing of the materials used in the manufacture of components used in our products. In addition, we will incur additional costs to comply with the disclosure requirements, including costs related to conducting diligence procedures to determine the sources of conflict minerals that may be used in or necessary to the production of our products and, if applicable, potential changes to products, processes or sources of supply as a consequence of such verification activities. It is also possible that our reputation may be adversely affected if we determine that certain of our products contain minerals not determined to be conflict-free or if we are unable to alter our products, processes or sources of supply to avoid use of such materials.

We may be subject to product liability or warranty claims that could result in significant direct or indirect costs, which could adversely affect our business and operating results.

Our customers use our smart vision solutions in autonomous driving, ADAS and other applications that present the risk of significant injury, including fatalities. We may be subject to claims if a product using our lidar technology is involved in an accident and persons are injured or purport to be injured. Any insurance that we carry may not be sufficient or it may not apply to all situations. Similarly, our customers could be subjected to claims as a result of such accidents and bring legal claims against us to attempt to hold it liable. In addition, if lawmakers or governmental agencies were to determine that the use of our products or autonomous driving or certain ADAS increased the risk of injury to all or a subset of our customers, they may pass laws or adopt regulations that limit the use of our products or increase our liability associated with the use of our products or that regulate the use of or delay the deployment of autonomous driving and ADAS technology. Any of these events could adversely affect our brand, relationships with customers, operating results or financial condition.

We typically provide a limited-time warranty on our products. The occurrence of any material defects in our products could make us liable for damages and warranty claims. In addition, we could incur significant costs to correct any defects, warranty claims or other problems, including costs related to product recalls. Any negative publicity related to the perceived quality of our products could affect our brand image, partner and customer demand, and adversely affect our operating results and financial condition. Also, warranty, recall and product liability claims may result in litigation, the occurrence of which could be costly, lengthy and distracting and adversely affect our business and operating results.

Risks Related to Intellectual Property

Despite the actions we are taking to defend and protect our intellectual property, we may not be able to adequately protect or enforce our intellectual property rights or prevent unauthorized parties from copying or reverse engineering our solutions. Our efforts to protect and enforce our intellectual property rights and prevent third parties from violating our rights may be costly.

The success of our products and our business depends in part on our ability to obtain patents and other intellectual property rights and maintain adequate legal protection for our products in the United States and other international jurisdictions. We rely on a combination of patent, copyright, service mark, trademark and trade secret laws, as well as confidentiality procedures and contractual restrictions, to establish and protect our proprietary rights, all of which provide only limited protection. We cannot assure you that any patents will be issued with respect to our currently pending patent applications or that any trademarks will be registered with respect to our currently pending applications in a manner that gives us adequate defensive protection or competitive advantages, if at all, or that any patents issued to us or any trademarks registered by us will not be challenged, invalidated or circumvented. We have filed for patents and trademarks in the United States and in certain international jurisdictions, but such protections may not be available in all countries in which we operate or in which we seek to enforce our intellectual property rights, or may be difficult to enforce in practice. Our currently issued patents and trademarks and any patents and trademarks that may be issued or registered, as applicable, in the future with respect to pending or future applications may not provide sufficiently broad protection or may not prove to be enforceable in actions against alleged infringers. We cannot be certain that the steps we have taken will prevent unauthorized use of our technology or the reverse engineering of our technology. Moreover, others may independently develop technologies that are competitive to us or infringe our intellectual property.

Protecting against the unauthorized use of our intellectual property, products and other proprietary rights is expensive and difficult, particularly internationally. We believe that our patents are foundational in the area of lidar products and intends to enforce the intellectual property portfolio we have built over the years. Unauthorized parties may attempt to copy or reverse engineer our smart vision solutions or certain aspects of our solutions that it considers proprietary. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to prevent unauthorized parties from copying or reverse engineering our solutions, to determine the validity and scope of the proprietary rights of others or to block the importation of infringing products into the U.S.

For example, we recently achieved a favorable result in two proceedings before the U.S. Patent Trial and Appeal Board ("PTAB") where the PTAB upheld the validity of our patent claims that were being challenged as unpatentable by one of our competitors. Our competitor filed a request for rehearing that was denied by the PTAB. The matter may proceed to an appeal in the future. In addition, that same competitor initiated a lawsuit in the U.S. District Court for the Northern District of California, and while that case is stayed pending PTAB proceedings, we cannot guarantee a favorable outcome in the litigation.

Additionally, to protect our intellectual property, we filed patent infringement cases in August 2019 with the U.S. International Trade Commission ("ITC") and the U.S. District Court for the Northern District of California against Hesai Photonics Technology Co., Ltd. ("Hesai") and Suteng Innovation Technology Co., Ltd. ("RoboSense"). We resolved our disputes with Hesai in June 2020 and resolved our disputes with RoboSense in September 2020.

Any such litigation, whether initiated by us or a third party, could result in substantial costs and diversion of management resources, either of which could adversely affect our business, operating results and financial condition. Even if it obtains favorable outcomes in litigation, we may not be able to obtain adequate remedies, especially in the context of unauthorized parties copying or reverse engineering our smart vision solutions. Further, many of our current and potential competitors have the ability to dedicate substantially greater resources to defending intellectual property infringement claims and to enforcing their intellectual property rights than we have. Attempts to enforce our rights against third parties could also provoke these third parties to assert their own intellectual property or other rights against us, or result in a holding that invalidates or narrows the scope of our rights, in whole or in part. Effective patent, trademark, service mark, copyright and trade secret protection may not be available in every country in which our products are available and competitors based in other countries may sell infringing products in one or more markets. An inability to adequately protect and enforce our intellectual property and other proprietary rights or an inability to prevent authorized parties from copying or reverse engineering our smart vision solutions or certain aspects of our solutions that we consider proprietary could seriously adversely affect our business, operating results, financial condition and prospects.

In addition to patented technology, we rely on our unpatented proprietary technology, trade secrets, processes and know-how.

We rely on proprietary information (such as trade secrets, know-how and confidential information) to protect intellectual property that may not be patentable or subject to copyright, trademark, trade dress or service mark protection, or that we believe is best protected by means that do not require public disclosure. We generally seek to protect this proprietary information by entering into confidentiality agreements, or consulting, services or employment agreements that contain non-disclosure and non-use provisions with our employees, consultants, contractors and third parties. However, we may fail to enter into the necessary agreements, and even if entered into, these agreements may be breached or may otherwise fail to prevent disclosure, third-party infringement or misappropriation of our proprietary information, may be limited as to their term and may not provide an adequate remedy in the event of unauthorized disclosure or use of proprietary information. We have limited control over the protection of trade secrets used by our current or future manufacturing partners and suppliers and could lose future trade secret protection if any unauthorized disclosure of such information occurs. In addition, our proprietary information may otherwise become known or be independently developed by our competitors or other third parties. To the extent that our employees, consultants, contractors, advisors and other third parties use intellectual property owned by others in their work for Velodyne, disputes may arise as to the rights in related or resulting know-how and inventions. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain protection for our proprietary information could adversely affect our competitive business position. Furthermore, laws regarding trade secret rights in certain markets where we operate may afford little or no protection to our trade secrets. We also rely on physical and electronic security measures to protect our proprietary information, but it cannot provide assurance that these security measures will not be breached or provide adequate protection for our property. There is a risk that third parties may obtain and improperly utilize our proprietary information to our competitive disadvantage. We may not be able to detect or prevent the unauthorized use of such information or take appropriate and timely steps to enforce our intellectual property rights.

Third-party claims that we are infringing intellectual property, whether successful or not, could subject us to costly and time-consuming litigation or expensive licenses, and our business could be adversely affected.

Although we hold key patents related to our products, a number of companies, both within and outside of the lidar industry, hold other patents covering aspects of lidar products. In addition to these patents, participants in this industry typically also protect their technology, especially embedded software, through copyrights and trade secrets. As a result, there is frequent litigation based on allegations of infringement, misappropriation or other violations of intellectual property rights. We have received, and in the future may receive, inquiries from other intellectual property holders and may become subject to claims that it infringes their intellectual property rights, particularly as we expand our presence in the market, expands to new use cases and faces increasing competition. In addition, parties may claim that the names and branding of our products infringe their trademark rights in certain countries or territories. If such a claim were to prevail, we may have to change the names and branding of our products in the affected territories and we could incur other costs.

