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, 2022

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: 001-34756

Tesla, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**91-2197729**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
1 Tesla Road **Austin, Texas**	**78725**
(Address of principal executive offices)	**(Zip Code)**

(512) 516-8177
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock	TSLA	The Nasdaq Global Select Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 ("Exchange Act") 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 19, 2022, there were 1,044,490,015 shares of the registrant's common stock outstanding.

TESLA, INC.

FORM 10-Q FOR THE QUARTER ENDED JUNE 30, 2022

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Forward-Looking Statements

The discussions in this Quarterly Report on Form 10-Q contain forward-looking statements reflecting our current expectations that involve risks and uncertainties. These forward-looking statements include, but are not limited to, statements concerning any potential future impact of the coronavirus disease ("COVID-19") pandemic on our business, supply chain constraints, our strategy, competition, future operations and production capacity, future financial position, future revenues, projected costs, profitability, expected cost reductions, capital adequacy, expectations regarding demand and acceptance for our technologies, growth opportunities and trends in the market in which we operate, prospects and plans and objectives of management. The words "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those in the forward-looking statements, including, without limitation, the risks set forth in Part II, Item 1A, "Risk Factors" in this Quarterly Report on Form 10-Q and in our other filings with the Securities and Exchange Commission (the "SEC"). We do not assume any obligation to update any forward-looking statements.

PART I. FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

Tesla, Inc.

Consolidated Balance Sheets
(in millions, except per share data)
(unaudited)

	June 30, 2022	December 31, 2021
Assets		
Current assets		
Cash and cash equivalents	$ 18,324	$ 17,576
Short-term marketable securities	591	131
Accounts receivable, net	2,081	1,913
Inventory	8,108	5,757
Prepaid expenses and other current assets	2,118	1,723
Total current assets	31,222	27,100
Operating lease vehicles, net	4,782	4,511
Solar energy systems, net	5,624	5,765
Property, plant and equipment, net	21,093	18,884
Operating lease right-of-use assets	2,185	2,016
Digital assets, net	218	1,260
Intangible assets, net	241	257
Goodwill	196	200
Other non-current assets	2,952	2,138
Total assets	$ 68,513	$ 62,131
Liabilities		
Current liabilities		
Accounts payable	$ 11,212	$ 10,025
Accrued liabilities and other	6,037	5,719
Deferred revenue	1,858	1,447
Customer deposits	1,182	925
Current portion of debt and finance leases	1,532	1,589
Total current liabilities	21,821	19,705
Debt and finance leases, net of current portion	2,898	5,245
Deferred revenue, net of current portion	2,210	2,052
Other long-term liabilities	3,926	3,546
Total liabilities	30,855	30,548
Commitments and contingencies (Note 12)		
Redeemable noncontrolling interests in subsidiaries	421	568
Equity		
Stockholders' equity		
Preferred stock; $0.001 par value; 100 shares authorized; no shares issued and outstanding	—	—
Common stock; $0.001 par value; 2,000 shares authorized; 1,041 and 1,033 shares issued and outstanding as of June 30, 2022 and December 31, 2021, respectively	1	1
Additional paid-in capital	30,944	29,803
Accumulated other comprehensive (loss) income	(477)	54
Retained earnings	5,908	331
Total stockholders' equity	36,376	30,189
Noncontrolling interests in subsidiaries	861	826
Total liabilities and equity	$ 68,513	$ 62,131

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

Tesla, Inc.