We currently have a number of agreements in effect pursuant to which we have agreed to defend, indemnify and hold harmless our customers, suppliers, and channel partners and other partners from damages and costs which may arise from the infringement by our products of third-party patents or other intellectual property rights. The scope of these indemnity obligations varies, but may, in some instances, include indemnification for damages and expenses, including attorneys' fees. Our insurance may not cover all intellectual property infringement claims. A claim that our products infringe a third party's intellectual property rights, even if untrue, could adversely affect our relationships with our customers, may deter future customers from purchasing our products and could expose us to costly litigation and settlement expenses. Even if we are not a party to any litigation between a customer and a third party relating to infringement by our products, an adverse outcome in any such litigation could make it more difficult for us to defend our products against intellectual property infringement claims in any subsequent litigation in which we are a named party. Any of these results could adversely affect our brand and operating results.

Our defense of intellectual property rights claims brought against it or our customers, suppliers and channel partners, with or without merit, could be time-consuming, expensive to litigate or settle, divert management resources and attention and force us to acquire intellectual property rights and licenses, which may involve substantial royalty or other payments and may not be available on acceptable terms or at all. Further, a party making such a claim, if successful, could secure a judgment that requires us to pay substantial damages or obtain an injunction. An adverse determination also could invalidate our intellectual property rights and adversely affect our ability to offer our products to our customers and may require that we procure or develop substitute products that do not infringe, which could require significant effort and expense. Any of these events could adversely affect our business, operating results, financial condition and prospects.

Risks Related to Tax and Accounting Matters

Changes in tax laws or exposure to additional income tax liabilities could affect our future profitability.

Factors that could materially affect our future effective tax rates include but are not limited to:

- Changes in tax laws or the regulatory environment.
- Changes in accounting and tax standards or practices.
- Changes in the composition of operating income by tax jurisdiction.
- Our operating results before taxes.

Because we do not have a long history of operating at our present scale and we have significant expansion plans, our effective tax rate may fluctuate in the future. Future effective tax rates could be affected by operating losses in jurisdictions where no tax benefit can be recorded under GAAP, changes in the composition of earnings in countries with differing tax rates, changes in deferred tax assets and liabilities, or changes in tax laws.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

As of December 31, 2020, we had $173.5 million of U.S. federal and $105.5 million of state net operating loss carryforwards available to reduce future taxable income, which will be carried forward indefinitely for U.S. federal tax purposes and will expire beginning in 2028 through 2040 for state tax purposes. It is possible that we will not generate taxable income in time to use these net operating loss carryforwards before their expiration or at all. In addition, the federal and state net operating loss carryforwards and certain tax credits may be subject to significant limitations under Section 382 and Section 383 of the Internal Revenue Code of 1986, as amended (the "Code"), respectively, and similar provisions of state law. Under those sections of the Code, if a corporation undergoes an "ownership change," the corporation's ability to use our pre-change net operating loss carryforwards and other pre-change attributes, such as research tax credits, to offset our post-change income or tax may be limited. In general, an "ownership change" will occur if there is a cumulative change in our ownership by “5% shareholders” that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under state tax laws. We completed an analysis and determined that the Business Combination did not result in an “ownership change” for purposes of Section 382 and Section 383 of the Code.

Unanticipated changes in effective tax rates or adverse outcomes resulting from examination of our income or other tax returns could adversely affect our financial condition and results of operations.

We are subject to income taxes in the United States and other jurisdictions, and our tax liabilities will be subject to the allocation of expenses in differing jurisdictions. Our future effective tax rates could be subject to volatility or adversely affected by a number of factors, including:

- changes in the valuation of our deferred tax assets and liabilities;
- expected timing and amount of the release of any tax valuation allowances;
- tax effects of stock-based compensation;
- costs related to intercompany restructurings;
- changes in tax laws, regulations or interpretations thereof; or
- lower than anticipated future earnings in jurisdictions where we have lower statutory tax rates and higher than anticipated future earnings in jurisdictions where we have higher statutory tax rates.

In addition, we may be subject to audits of our income, sales and other transaction taxes by taxing authorities. Outcomes from these audits could have an adverse effect on our financial condition and results of operations.

We have identified material weaknesses in our internal control over financial reporting, and the failure to achieve and maintain effective internal control over financial reporting could harm our business and negatively impact the market price of our common stock.

On April 12, 2021, the Acting Director of the Division of Corporation Finance and Acting Chief Accountant of the SEC together issued a statement regarding the accounting and reporting considerations for warrants issued by SPACs entitled “Staff Statement on Accounting and Reporting Considerations for Warrants Issued by Special Purpose Acquisition Companies.” As a result of the SEC Statement, we re-evaluated the accounting treatment of our warrants and concluded that certain warrants should have been classified as a liability measured at fair value, for the 30-day period from September 29, 2020 to October 29, 2020. As part of the re-evaluation process, we identified a material weakness in our internal control over financial reporting related to the accounting for certain of our warrants. Accounting for these warrants as a liability instead of equity would have reduced non-operating expense and net loss by $1.6 million for the year ended December 31, 2020. Additionally, a corresponding $1.6 million adjustment would have been made to reduce our accumulated deficit with an offsetting adjustment to additional paid in capital in our equity accounts at December 31, 2020. Accounting for these warrants as a liability instead of equity would not have any effect on Velodyne’s previously reported revenues, assets, liabilities, total equity, or cash flows for the year ended December 31, 2020. We have concluded the effects of accounting for the warrants as a liability instead of equity were immaterial to the previously issued financial statements. We have made an immaterial adjustment to our equity accounts for the effects of the accounting for the warrants in our condensed consolidated statement of stockholders’ equity and balance sheet at March 31, 2021 by decreasing our accumulated deficit by $1.6 million with an offsetting decrease to our additional paid in capital.

As of December 31, 2020, our management determined that we did not maintain effective internal control over financial reporting as a result of identifying a material weakness related to our process and controls over tracking and reporting whistleblower complaints and litigation matters, which was remediated in the fourth quarter of 2020. In addition, management identified a material weakness in connection with our failure to adequately review revenue schedules associated with non-standard revenue arrangements, which resulted in misstatements of revenue and deferred revenue for the three months ended December 31, 2020. These misstatements have been corrected as of the end of 2020.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented, or detected and corrected on a timely basis.

We are working to remediate the remaining material weaknesses and have taken and continue to take steps that we believe will address the underlying causes, including the following:

- We have implemented additional supervision and technical accounting review by qualified personnel;
- We have enhanced the review process surrounding the quarterly and annual assessment of the ongoing status of standard and non-standard agreements and schedules;
- We have designed new controls and procedures associated with non-standard agreements and schedules, which requires incremental levels of accounting review; and
- We have engaged additional resources with the relevant experience to strengthen our contract review processes.

While we have made progress to enhance our internal control over financial reporting, additional time is required to complete implementation and to assess and ensure the sustainability of these procedures. We will continue to devote time and attention to these remedial efforts. However, the remaining material weaknesses cannot be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively.

We cannot assure you that the measures we have taken to date will be sufficient to remediate the remaining material weaknesses we identified or prevent additional material weaknesses in the future. Although we plan to complete this remediation, if the steps we take do not remediate the remaining material weaknesses in a timely or sufficient manner, there could continue to be a reasonable possibility that these control deficiencies or others could result in a material misstatement of our annual or interim financial statements that would not be prevented or detected on a timely basis. This could cause investors to lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected, and we could become subject to investigations by the SEC or other regulatory authorities.

We may face litigation and other risks as a result of the material weaknesses in our internal control over financial reporting.

Following the issuance of the SEC Statement, after consultation with our independent registered public accounting firm, we concluded that it was appropriate to re-evaluate certain of our warrants as liability measured at fair value, for the 30-day period from September 29, 2020 to October 29, 2020. As part of the re-evaluation process, we identified a material weakness in our internal control over financial reporting related to the accounting for certain of our warrants. As of December 31, 2020, our management determined that we did not maintain effective internal control over financial reporting as a result of identifying a material weakness related to our process and controls over tracking and reporting whistleblower complaints and litigation matters, which was remediated in the fourth quarter of 2020. In addition, management identified a material weakness in connection with our failure to adequately review revenue schedules associated with non-standard revenue arrangements, which resulted in misstatements of revenue and deferred revenue for the three months ended December 31, 2020. These misstatements have been corrected as of the end of 2020.

As a result of such material weaknesses, the change in accounting for our warrants, the failure to adequately review revenue schedules associated with non-standard revenue arrangements, track and report whistleblower complaints and litigation matters and other matters raised or that may in the future be raised by the SEC, we face the potential for litigation or other disputes which may include, among others, claims invoking federal and state securities laws, contractual claims or other claims arising from the re-evaluation of our warrants, the material weaknesses in our internal control over financial reporting and the preparation of our financial statements. We can provide no assurance that such litigation or dispute will not arise in the future. Any such litigation or dispute, whether successful or not, could have a material adverse effect on our business, results of operations and financial condition.

If we fail to maintain an effective system of internal controls, our ability to produce timely and accurate financial statements or comply with applicable regulations could be adversely affected.

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act (SOX), and the rules and regulations of Nasdaq. We expect that the requirements of these rules and regulations will continue to increase our legal, accounting and financial compliance costs, make some activities more difficult, time-consuming and costly, and place significant strain on our personnel, systems and resources.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls, internal control over financial reporting and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that information required to be disclosed in reports under the Exchange Act is accumulated and communicated to our principal executive and financial officers.

Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. Further, we have identified material weaknesses in our internal control over financial reporting, and additional such weaknesses may be discovered in the future. See "—We have identified material weaknesses in our internal control over financial reporting, and the failure to achieve and maintain effective internal control over financial reporting could harm our business and negatively impact the market price of our common stock." Any failure to develop or maintain effective controls, or any difficulties encountered in their implementation or improvement, could adversely affect our operating results or cause us to fail to meet our reporting obligations and may result in a restatement of our financial statements for prior periods. Any failure to implement and maintain effective internal controls also could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting that we are required to include in our periodic reports we will file with the SEC under Section 404 of the Sarbanes-Oxley Act. Ineffective disclosure controls and procedures and internal control over financial reporting could also cause investors to lose confidence in our reported financial and other information.

In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal control over financial reporting, we have expended and anticipate that we will continue to expend significant resources, including accounting-related costs, and provide significant management oversight. Any failure to maintain the adequacy of our internal controls, or consequent inability to produce accurate financial statements on a timely basis, could increase our operating costs and could materially and adversely affect our ability to operate our business. In the event that our internal controls are perceived as inadequate or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results and our stock price could decline. In addition, if we are unable to continue to meet these requirements, we may not be able to maintain our listing on Nasdaq.

Our independent registered public accounting firm is not required to formally attest to the effectiveness of our internal control over financial reporting until after we are no longer an emerging growth company. At such time, our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our controls are documented, designed or operating. Any failure to maintain effective disclosure controls and internal control over financial reporting could have a material and adverse effect on our business and operating results.

Risks Related to Ownership of our Common Stock

Resales of the shares of common stock could depress the market price of our common stock.

We had approximately 195.2 million shares of common stock outstanding as of June 30, 2021, and there may be a large number of shares of common stock sold in the market. The shares held by our public stockholders are freely tradable, and the shares of common stock held by the PIPE Investors are also freely tradable. In addition, the shares of common stock issued as merger consideration, will become available for resale following the expiration of any applicable lock-up period, including any early release of such lock-up period. These resales could have the effect of decreasing the price of our common stock, particularly if stockholders or groups of stockholders were to seek to sell large blocks of shares in short periods of time. We also expect that Rule 144 will become available for the resale of shares of our common stock that are not registered for resale on October 5, 2021, the one year anniversary from the date that we filed the Current Report on Form 8-K following the closing of the Business Combination that included the required Form 10 information that reflects we were no longer a shell company. Such sales of shares of common stock or the perception of such sales may depress the market price of our common stock. If the market price of our common stock declines for any reason, including due to resales of shares of our common stock in the open market, it is possible that we may become subject to securities class action litigation. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

Our only significant asset is our ownership interest in our Velodyne Lidar USA, Inc. subsidiary and such ownership may not be sufficient to pay dividends or make distributions or loans to enable us to pay any dividends on our common stock.

We are a holding company with no direct operations and no significant assets other than our ownership of Velodyne Lidar USA, Inc. We will depend on Velodyne Lidar USA, Inc. for distributions, loans and other payments to generate the funds necessary to meet our financial obligations, including our expenses as a publicly traded company and pay any dividends with respect to our common stock. The financial condition and operating requirements of Velodyne Lidar USA, Inc. may limit our ability to obtain cash from Velodyne Lidar USA, Inc. The earnings from, or other available assets of, Velodyne Lidar USA, Inc. may not be sufficient to pay dividends or make distributions or loans to enable us to pay any dividends on our common stock or satisfy our other financial obligations.

The ability of Velodyne Lidar USA, Inc. to make distributions, loans and other payments to us for the purposes described above and for any other purpose may be limited by credit agreements to which Velodyne Lidar USA, Inc. is party from time to time, including the existing loan and security agreement described in Item 2: “Management’s Discussion and Analysis of Financial Condition and Results of Operations”, and will be subject to the negative covenants set forth therein. Any loans or other extensions of credit to us from Velodyne Lidar USA, Inc. will be permitted only to the extent there is an applicable exception to the investment covenants under these credit agreements. Similarly, any dividends, distributions or similar payments to us from Velodyne Lidar USA, Inc. will be permitted only to the extent there is an applicable exception to the dividends and distributions covenants under these credit agreements.

A market for our securities may not continue, which would adversely affect the liquidity and price of our securities.

The price of our securities may fluctuate significantly due to the market’s reaction to the developments in our business and general market and economic conditions. An active trading market for our securities may not be sustained. In addition, the price of our securities can vary due to general economic conditions and forecasts, our general business condition and the release of our financial reports. You may be unable to sell your securities when desired or at an acceptable price unless an active trading market can be sustained.

If we do not meet the expectations of investors, stockholders or financial analysts, the market price of our securities may decline.

If we do not meet the expectations of investors or securities analysts, the market price of our securities may decline. In addition, fluctuations in the price of our securities could contribute to the loss of all or part of your investment. If an active market for our securities develops and continues, the trading price of our securities could be volatile and subject to wide fluctuations in response to various factors, some of which are beyond our control. Any of the factors listed below could have a material adverse effect on your investment in our securities and our securities may trade at prices significantly below the price you paid for them. In such circumstances, the trading price of our securities may not recover and may experience a further decline.

Factors affecting the trading price of our securities may include:

- actual or anticipated fluctuations in our quarterly financial results or the quarterly financial results of companies perceived to be similar to us;
- changes in the market’s expectations about our operating results;
- the public’s reaction to our press releases, our other public announcements and our filings with the SEC;
- speculation in the press or investment community;
- announcements of technological innovation, new products, acquisitions, strategic alliances, significant agreements by us or competitors;
- success of competitors;
- our operating results failing to meet the expectation of securities analysts or investors in a particular period;
- changes in financial estimates and recommendations by securities analysts concerning us or the market in general;
- operating and stock price performance of other companies that investors deem comparable to us;
- our ability to market new and enhanced products on a timely basis;
- changes in laws and regulations affecting our business;

- commencement of, or involvement in, litigation;
- changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;
- the volume of shares of our common stock available for public sale;
- any major change in our Board or management;
- sales of substantial amounts of common stock by our directors, officers or significant stockholders or the perception that such sales could occur;
- the expiration of existing market stand-off or contractual lock-up agreements;
- the realization of any of the risk factors presented in this Quarterly Report on Form 10-Q;
- additions or departures of key personnel;
- failure to comply with the requirements of Nasdaq;
- failure to comply with SOX or other laws or regulations;
- actual, potential or perceived control, accounting or reporting problems;
- changes in accounting principles, policies and guidelines; and
- general economic and political conditions such as recessions, COVID-19, interest rates, fuel prices, international currency fluctuations and acts of war or terrorism.