Consolidated Statements of Operations
(in millions, except per share data)
(unaudited)

	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Revenues				
Automotive sales	$ 13,670	$ 9,520	$ 29,184	$ 17,707
Automotive regulatory credits	344	354	1,023	872
Automotive leasing	588	332	1,256	629
Total automotive revenues	14,602	10,206	31,463	19,208
Energy generation and storage	866	801	1,482	1,295
Services and other	1,466	951	2,745	1,844
Total revenues	16,934	11,958	35,690	22,347
Cost of revenues				
Automotive sales	10,153	7,119	21,067	13,576
Automotive leasing	368	188	776	348
Total automotive cost of revenues	10,521	7,307	21,843	13,924
Energy generation and storage	769	781	1,457	1,376
Services and other	1,410	986	2,696	1,948
Total cost of revenues	12,700	9,074	25,996	17,248
Gross profit	4,234	2,884	9,694	5,099
Operating expenses				
Research and development	667	576	1,532	1,242
Selling, general and administrative	961	973	1,953	2,029
Restructuring and other	142	23	142	(78)
Total operating expenses	1,770	1,572	3,627	3,193
Income from operations	2,464	1,312	6,067	1,906
Interest income	26	11	54	21
Interest expense	(44)	(75)	(105)	(174)
Other income, net	28	45	84	73
Income before income taxes	2,474	1,293	6,100	1,826
Provision for income taxes	205	115	551	184
Net income	2,269	1,178	5,549	1,642
Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	10	36	(28)	62
Net income attributable to common stockholders	$ 2,259	$ 1,142	$ 5,577	$ 1,580
Net income per share of common stock attributable to common stockholders				
Basic	$ 2.18	$ 1.18	$ 5.38	$ 1.64
Diluted	$ 1.95	$ 1.02	$ 4.82	$ 1.41
Weighted average shares used in computing net income per share of common stock				
Basic	1,037	971	1,036	966
Diluted	1,155	1,119	1,156	1,126

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

Tesla, Inc.

Consolidated Statements of Comprehensive Income
(in millions)
(unaudited)

	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Net income	$ 2,269	$ 1,178	$ 5,549	$ 1,642
Other comprehensive (loss) income:				
Foreign currency translation adjustment	(421)	63	(517)	(157)
Unrealized net loss on marketable securities	(6)	—	(14)	—
Comprehensive income	1,842	1,241	5,018	1,485
Less: Comprehensive income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	10	36	(28)	62
Comprehensive income attributable to common stockholders	$ 1,832	$ 1,205	$ 5,046	$ 1,423

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

Tesla, Inc.

Consolidated Statements of Redeemable Noncontrolling Interests and Equity
(in millions, except per share data)
(unaudited)

Three Months Ended June 30, 2022	Redeemable Noncontrolling Interests	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
Balance as of March 31, 2022	$ 459	1,036	$ 1	$ 30,485	$ (50)	$ 3,649	$ 34,085	$ 862	$ 34,947
Exercises of conversion feature of convertible senior notes	—	0	0	0	—	—	—	—	—
Settlements of warrants	—	3	0	0	—	—	0	—	0
Issuance of common stock for equity incentive awards	—	2	0	43	—	—	43	—	43
Stock-based compensation	—	—	—	419	—	—	419	—	419
Distributions to noncontrolling interests	(13)	—	—	—	—	—	—	(26)	(26)
Buy-out of noncontrolling interests	(10)	—	—	(3)	—	—	(3)	—	(3)
Net (loss) income	(15)	—	—	—	—	2,259	2,259	25	2,284
Other comprehensive loss	—	—	—	—	(427)	—	(427)	—	(427)
Balance as of June 30, 2022	$ 421	1,041	$ 1	$ 30,944	$ (477)	$ 5,908	$ 36,376	$ 861	$ 37,237

Six Months Ended June 30, 2022	Redeemable Noncontrolling Interests	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
Balance as of December 31, 2021	$ 568	1,033	$ 1	$ 29,803	$ 54	$ 331	$ 30,189	$ 826	$ 31,015
Exercises of conversion feature of convertible senior notes	—	0	0	0	—	—	—	—	—
Settlements of warrants	—	3	0	0	—	—	—	—	—
Issuance of common stock for equity incentive awards	—	5	0	245	—	—	245	—	245
Stock-based compensation	—	—	—	904	—	—	904	—	904
Distributions to noncontrolling interests	(25)	—	—	—	—	—	—	(48)	(48)
Buy-out of noncontrolling interests	(11)	—	—	(8)	—	—	(8)	—	(8)
Net (loss) income	(111)	—	—	—	—	5,577	5,577	83	5,660
Other comprehensive loss	—	—	—	—	(531)	—	(531)	—	(531)
Balance as of June 30, 2022	$ 421	1,041	$ 1	$ 30,944	$ (477)	$ 5,908	$ 36,376	$ 861	$ 37,237