Broad market and industry factors may materially harm the market price of our securities irrespective of our operating performance. The stock market in general and Nasdaq have experienced price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of our securities, may not be predictable. A loss of investor confidence in the market for the stocks of other companies which investors perceive to be similar to us could depress our stock price regardless of our business, prospects, financial conditions or results of operations. A decline in the market price of our securities also could adversely affect our ability to issue additional securities and our ability to obtain additional financing in the future.

In the past, securities class action litigation has often been initiated against companies following periods of volatility in their stock price. This type of litigation could result in substantial costs and divert our management's attention and resources, and could also require us to make substantial payments to satisfy judgments or to settle litigation.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business, or our market, or if they change their recommendations regarding our common stock adversely, then the price and trading volume of our common stock could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market, or our competitors. Securities and industry analysts do not currently, and may never, publish research on Velodyne. If no securities or industry analysts commence coverage of Velodyne, our stock price and trading volume would likely be negatively impacted. If any of the analysts who may cover us change their recommendation regarding our stock adversely, or provide more favorable relative recommendations about our competitors, the price of our common stock would likely decline. If any analyst who may cover us were to cease coverage or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

We may redeem unexpired Warrants prior to their exercise at a time that is disadvantageous to warrant holders, thereby making their public warrants worthless.

We have the ability to redeem outstanding public warrants at any time after they become exercisable and prior to their expiration, at a price of $0.01 per public warrant; provided that the last reported sales price of our common stock equals or exceeds $18.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within a 30 trading-day period ending on the third trading day prior to the date on which we give notice of such redemption to the warrant holders. Redemption of the outstanding Warrants could force the Warrant holders: (i) to exercise their Warrants and pay the exercise price therefor at a time when it may be disadvantageous for them to do so; (ii) to sell their Warrants at the then-current market price when they might otherwise wish to hold their Warrants; or (iii) to accept the nominal redemption price which, at the time the outstanding Warrants are called for redemption, is likely to be substantially less than the market value of their Warrants.

Warrants and other shares underlying equity awards could increase the number of shares eligible for future resale in the public market and result in dilution to our stockholders.

As of June 30, 2021, we had outstanding warrants exercisable for 5,976,870 shares of common stock at $11.50 per share. The shares of our common stock issued upon exercise of our Warrants will result in dilution to the then existing holders of common stock and increase the number of shares eligible for resale in the public market. Sales of substantial numbers of such shares in the public market could adversely affect the market price of our common stock.

Anti-takeover provisions contained in our Amended and Restated Certificate of Incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our Amended and Restated Certificate of Incorporation contains provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. We are also subject to anti-takeover provisions under Delaware law, which could delay or prevent a change of control. Together, these provisions may make more difficult the removal of management and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities. These provisions include:

- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- a classified board of directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of the Board;
- the requirement that directors may only be removed from the Board for cause;
- the right of our Board to elect a director to fill a vacancy created by the expansion of our Board or the resignation, death or removal of a director in certain circumstances, which prevents stockholders from being able to fill vacancies on our Board;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- a prohibition on stockholders calling a special meeting and the requirement that a meeting of stockholders may only be called by a majority of the Board, the chairman of the Board or the chief executive office and may not be called by any other person, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement that changes or amendments to certain provisions of our Amended and Restated Certificate of Incorporation must be approved by holders of at least two-thirds of our common stock;
- advance notice procedures that stockholders must comply with in order to nominate candidates to our Board or to propose matters to be acted upon at a meeting of stockholders, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of Velodyne; and
- an opt out from Section 203 of the General Corporation Law of the State of Delaware (the DGCL) and, instead, inclusion of a provision in the Amended and Restated Certificate of Incorporation that is substantially similar to Section 203 of the DGCL.

The JOBS Act permits “emerging growth companies” like us to take advantage of certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies.

We currently qualify as an “emerging growth company” as defined in Section 2(a)(19) of the Securities Act, as modified by the JOBS Act. As such, we take advantage of certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies for as long as we continue to be an emerging growth company, including: (i) the exemption from the auditor attestation requirements with respect to internal control over financial reporting under Section 404 of SOX; (ii) the exemptions from say-on-pay, say-on-frequency and say-on-golden parachute voting requirements; and (iii) reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. As a result, our stockholders may not have access to certain information they deem important. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year: (a) following October 18, 2023, the fifth anniversary of our IPO; (b) in which we have total annual gross revenue of at least $1.07 billion; or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (ii) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three- year period. Based on our aggregate worldwide market value of voting and non-voting common equity held by non-affiliates as of June 30, 2021, we will become a "large accelerated filer" and lose emerging growth status beginning with our Annual Report on Form 10-K for the year ending December 31, 2021.

In addition, Section 107 of the JOBS Act also provides that an emerging growth company can take advantage of the exemption from complying with new or revised accounting standards provided in Section 7(a)(2)(B) of the Securities Act as long as we are an emerging growth company. An emerging growth company can therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The JOBS Act provides that a company can elect to opt out of the extended transition period and comply with the requirements that apply to non-emerging growth companies, but any such election to opt out is irrevocable. We have elected to avail ourselves of such extended transition period, which means that when a standard is issued or revised and we have different application dates for public or private companies, we, as an emerging growth company, can adopt the new or revised standard at the time private companies adopt the new or revised standard. This may make comparison of our financial statements with another public company that is neither an emerging growth company nor an emerging growth company that has opted out of using the extended transition period difficult or impossible because of the potential differences in accounting standards used.

We cannot predict if investors will find our common stock less attractive because we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We are no longer a “controlled company” under the corporate governance rules of Nasdaq. However, during the applicable phase-in periods we may continue to rely on exemptions from certain corporate governance standards, which limit the presence of independent directors on our Board of Directors or committees of the Board of Directors.

Prior to the filing of this Quarterly Report on Form 10-Q, David Hall controlled the votes of the majority of our common stock. As a result, we were a “controlled company” for purposes of the Nasdaq corporate governance rules and were exempt from certain governance requirements otherwise required by Nasdaq, including requirements:

- that a majority of our Board of Directors consist of independent directors;
- that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities; and
- that we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities.

We are no longer a “controlled company” under the corporate governance rules of Nasdaq. Under the Nasdaq listing requirements, a company that ceases to be a “controlled company” must comply with the independent board committee requirements as they relate to the nominating and corporate governance and compensation committees no later than the following phase-in schedule: (1) one independent committee member at the time it ceases to be a controlled company, (2) a majority of independent committee members within 90 days of the date it ceases to be a controlled company and (3) all independent committee members within one year of the date it ceases to be a controlled company. Additionally, the Nasdaq listing requirements provide a 12-month phase-in period from the date a company ceases to be a “controlled company” to comply with the majority independent board requirement. At this time, the majority of our directors are independent, as are a majority of the members of each of our committees. Until we are fully subject to these requirements, however, our stockholders will not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of Nasdaq.

David Hall will have control over key decision making because he holds voting rights with respect to a significant amount of our voting stock.

David Hall, our former chairman and CEO, holds voting rights with respect to an aggregate of approximately 87.6 million shares of common stock, which represented approximately 44.9% of the voting power of our outstanding capital stock as of June 30, 2021. In addition to the approximately 59.5 million shares of common stock currently held by Mr. Hall, which represented approximately 30.5% of the voting power of our capital stock as of June 30, 2021, stockholders holding approximately 28.2 million shares of common stock, including Joseph Culkin, a member of our Board, Marta Hall, a member of our Board, and certain other family members of Mr. Hall, have entered into agreements granting Mr. Hall an irrevocable proxy to vote such stockholders' shares at Mr. Hall's discretion on all matters to be voted upon by stockholders. As a stockholder, Mr. Hall is entitled to vote his shares in his own interests, which may not always be in the interests of our stockholders generally and could adversely affect the market price of our common stock.

Compliance obligations under the Sarbanes-Oxley Act may require substantial financial and management resources.

As a public company, we are required to comply with the SEC's rules implementing Sections 302 and 404 of SOX, which require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of internal control over financial reporting. To comply with the requirements of being a public company, we have undertaken and expect to continue to undertake various actions, such as implementing additional internal controls and procedures and hiring additional accounting or internal audit staff. Additionally, we have identified material weaknesses in our internal control over financial reporting. We remediated one material weakness in the fourth quarter of 2020 and have put in place a remediation plan with respect to the remaining material weaknesses. See "—We have identified material weaknesses in our internal control over financial reporting, and the failure to achieve and maintain effective internal control over financial reporting could harm our business and negatively impact the market price of our common stock." Our management has devoted significant time, attention and resources to these remedial efforts and intends to hire additional personnel as part of our remediation plan.