Three Months Ended June 30, 2021	Redeemable Noncontrolling Interests	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
Balance as of March 31, 2021	$ 601	963	$ 1	$ 27,623	$ 143	$ (4,750)	$ 23,017	$ 847	$ 23,864
Exercises of conversion feature of convertible senior notes	—	1	0	(6)	—	—	(6)	—	(6)
Settlements of warrants	—	17	0	—	—	—	0	—	0
Issuance of common stock for equity incentive awards	—	3	0	69	—	—	69	—	69
Stock-based compensation	—	—	—	519	—	—	519	—	519
Contributions from noncontrolling interests	2	—	—	—	—	—	—	—	—
Distributions to noncontrolling interests	(14)	—	—	—	—	—	—	(26)	(26)
Net income	16	—	—	—	—	1,142	1,142	20	1,162
Other comprehensive income	—	—	—	—	63	—	63	—	63
Balance as of June 30, 2021	$ 605	984	$ 1	$ 28,205	$ 206	$ (3,608)	$ 24,804	$ 841	$ 25,645

Six Months Ended June 30, 2021	Redeemable Noncontrolling Interests	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
Balance as of December 31, 2020	$ 604	960	$ 1	$ 27,260	$ 363	$ (5,399)	$ 22,225	$ 850	$ 23,075
Adjustments for prior periods from adopting ASU 2020-06	—	—	—	(474)	—	211	(263)	—	(263)
Exercises of conversion feature of convertible senior notes	—	1	0	5	—	—	5	—	5
Settlements of warrants	—	17	0	—	—	—	0	—	0
Issuance of common stock for equity incentive awards	—	6	0	252	—	—	252	—	252
Stock-based compensation	—	—	—	1,162	—	—	1,162	—	1,162
Contributions from noncontrolling interests	2	—	—	—	—	—	—	—	—
Distributions to noncontrolling interests	(26)	—	—	—	—	—	—	(46)	(46)
Net income	25	—	—	—	—	1,580	1,580	37	1,617
Other comprehensive loss	—	—	—	—	(157)	—	(157)	—	(157)
Balance as of June 30, 2021	$ 605	984	$ 1	$ 28,205	$ 206	$ (3,608)	$ 24,804	$ 841	$ 25,645

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

Tesla, Inc.

Consolidated Statements of Cash Flows
(in millions)
(unaudited)

	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Cash Flows from Operating Activities		
Net income	$ 5,549	$ 1,642
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, amortization and impairment	1,802	1,302
Stock-based compensation	779	1,088
Inventory and purchase commitments write-downs	58	88
Foreign currency transaction net unrealized gain	(52)	(1)
Non-cash interest and other operating activities	52	60
Digital assets loss (gain), net	106	(78)
Changes in operating assets and liabilities:		
Accounts receivable	(233)	(283)
Inventory	(2,192)	(687)
Operating lease vehicles	(795)	(916)
Prepaid expenses and other current assets	(533)	(131)
Other non-current assets	(1,042)	(289)
Accounts payable and accrued liabilities	1,406	1,592
Deferred revenue	648	279
Customer deposits	292	52
Other long-term liabilities	501	47
Net cash provided by operating activities	6,346	3,765
Cash Flows from Investing Activities		
Purchases of property and equipment excluding finance leases, net of sales	(3,497)	(2,853)
Purchases of solar energy systems, net of sales	(5)	(22)
Purchases of digital assets		(1,500)
Proceeds from sales of digital assets	936	272
Purchase of intangible assets	(9)	—
Purchases of marketable securities	(476)	—
Receipt of government grants	—	6
Net cash used in investing activities	(3,051)	(4,097)
Cash Flows from Financing Activities		
Proceeds from issuances of convertible and other debt	—	4,862
Repayments of convertible and other debt	(2,219)	(7,408)
Collateralized lease repayments	—	(8)
Proceeds from exercises of stock options and other stock issuances	245	253
Principal payments on finance leases	(251)	(196)
Debt issuance costs	—	(5)
Proceeds from investments by noncontrolling interests in subsidiaries	—	2
Distributions paid to noncontrolling interests in subsidiaries	(76)	(65)
Payments for buy-outs of noncontrolling interests in subsidiaries	(19)	—
Net cash used in financing activities	(2,320)	(2,565)
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(232)	(179)
Net increase (decrease) in cash and cash equivalents and restricted cash	743	(3,076)
Cash and cash equivalents and restricted cash, beginning of period	18,144	19,901
Cash and cash equivalents and restricted cash, end of period	$ 18,887	$ 16,825
Supplemental Non-Cash Investing and Financing Activities		
Acquisitions of property and equipment included in liabilities	$ 1,636	$ 1,768
Leased assets obtained in exchange for finance lease liabilities	$ 36	$ 177
Leased assets obtained in exchange for operating lease liabilities	$ 445	$ 341

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

Tesla, Inc.

Notes to Consolidated Financial Statements

(unaudited)

Note 1 – Overview

Tesla, Inc. (“Tesla”, the “Company”, “we”, “us” or “our”) was incorporated in the State of Delaware on July 1, 2003. We design, develop, manufacture and sell high-performance fully electric vehicles and design, manufacture, install and sell solar energy generation and energy storage products. Our Chief Executive Officer, as the chief operating decision maker (“CODM”), organizes our company, manages resource allocations and measures performance among two operating and reportable segments: (i) automotive and (ii) energy generation and storage.

There continues to be widespread impact from the COVID-19 pandemic. Beginning in the first quarter of 2021, there has been a trend in many parts of the world of increasing availability and administration of vaccines against COVID-19, as well as an easing of restrictions on social, business, travel and government activities and functions. On the other hand, infection rates and regulations continue to fluctuate in various regions and there are ongoing global impacts resulting from the pandemic, including challenges and increases in costs for logistics and supply chains, such as increased port congestion, intermittent supplier delays and a shortfall of semiconductor supply. We have been affected by temporary manufacturing closures, employment and compensation adjustments and impediments to administrative activities supporting our product deliveries and deployments.

In addition, we have experienced and are experiencing varying levels of inflation resulting in part from various supply chain disruptions, increased shipping and transportation costs, increased raw material and labor costs and other disruptions caused by the COVID-19 pandemic and general global economic conditions. The inflationary impact on our cost structure has contributed to adjustments in our product pricing, despite a continued focus on reducing our manufacturing costs where possible.

Note 2 – Summary of Significant Accounting Policies

Unaudited Interim Financial Statements

The consolidated balance sheet as of June 30, 2022, the consolidated statements of operations, the consolidated statements of comprehensive income, the consolidated statements of redeemable noncontrolling interests and equity for the three and six months ended June 30, 2022 and 2021 and the consolidated statements of cash flows for the six months ended June 30, 2022 and 2021, as well as other information disclosed in the accompanying notes, are unaudited. The consolidated balance sheet as of December 31, 2021 was derived from the audited consolidated financial statements as of that date. The interim consolidated financial statements and the accompanying notes should be read in conjunction with the annual consolidated financial statements and the accompanying notes contained in our Annual Report on Form 10-K for the year ended December 31, 2021.

The interim consolidated financial statements and the accompanying notes have been prepared on the same basis as the annual consolidated financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair statement of the results of operations for the periods presented. The consolidated results of operations for any interim period are not necessarily indicative of the results to be expected for the full year or for any other future years or interim periods.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures in the accompanying notes.