The standards required for a public company under Section 404 of SOX are significantly more stringent than those required of Velodyne as a privately-held company. Based on our aggregate worldwide market value of voting and non-voting common equity held by non-affiliates as of June 30, 2021, we will become a "large accelerated filer" and lose our emerging growth company status upon the filing of our Annual Report on Form 10-K for the year ending December 31, 2021. At such time, our independent registered public accounting firm may issue a report that is adverse in the event that it is not satisfied with the level at which our controls are documented, designed or operating, or if the remaining material weaknesses have not been remediated or additional material weaknesses have been identified.

Testing and maintaining these controls can divert our management's attention from other matters that are important to the operation of our business. If our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal controls over financial reporting when we no longer qualify as an emerging growth company, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected, and we could become subject to investigations by the SEC or other regulatory authorities, which could require additional financial and management resources.

Our Amended and Restated Certificate of Incorporation designates the Court of Chancery of the State of Delaware and federal court within the State of Delaware as the exclusive forum for certain types of actions and proceedings that stockholders may initiate, which could limit a stockholder's ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our Amended and Restated Certificate of Incorporation provides that, subject to limited exceptions, the Court of Chancery of the State of Delaware and federal court within the State of Delaware will be exclusive forums for any:

- derivative action or proceeding brought on our behalf;
- action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to Velodyne or our stockholders;
- action asserting a claim against Velodyne arising pursuant to any provision of the DGCL, our Amended and Restated Certificate of Incorporation or bylaws; or
- other action asserting a claim against Velodyne that is governed by the internal affairs doctrine.

This choice of forum provision does not apply to actions brought to enforce a duty or liability created under the Exchange Act. Our Amended and Restated Certificate of Incorporation also provides that the federal district courts of the United States are the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. We intend for this provision to apply to any complaints asserting a cause of action under the Securities Act despite the fact that Section 22 of the Securities Act creates concurrent jurisdiction for the federal and state courts over all actions brought to enforce any duty or liability created by the Securities Act or the rules and regulations promulgated thereunder. There is uncertainty as to whether a court would enforce such a provision with respect to claims under the Securities Act, and stockholders will not be deemed to have waived compliance with the federal securities laws and the rules and regulations thereunder. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock shall be deemed to have notice of and to have consented to the provisions of the Amended and Restated Certificate of Incorporation described above.

These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our Amended and Restated Certificate of Incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

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

None.

Item 3. Default Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

(a) *Exhibits*.

Exhibit No.	Description
10.1	Velodyne 2020 Employee Stock Purchase Plan
31.1	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1^	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File - The cover page from this Quarterly Report on Form 10-Q is formatted in iXBRL.

(^) In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release No. 34-47986, the certifications furnished in Exhibits 32.1 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Exchange Act or deemed to be incorporated by reference into any filing under the Exchange Act or the Securities Act except to the extent that the registrant specifically incorporates it by reference.

SIGNATURES

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

Date:	August 9, 2021	VELODYNE LIDAR, INC.
		/s/ Andrew Hamer
		Andrew Hamer Chief Financial Officer and Chair, Office of the Chief Executive (Principal Executive, Financial and Accounting Officer)

Velodyne Lidar, Inc.

Amended and Restated
2020 Employee Stock Purchase Plan

(As Adopted Effective on September 29, 2020
and
Amended and Restated on April 29, 2021)

Velodyne Lidar, Inc.

Amended and Restated
2020 Employee Stock Purchase Plan

SECTION 1. PURPOSE OF THE PLAN.

The Board adopted the Plan on September 13, 2020 and it became effective upon its approval by the Company's stockholders on September 29, 2020. The purpose of the Plan is to provide Eligible Employees with an opportunity to increase their proprietary interest in the success of the Company by purchasing Stock from the Company on favorable terms and to pay for such purchases through payroll deductions or other approved contributions.

SECTION 2. ADMINISTRATION OF THE PLAN.

(a) General. The Plan may be administered by the Board or one or more Committees. Each Committee shall comply with rules and regulations applicable to it, including under the rules of any exchange on which the Stock is traded, and shall have the authority and be responsible for such functions as have been assigned to it.

(b) Powers of the Administrator. Subject to the terms of the Plan, and in the case of a Committee, subject to the specific duties delegated to the Committee, the Administrator shall interpret the Plan and make all other policy decisions relating to the operation of the Plan. The Administrator may adopt such rules, guidelines and forms as it deems appropriate to implement the Plan.

(c) Effects of Administrator's Decisions. The Administrator's decisions, determinations and interpretations shall be final and binding on all interested parties.

(d) **Governing Law**. The Plan shall be governed by, and construed in accordance with, the laws of the State of Delaware (except its choice of law provisions).

SECTION 3. STOCK OFFERED UNDER THE PLAN.

(a) Authorized Shares. The number of shares of Stock available for purchase under the Plan shall be 3,492,097 shares of the Company's Stock (subject to adjustment pursuant to Subsection (c) below), plus the additional shares described in Subsection (b) below. Shares of Stock issued pursuant to the Plan may be authorized but unissued shares or treasury shares.

(b) **Annual Increase in Shares**. On the first day of each fiscal year of the Company during the term of the Plan, commencing on January 1, 2021 and ending on (and including) January 1, 2040, the aggregate number of shares of Stock that may be issued under the Plan shall automatically increase by a number equal to the least of (i) one percent (1%) of the total number of shares of Stock actually issued and outstanding on the last day of the preceding fiscal year,

(ii) 2,500,000 shares of Stock (subject to adjustment pursuant to Subsection (c) below), or (iii) a number of shares of Stock determined by the Board.

(c) **Anti-Dilution Adjustments**. In the event that any dividend or other distribution (whether in the form of cash, stock or other securities or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, reclassification, repurchase, or exchange of Stock or other securities of the Company, or other similar change in the corporate structure of the Company affecting the Stock and effected without receipt or payment of consideration by the Company occurs, then in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, there will be a proportionate adjustment of the number and class of Stock that may be delivered under the Plan, the Purchase Price per share and the number and class of Stock covered by each option under the Plan which has not yet been exercised, and the numerical limits of Sections 3(a), 3(b)(ii) and 9(c).

(d) **Reorganizations**. In the event of a Corporate Reorganization, the outstanding rights to purchase Stock under any Offering Period then in progress may be continued, assumed or substituted by the surviving entity or its parent. If such acquirer refuses to continue, assume or substitute for any such rights, then a new Purchase Date for such Offering Period(s) will be set prior to the effective time of the Corporate Reorganization, the Participants' accumulated contributions will be applied to purchase Stock on such date, and any such Offering Periods shall terminate immediately after such purchase. In the event a new Purchase Date is set under this Section 3(d), Participants will be given notice of the new Purchase Date. The Plan shall in no event be construed to restrict in any way the Company's right to undertake a dissolution, liquidation, merger, consolidation or other reorganization.

SECTION 4. ENROLLMENT AND PARTICIPATION.

(a) Offering Periods and Purchase Periods.

(i) **Base Offering Periods**. The Committee may establish Offering Periods of such frequency and duration as it may deem appropriate (the "**Base Offering Periods**"); provided that a Base Offering Period shall in no event be longer than 27 months (or such other period as may be imposed under applicable tax law). The Base Offering Periods are intended to qualify under Code Section 423. Unless changed by the Committee, the Plan shall operate such that two Base Offering Periods, each of twelve months' duration and each including two six-month Purchase Periods, may operate simultaneously commencing at such time and under such conditions as the Committee may determine.

(ii) **Additional Offering Periods**. At the discretion of the Administrator, additional Offering Periods (the "**Additional Offering Periods**") may be conducted under the Plan including, if necessary or advisable in the sole discretion of the Administrator, under a separate sub-plan or sub-plans, permitting grants to Eligible Employees of certain

Participating Companies (each, a "**Sub-Plan**"). Such Additional Offering Periods may be designed to achieve desired tax objectives in particular locations outside the United States or to comply with local laws applicable to offerings in such foreign jurisdictions and will not be intended to qualify under Code Section 423. Additional Offering Periods may run concurrent to the Base Offering Periods. Alternatively, the Administrator may determine a different commencement and duration of an Additional Offering Period, and Additional Offering Periods may be consecutive or overlapping. The other terms and conditions of each Additional Offering Period shall be those set forth in this Plan document or in terms and conditions approved by the Administrator with respect to such Additional Offering Period (whether or not set forth in a written Sub-Plan), with such changes or additional features as the Administrator determines. Each Additional Offering Period (whether or not set forth in a written Sub-Plan) shall be considered a separate plan from the Plan (the "**Statutory Plan**"). The total number of Shares authorized to be issued under the Plan as provided in Section 3 above applies in the aggregate to the Statutory Plan and any Additional Offering Period. Unless otherwise superseded by the terms and conditions approved by the Administrator with respect to an Additional Offering Period, the provisions of this Plan document shall govern the operation of any offering conducted hereunder.

(iii) **Termination of Offering Period**. Unless changed by the Administrator, if the Fair Market Value of a share of Stock of any given Purchase Date is less than the Fair Market Value of a share of Stock on the start date of the applicable Offering Period, then the Offering Period shall terminate and a new Offering Period shall commence. For the avoidance of doubt, a Participant shall not be deemed to withdraw from the Plan in the event of a termination of an Offering Period pursuant to this Section 4(a)(iii).

(iv) **Separate Offerings**. Each Base Offering Period and each Additional Offering Period conducted under the Plan is intended to constitute a separate "offering" for purposes of Code Section 423.

(v) **Equal Rights and Privileges**. To the extent an Offering Period is intended to qualify under Code Section 423, all participants in such Offering Period shall have the same rights and privileges with respect to their participation in such Offering Period in accordance with Code Section 423 and the regulations thereunder except for differences that may be mandated by local law and are consistent with the requirements of Code Section 423(b)(5).

(b) **Enrollment**. In the case of any individual who qualifies as an Eligible Employee prior to the end of the Enrollment Period applicable to an Offering Period, he or she may elect to become a Participant on the first day of the Offering Period by filing the prescribed enrollment form with the Company. The enrollment form shall be filed in the prescribed manner during the applicable Enrollment Period for such Offering Period. The Committee may establish other procedures for enrollment by Eligible Employees.

(c) Duration of Participation. Once enrolled in the Plan, a Participant shall continue to participate in the Plan until he or she:

(i) Reaches the end of the Offering Period or Purchase Period, as applicable, in which his or her employee contributions were discontinued under Section 5(c) or 9(b);

(ii) Is deemed to withdraw from the Plan under Subsection (b) above;

(iii) Withdraws from the Plan under Section 6(a); or

(iv) Ceases to be an Eligible Employee.

A Participant whose employee contributions were discontinued automatically under Section 9(b) shall automatically resume participation as described therein. In all other cases, a former Participant may again become a Participant, if he or she then is an Eligible Employee, by following the procedure described in Subsection (b) above.

(d) Applicable Offering Period. For purposes of calculating the Purchase Price under Section 8(b), the applicable Offering Period shall be determined as follows:

(i) Once a Participant is enrolled in the Plan for an Offering Period, such Offering Period shall continue to apply to him or her until the earliest of (A) the end of such Offering Period, (B) the end of his or her participation under Subsection (d) above, or (C) re-enrollment for a subsequent Offering Period under Paragraph (ii) or (iii) below.

(ii) Any other provision of the Plan notwithstanding, the Administrator (at its sole discretion) may determine prior to the commencement of any new Offering Period that all Participants shall be re-enrolled for such new Offering Period. In addition, the Administrator may structure an Offering Period so that in the event that the Fair Market Value of a Share on the first day of the Offering Period for which the Participant is enrolled is higher than on the first day of any subsequent Offering Period, the Participant shall automatically be re-enrolled for such subsequent Offering Period.

(iii) When a Participant reaches the end of an Offering Period but his or her participation is to continue, then such Participant shall automatically be re-enrolled for the Offering Period that commences immediately after the end of the prior Offering Period including any Offering Period commencing under Section 4(a)(iii) above.

SECTION 5. EMPLOYEE CONTRIBUTIONS.

(a) Commencement of Payroll Deductions. A Participant may purchase shares of Stock under the Plan by means of payroll deductions or (if so approved by the Administrator with respect to all Participants in an Offering Period) other approved contributions in form and substance satisfactory to the Administrator. Payroll deductions or other approved contributions shall commence as soon as reasonably practicable after the Company has received the prescribed enrollment form by the end of the Enrollment Period. In jurisdictions where payroll deductions are not permitted under local law, Participants may purchase shares of Stock by making contributions in the form that is acceptable and approved by the Administrator.

(b) Amount of Payroll Deductions. An Eligible Employee shall designate on the prescribed enrollment form the portion of his or her Compensation that he or she elects to have withheld for the purchase of Stock. Such portion shall be a whole percentage of the Eligible Employee's Compensation, but not less than 1% nor more than 15%.

(c) Reducing Withholding Rate or Discontinuing Payroll Deductions. If a Participant wishes to reduce his or her rate of payroll withholding, such Participant may do so by filing a new enrollment form with the Company in the manner prescribed by the Administrator. The new withholding rate shall be effective as soon as reasonably practicable after the Company has received such form. The new withholding rate may be 0% or any whole percentage of the Participant's Compensation, but not more than his or her old withholding rate. No Participant shall make more than one election under this Subsection (c) during any Purchase Period. (In addition, employee contributions may be discontinued automatically pursuant to Section 9(b).)

(d) Increasing Withholding Rate. If a Participant wishes to increase his or her rate of payroll withholding, such Participant may do so by filing a new enrollment form with the Company during the applicable Enrollment Period. The new withholding rate may be effective on the first day of the next-upcoming Offering Period in which the Participant participates. The new withholding rate may be any whole percentage of the Participant's Compensation, but not less than 1% nor more than 15%. An increase in a Participant's rate of payroll withholding may not take effect during an ongoing Offering Period.

SECTION 6. WITHDRAWAL FROM THE PLAN.

(a) Withdrawal. A Participant may elect to withdraw from the Offering Period in which he or she is participating by filing the prescribed form with the Company in the prescribed manner at least fifteen (15) calendar days prior to a Purchase Date (or such other period as is specified by the Administrator). As soon as reasonably practicable thereafter, payroll deductions or other approved contributions shall cease and the entire amount credited to the Participant's Plan Account with respect to such Offering Period shall be refunded to him or her in cash, without interest (except as otherwise required by the laws of the local jurisdiction). No partial withdrawals from an Offering Period shall be permitted.

(b) Re-Enrollment After Withdrawal. A former Participant who has withdrawn from the Plan shall not be a Participant until he or she re-enrolls in the Plan under Section 4(b) during an Enrollment Period. Re-enrollment may be effective only at the commencement of an Offering Period.

SECTION 7. CHANGE IN EMPLOYMENT STATUS.

(a) Termination of Employment. Termination of employment as an Eligible Employee for any reason, including death, shall be treated as an automatic withdrawal from the Plan under Section 6(a).

(b) Transfers of Employment. If a Participant transfers employment from a Participating Company that is participating in a Base Offering Period to a Participating Company that is participating in an Additional Offering Period, he or she will immediately cease to participate in the Base Offering Period, as applicable; however, such Participant's Plan Account will be transferred to the Additional Offering Period, and such Participant will immediately join such Additional Offering Period on the terms and conditions applicable to such Additional Offering Period, except for any modifications required by applicable law. If a Participant transfers employment from a Participating Company that is participating in an Additional Offering Period to a Participating Company that is participating in the Base Offering Period, he or she will continue to participate in the Additional Offering Period until the earlier of (i) the end of such Additional Offering Period, or (ii) the commencement of the first Base Offering Period in which he or she is eligible. If a Participant transfers employment from a Participating Company to a Related Corporation that is not a Participating Company, he or she shall be deemed to have withdrawn from the Plan pursuant to Section 6(a).