Due to the COVID-19 pandemic, there has been uncertainty and disruption in the global economy and financial markets which could impact our estimates and assumptions. The estimates used for, but not limited to, determining significant economic incentive for resale value guarantee arrangements, sales return reserves, the collectability of accounts receivable, inventory valuation, warranties, fair value of long-lived assets, goodwill, fair value of financial instruments, fair value and residual value of operating lease vehicles and solar energy systems subject to leases could be impacted. We have assessed the impact and are not aware of any specific events or circumstances that required an update to our estimates and assumptions or materially affected the carrying value of our assets or liabilities as of the date of issuance of this Quarterly Report on Form 10-Q. These estimates may change as new events occur and additional information is obtained. Actual results could differ materially from these estimates under different assumptions or conditions.

Reclassifications

Certain prior period balances have been reclassified to conform to the current period presentation in the consolidated financial statements and the accompanying notes.

Revenue Recognition

Revenue by source

The following table disaggregates our revenue by major source (in millions):

	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Automotive sales without resale value guarantee	$ 13,518	$ 9,332	$ 28,843	$ 17,345
Automotive sales with resale value guarantee	152	188	341	362
Automotive regulatory credits	344	354	1,023	872
Energy generation and storage sales	717	653	1,220	1,036
Services and other	1,466	951	2,745	1,844
Total revenues from sales and services	16,197	11,478	34,172	21,459
Automotive leasing	588	332	1,256	629
Energy generation and storage leasing	149	148	262	259
Total revenues	$ 16,934	$ 11,958	$ 35,690	$ 22,347

Automotive Segment

Automotive Sales Revenue

Automotive Sales with and without Resale Value Guarantee

We recognize revenue when control transfers upon delivery to customers in accordance with ASC 606, *Revenue from Contracts with Customers*, as a sale with a right of return when we do not believe the customer has a significant economic incentive to exercise the resale value guarantee provided to them at contract inception. The total sales return reserve on vehicles sold with resale value guarantees was $130 million and $223 million as of June 30, 2022 and December 31, 2021, respectively, of which $56 million and $91 million was short-term, respectively.

Deferred revenue is related to the access to our Full Self Driving (“FSD”) features, internet connectivity, Supercharger network and over-the-air software updates on automotive sales with and without resale value guarantee, which amounted to $2.66 billion and $2.38 billion as of June 30, 2022 and December 31, 2021, respectively.

Deferred revenue is equivalent to the total transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied, as of the balance sheet date. Revenue recognized from the deferred revenue balance as of December 31, 2021 and 2020 was $121 million and $157 million for the six months ended June 30, 2022 and 2021, respectively. Of the total deferred revenue on automotive sales with and without resale value guarantees as of June 30, 2022, we expect to recognize $1.02 billion of revenue in the next 12 months. The remaining balance will be recognized at the time of transfer of control of the product or over the performance period, which is generally the expected ownership life of the vehicle.

We have been providing loans for financing our automotive deliveries during the six months ended June 30, 2022. We have recorded net financing receivables of $320 million which are presented on the consolidated balance sheets as a component of Accounts receivable, net, for the current portion and as Other non-current assets for the long-term portion, as of June 30, 2022.

Automotive Regulatory Credits

We earn tradable credits in the operation of our automotive business under various regulations related to zero-emission vehicles, greenhouse gas, fuel economy and clean fuel. We sell these credits to other regulated entities who can use the credits to comply with emission standards and other regulatory requirements.

Payments for automotive regulatory credits are typically received at the point control transfers to the customer, or in accordance with payment terms customary to the business. We recognize revenue on the sale of automotive regulatory credits, which have negligible incremental costs associated with them, at the time control of the regulatory credits is transferred to the purchasing party. Deferred revenue related to sales of automotive regulatory credits was immaterial as of June 30, 2022 and December 31, 2021. Revenue recognized from the deferred revenue balance as of December 31, 2021 and 2020 was immaterial for the six months ended June 30, 2022 and 2021. During the six months ended June 30, 2022, we had also recognized $288 million in revenue due to changes in regulation which entitled us to additional consideration for credits sold previously.

Automotive Leasing Revenue

Direct Sales-Type Leasing Program

For the three and six months ended June 30, 2022, we recognized $133 million and $398 million, respectively, of sales-type leasing revenue and $82 million and $246 million, respectively, of sales-type leasing cost of revenue. For the three and six months ended June 30, 2021, we recognized $55 million and $97 million, respectively, of sales-typing leasing revenue and $36 million and $62 million, respectively, of sales-type leasing cost of revenue.

Net investment in sales-type leases, which is the sum of the present value of the future contractual lease payments, is presented on the consolidated balance sheets as a component of Prepaid expenses and other current assets for the current portion and as Other non-current assets for the long-term portion. Lease receivables relating to sales-type leases are presented on the consolidated balance sheets as follows (in millions):

	June 30, 2022	December 31, 2021
Gross lease receivables	$ 682	$ 427
Unearned interest income	(79)	(50)
Allowance for expected credit losses	(3)	(1)
Net investment in sales-type leases	$ 600	$ 376
Reported as:		
Prepaid expenses and other current assets	$ 129	$ 73
Other non-current assets	471	303
Net investment in sales-type leases	$ 600	$ 376

Energy Generation and Storage Segment

Energy Generation and Storage Sales

We record as deferred revenue any non-refundable amounts that are collected from customers related to fees charged for prepayments and remote monitoring service and operations and maintenance service, which is recognized as revenue ratably over the respective customer contract term. As of June 30, 2022 and December 31, 2021, deferred revenue related to such customer payments amounted to $678 million and $399 million, respectively. Revenue recognized from the deferred revenue balance as of December 31, 2021 and 2020 was $79 million and $66 million for the six months ended June 30, 2022 and 2021, respectively. As of June 30, 2022, total transaction price allocated to performance obligations that were unsatisfied or partially unsatisfied for contracts with an original expected length of more than one year was $211 million. Of this amount, we expect to recognize $12 million in the next 12 months and the remaining over a period up to 26 years.

We have been providing loans for financing our energy generation products during the six months ended June 30, 2022. We have recorded net financing receivables of $238 million which are presented on the consolidated balance sheets as a component of Accounts receivable, net, for the current portion and as Other non-current assets for the long-term portion, as of June 30, 2022.

Income Taxes

There are transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. As of June 30, 2022 and December 31, 2021, the aggregate balances of our gross unrecognized tax benefits were $601 million and $531 million, respectively, of which $482 million and $473 million, respectively, would not give rise to changes in our effective tax rate since these tax benefits would increase a deferred tax asset that is currently fully offset by a valuation allowance.

The local government of Shanghai granted a beneficial corporate income tax rate of 15% to certain eligible enterprises, compared to the 25% statutory corporate income tax rate in China. Our Gigafactory Shanghai subsidiary was granted this beneficial income tax rate of 15% for 2019 through 2023.

We file income tax returns in the U.S. and various state and foreign jurisdictions. We are currently under examination by the IRS for the years 2015 to 2018. Additional tax years within the periods 2004 to 2014 and 2019 to 2021 remain subject to examination for federal income tax purposes. All net operating losses and tax credits generated to date are subject to adjustment for U.S. federal and state income tax purposes. Our returns for 2004 and subsequent tax years remain subject to examination in U.S. state and foreign jurisdictions.

Given the uncertainty in timing and outcome of our tax examinations, an estimate of the range of the reasonably possible change in gross unrecognized tax benefits within twelve months cannot be made at this time.

Net Income per Share of Common Stock Attributable to Common Stockholders

Basic net income per share of common stock attributable to common stockholders is calculated by dividing net income attributable to common stockholders by the weighted-average shares of common stock outstanding for the period. Potentially dilutive shares, which are based on the weighted-average shares of common stock underlying outstanding stock-based awards, warrants and convertible senior notes using the treasury stock method or the if-converted method, as applicable, are included when calculating diluted net income per share of common stock attributable to common stockholders when their effect is dilutive.