(c) Leave of Absence. For purposes of the Plan, employment shall not be deemed to terminate when the Participant goes on a military leave, a sick leave or another *bona fide* leave of absence, if the leave was approved by the Company in writing. Employment, however, shall be deemed to terminate on the first day following three months after the Participant goes on a leave, unless a contract or statute guarantees his or her right to return to work. Employment shall be deemed to terminate in any event when the approved leave ends, unless the Participant immediately returns to work.

(d) Death. In the event of the Participant's death, the amount credited to his or her Plan Account shall be paid in cash, without interest (unless otherwise required by the laws of the local jurisdiction), to a beneficiary designated by him or her for this purpose on the prescribed form or, if none, to the Participant's estate. Such form shall be valid only if it was filed with the Company in the prescribed manner before the Participant's death.

SECTION 8. PLAN ACCOUNTS AND PURCHASE OF SHARES.

(a) Plan Accounts. The Company shall maintain a Plan Account on its books in the name of each Participant. Whenever an amount is deducted from the Participant's Compensation under the Plan, such amount shall be credited to the Participant's Plan Account. Unless otherwise required by the laws of the local jurisdiction, (i) amounts credited to Plan Accounts shall not be trust funds and may be commingled with the Company's general assets and applied to general corporate purposes, and (ii) no interest shall be credited to Plan Accounts.

(b) Purchase Price. The Purchase Price for each share of Stock purchased on a Purchase Date shall be the lower of:

(i) 85% of the Fair Market Value of such share on the first trading day of such Offering Period; or

(ii) 85% of the Fair Market Value of such share on the Purchase Date.

(c) Number of Shares Purchased. On each Purchase Date, each Participant shall be deemed to have elected to purchase the number of shares of Stock calculated in accordance with this Subsection (c), unless the Participant has previously elected to withdraw from the Offering Period in accordance with Section 6(a). The amount then in the Participant's Plan Account shall be divided by the Purchase Price, and the number of shares that results shall be purchased from the Company with the funds in the Participant's Plan Account. The foregoing number of shares of Stock that may be purchased by a Participant are subject to the limitations set forth in Subsection (d) below and in Section 9. The Administrator may determine with respect to all Participants that any fractional share, as calculated under this Subsection (c), shall be (i) rounded down to the next lower whole share or (ii) credited as a fractional share.

(d) Available Shares Insufficient. In the event that the aggregate number of shares that all Participants elect to purchase with respect to a particular Purchase Period exceeds (i) the number of shares of Stock that were available under Section 3 above for sale under the Plan on the first day of the applicable Offering Period, or (ii) the number of shares that were available under Section 3 above for sale under the Plan on the applicable Purchase Date, then the number of shares to which each Participant is entitled shall be determined by multiplying the number of shares available for issuance by a fraction. The numerator of such fraction is the number of shares that such Participant has elected to purchase, and the denominator of such fraction is the number of shares that all Participants have elected to purchase. The Company may make a pro rata allocation of the shares available on the first day of an applicable Offering Period pursuant to the preceding sentence, notwithstanding any authorization of additional shares for issuance under the Plan by the Company's stockholders subsequent to such date. In the event of a pro-rata allocation under this Section (d), the Administrator may determine in its discretion to continue all Offering Periods then in effect or terminate all Offering Periods then in effect pursuant to Section 14.

(e) Issuance of Stock. The shares of Stock purchased by a Participant under the Plan will be registered in the name of such Participant. The Company may permit or require that shares be deposited directly with a broker designated by the Company or to a designated agent of the Company, and the Company may utilize electronic or automated methods of share transfer. The Company may require that shares be retained with such broker or agent for a designated period of time and/or may establish other procedures to permit tracking of disqualifying dispositions of such shares. (The two preceding sentences shall apply whether or not the Participant is required to pay income tax in the United States.)

(f) Tax Withholding. To the extent required by applicable U.S. or non-U.S. federal, state or local law, a Participant shall make arrangements satisfactory to the Company for the satisfaction of any withholding tax obligations that arise in connection with the Plan. The Company shall not be required to issue any shares of Stock under the Plan until such obligations, if any, are satisfied.

(g) Unused Cash Balances. Subject to the final sentence of Section 8(c), an amount remaining in the Participant's Plan Account that represents the Purchase Price for any fractional share shall be refunded in cash, without interest (except as otherwise required by the laws of the local jurisdiction), to the Participant promptly following a Purchase Date. Any amount remaining in the Participant's Plan Account that represents the Purchase Price for whole shares that could not be purchased by reason of Subsections (c) or (d) above or Section 9(b) shall be refunded to the Participant in cash, without interest (except as otherwise required by the laws of the local jurisdiction).

(h) Stockholder Approval. Any other provision of the Plan notwithstanding, no shares of Stock shall be purchased under the Plan unless and until the Company's stockholders have approved the adoption of the Plan.

SECTION 9. PLAN LIMITATIONS.

(a) Five Percent Limit. Any other provision of the Plan notwithstanding, no Participant shall be granted a right to purchase Stock under the Plan if, immediately after such right is granted, such Participant would own stock possessing 5% or more of the total combined voting power or value of all classes of stock of the Company or any Related Corporation, applying the stock attribution rules of Code Section 424(d), and including any stock in which the Participant may purchase under outstanding options as stock owned by such Participant.

(b) Dollar Limit. As specified by Code Section 423(b)(8), no Participant shall be entitled to accrue rights to purchase Stock pursuant to any such rights outstanding under the Plan if and to the extent such accrual, when aggregated with (i) rights to purchase Stock accrued under any other right to purchase Stock under the Plan, and (ii) similar rights accrued under other employee stock purchase plans (within the meaning of Code Section 423) of the Company or any Related Corporation, would otherwise permit such Participant to purchase more than $25,000 worth of Stock of the Company or any Related Corporation (determined on the basis of the Fair Market Value per share on the date such rights are granted, and which, with respect to the Plan, will be determined as of the beginning of the respective Offering Period) for each calendar year such rights are at any time outstanding.

If a Participant is precluded by this Subsection (b) from purchasing additional Stock under the Plan, then his or her employee contributions may be discontinued and, to the extent applicable, such contributions shall automatically resume at the beginning of the next Purchase

Period with a scheduled Purchase Date in the next calendar year, provided that he or she is an Eligible Employee at the beginning of such Purchase Period.

(c) Purchase Period Share Purchase Limit. Any other provision of the Plan notwithstanding, no Participant shall purchase more than 3,000 shares of Stock with respect to any Purchase Period; provided that the Administrator may, for future Offering Periods, increase or decrease in its absolute discretion, the maximum number of shares of Stock that a Participant may purchase during each Purchase Period.

SECTION 10. RIGHTS NOT TRANSFERABLE.

The rights of any Participant under the Plan, or any Participant's interest in any Stock or moneys to which he or she may be entitled under the Plan, shall not be transferable by voluntary or involuntary assignment or by operation of law, or in any other manner other than by beneficiary designation or the laws of descent and distribution. If a Participant in any manner attempts to transfer, assign or otherwise encumber his or her rights or interest under the Plan, other than by beneficiary designation or the laws of descent and distribution, then such act shall be treated as an election by the Participant to withdraw from the Plan under Section 6(a).

SECTION 11. NO RIGHTS AS AN EMPLOYEE.

Nothing in the Plan or in any right granted under the Plan shall confer upon the Participant any right to continue in the employ of a Participating Company for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Participating Companies or of the Participant, which rights are hereby expressly reserved by each, to terminate his or her employment at any time and for any reason, with or without cause.

SECTION 12. NO RIGHTS AS A STOCKHOLDER.

A Participant shall have no rights as a stockholder with respect to any shares of Stock that he or she may have a right to purchase under the Plan until such shares have been purchased on the applicable Purchase Date.

SECTION 13. SECURITIES LAW REQUIREMENTS.

Shares of Stock shall not be issued, and the Company shall have no liability for failure to issue shares of Stock, under the Plan unless the issuance and delivery of such shares comply with (or are exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded.

SECTION 14. AMENDMENT OR DISCONTINUANCE.

(a) General Rule. The Administrator, in its sole discretion, may amend, suspend, or terminate the Plan, or any part thereof, at any time and for any reason. If the Plan is terminated, the Administrator, in its discretion, may elect to terminate all outstanding Offering Periods either immediately or upon completion of the purchase of shares of Stock on the next Purchase Date, or may elect to permit Offering Periods to expire in accordance with their terms (and subject to any adjustment pursuant to Section 3(c) or (d). If the Offering Periods are terminated prior to expiration, all amounts then credited to Participants' accounts which have not been used to purchase shares of Stock will be returned to the Participants (without interest thereon, except as otherwise required by the laws of the local jurisdiction) as soon as administratively practicable.

(b) Administrator's Discretion. Without stockholder consent and without limiting Subsection (a) above, the Administrator will be entitled to change the Offering Periods, limit the frequency and/or number of changes in the amount withheld during an Offering Period, establish the exchange ratio applicable to amounts withheld in a currency other than U.S. dollars, permit payroll withholding in excess of the amount designated by a Participant in order to adjust for delays or mistakes in the Company's processing of properly completed withholding elections, establish reasonable waiting and adjustment periods and/or accounting and crediting procedures to ensure that amounts applied toward the purchase of Stock for each Participant properly correspond with amounts withheld from the Participant's Compensation, amend any outstanding purchase rights or clarify any ambiguities regarding the terms of any Offering Period to enable the purchase rights to qualify under and/or comply with Section 423 of the Code, and establish such other limitations or procedures as it determines in its sole discretion advisable which are consistent with the Plan. The actions of the Board and the Committee pursuant to this paragraph will not be considered to alter or impair the purchase rights granted under an Offering Period as they are to be deemed part of the initial terms of such Offering Period and purchase rights.

(c) Accounting Considerations. In the event the Administrator determines that the ongoing operation of the Plan may result in unfavorable financial accounting consequences, the Administrator may, in its discretion and, to the extent necessary or desirable, modify, amend or terminate the Plan to reduce or eliminate such accounting consequence including, but not limited to:

(i) Amending the Plan to conform with the safe harbor definition under Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or successor provision), including with respect to an Offering Period underway at the time;

(ii) Altering the Purchase Price for any Offering Period including an Offering Period underway at the time of the change in Purchase Price;

(iii) Shortening any Offering Period (and any Purchase Periods encompassed by such Offering Period) by setting a new Purchase Date, including with respect to an Offering Period underway at the time of the Administrator's action;

(iv) Reducing the maximum percentage of Compensation a Participant may elect to set aside as payroll deductions; and

(v) Reducing the maximum number of shares of Stock a Participant may purchase during any Purchase Period.

Such modifications or amendments will not require stockholder approval or the consent of any Plan Participants. The actions of the Board and the Committee pursuant to this paragraph will not be considered to alter or impair the purchase rights granted under an Offering Period as they are to be deemed part of the initial terms of such Offering Period and purchase rights.

(d) Stockholder Approval. Except as provided in Section 3, any increase in the aggregate number of shares of Stock that may be issued under the Plan shall be subject to the approval of the Company's stockholders. In addition, any other amendment of the Plan shall be subject to the approval of the Company's stockholders to the extent required under Section 14(e) or by any applicable law or regulation.

(e) Plan Termination. The Plan shall terminate automatically 20 years after its adoption by the Board, unless (i) the Plan is extended by the Board and (ii) the extension is approved within 12 months by a vote of the stockholders of the Company.

SECTION 15. DEFINITIONS.

(a) "**Administrator**" means the Board or any Committee administering the Plan in accordance with Section 2.

(b) "**Board**" means the Board of Directors of the Company, as constituted from time to time.

(c) "**Code**" means the Internal Revenue Code of 1986, as amended.

(d) "**Committee**" means a committee of one or more members of the Board, or of other individuals satisfying applicable laws, appointed by the Board to administer the Plan.

(e) "**Company**" means Velodyne Lidar, Inc., a Delaware corporation.

(f) "**Compensation**" means, unless otherwise determined by the Administrator, those components of an Eligible Employee's cash compensation (prior to reductions pursuant to Code Sections 125, 132(f) or 401(k)) that are regular and recurring, *including* base straight-time gross earnings, commissions, annual cash incentive compensation, and annual cash bonuses, and *excluding* extraordinary cash items (such as one-time bonuses), as well as all non-cash items, moving or relocation allowances, cost-of-living or tax equalization payments, car allowances, tuition reimbursements, imputed income attributable to cars or life insurance, severance pay, fringe benefits, contributions or benefits received under employee benefit plans, payments for or related to equity compensation, and any similar items. The Administrator shall determine whether a particular item is included in Compensation.

(g) "**Corporate Reorganization**" means:

(i) The consummation of a merger or consolidation of the Company with or into another entity or any other corporate reorganization; or

(ii) The sale, transfer or other disposition of all or substantially all of the Company's assets or the complete liquidation or dissolution of the Company.

(h) "**Eligible Employee**" means, unless otherwise determined by the Administrator prior to the commencement of an Offering Period, a common law employee of a Participating Company who is customarily employed for at least twenty (20) hours per week and for more than five (5) months in any calendar year. The foregoing notwithstanding, (1) an individual shall not be considered an Eligible Employee if his or her participation in the Plan is prohibited by the law of any country that has jurisdiction over him or her or if, prior to an applicable Offering Period and applied in a manner consistent with the requirements of Code Section 423(b)(5) with respect to an Offering Period that is a Base Offering Period, the Administrator determines that the definition of Eligible Employee shall exclude any other class of employees, and (2) an individual who would not otherwise qualify as an Eligible Employee pursuant to the first sentence above may be eligible to participate under the terms and conditions of an Additional Offering Period where local law so requires.

(i) "**Enrollment Period**" means a period prior to the start of an Offering Period during which Eligible Employees must submit the required enrollment forms to participate in such Offering Period, which period shall end at least five (5) business days (or such other date as may be specified in advance by the Administrator) prior to the start of the Offering Period.

(j) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

(k) "**Fair Market Value**" means the price at which Stock was last sold in the principal U.S. market for the Stock on the applicable date or, if the applicable date was not a trading day, on the last trading day prior to the applicable date. If Stock is no longer traded on a public U.S. securities market, the Fair Market Value shall be determined by the Administrator in good faith on such basis as it deems appropriate. The Administrator's determination shall be conclusive and binding on all persons. For purposes of determining Fair Market Value as of a Purchase Date, and unless otherwise determined by the Administrator, the applicable date will be the last trading day immediately preceding the Purchase Date.

(l) "**Offering Period**" means any period, including as the context requires Base Offering Periods and Additional Offering Periods, with respect to which the right to purchase Stock may be granted under the Plan, as determined pursuant to Section 4(a).

(m) "**Participant**" means an Eligible Employee who participates in the Plan or any Sub-Plan, as provided in Section 4.

(n) “**Participating Company**” means (i) the Company and (ii) each present or future Subsidiary designated by the Administrator as a Participating Company.

(o) “**Plan**” means this Velodyne Lidar, Inc. Amended and Restated 2020 Employee Stock Purchase Plan, as it may be amended from time to time.

(p) “**Plan Account**” means the account established for each Participant pursuant to Section 8(a).

(q) “**Purchase Date**” means the last trading day of a Purchase Period.

(r) “**Purchase Period**” means a period within an Offering Period (which for an Offering Period with only a single Purchase Period would be coterminous with the Offering Period) during which contributions may be made toward the purchase of Stock under the Plan, as determined pursuant to Section 4(a).

(s) “**Purchase Price**” means the price at which Participants may purchase Stock under the Plan, as determined pursuant to Section 8(b).

(t) “**Related Corporation**” means any “parent corporation” of the Company as defined in Code Section 424(e) or any Subsidiary.

(u) “**Stock**” means the common stock of the Company.

(v) “**Subsidiary**” means any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company, if each of the corporations other than the last corporation in the unbroken chain owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT of 2002

I, Andrew Hamer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Velodyne Lidar, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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:	August 9, 2021	/s/ Andrew Hamer
		Andrew Hamer Chief Financial Officer and Chair, Office of the Chief Executive (Principal Executive, Financial and Accounting 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 Velodyne Lidar, Inc., a Delaware corporation (the "Company"), for the fiscal quarter ended June 30, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Andrew Hamer, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(i) the Form 10-Q fully complies, in all material respects, with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: August 9, 2021

/s/ Andrew Hamer

Andrew Hamer
Chief Financial Officer and Chair, Office of the Chief Executive
(Principal Executive, Financial and Accounting Officer)