Furthermore, in connection with the offerings of our convertible senior notes, we entered into convertible note hedges and warrants (see Note 10, *Debt*). However, our convertible note hedges are not included when calculating potentially dilutive shares since their effect is always anti-dilutive. The strike price on the warrants were below our average share price during the period and were included in the tables below. Warrants are included in the weighted-average shares used in computing basic net income per share of common stock in the period(s) they are settled.

The following table presents the reconciliation of net income attributable to common stockholders to net income used in computing basic and diluted net income per share of common stock (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Net income attributable to common stockholders	$ 2,259	$ 1,142	$ 5,577	$ 1,580
Less: Buy-out of noncontrolling interest	3	—	8	—
Net income used in computing basic net income per share of common stock	2,256	1,142	5,569	1,580
Less: Dilutive convertible debt	0	(2)	1	(6)
Net income used in computing diluted net income per share of common stock	$ 2,256	$ 1,144	$ 5,568	$ 1,586

The following table presents the reconciliation of basic to diluted weighted average shares used in computing net income per share of common stock attributable to common stockholders (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Weighted average shares used in computing net income per share of common stock, basic	1,037	971	1,036	966
Add:				
Stock-based awards	101	93	103	95
Convertible senior notes	1	10	1	16
Warrants	16	45	16	49
Weighted average shares used in computing net income per share of common stock, diluted	1,155	1,119	1,156	1,126

The following table presents the potentially dilutive shares that were excluded from the computation of diluted net income per share of common stock attributable to common stockholders, because their effect was anti-dilutive (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Stock-based awards	1	1	1	0
Convertible senior notes	—	0	—	1

Restricted Cash

We maintain certain cash balances restricted as to withdrawal or use. Our restricted cash is comprised primarily of cash held to service certain payments under various secured debt facilities. In addition, restricted cash includes cash held as collateral for certain permits as well as sales to lease partners with a resale value guarantee, letters of credit, real estate leases, insurance policies and certain operating leases. We record restricted cash as other assets in the consolidated balance sheets and determine current or non-current classification based on the expected duration of the restriction.

Our total cash and cash equivalents and restricted cash, as presented in the consolidated statements of cash flows, was as follows (in millions):

	June 30, 2022	December 31, 2021	June 30, 2021	December 31, 2020
Cash and cash equivalents	$ 18,324	$ 17,576	$ 16,229	$ 19,384
Restricted cash included in prepaid expenses and other current assets	294	345	326	238
Restricted cash included in other non-current assets	269	223	270	279
Total as presented in the consolidated statements of cash flows	$ 18,887	$ 18,144	$ 16,825	$ 19,901

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable primarily include amounts related to receivables from financial institutions and leasing companies offering various financing products to our customers, sales of energy generation and storage products, sales of regulatory credits to other automotive manufacturers, government rebates already passed through to customers and maintenance services on vehicles owned by leasing companies. We provide an allowance against accounts receivable for the amount we expect to be uncollectible. We write-off accounts receivable against the allowance when they are deemed uncollectible.

Depending on the day of the week on which the end of a fiscal quarter falls, our accounts receivable balance may fluctuate as we are waiting for certain customer payments to clear through our banking institutions and receipts of payments from our financing partners, which can take up to approximately two weeks based on the contractual payment terms with such partners. Our accounts receivable balances associated with our sales of regulatory credits, which are typically transferred to other manufacturers during the last few days of the quarter, is dependent on contractual payment terms. Additionally, government rebates can take up to a year or more to be collected depending on the customary processing timelines of the specific jurisdictions issuing them. These various factors may have a significant impact on our accounts receivable balance from period to period. As of June 30, 2022 and December 31, 2021, we had $759 million and $627 million, respectively, of long-term government rebates receivable in Other non-current assets on our consolidated balance sheets.

MyPower Customer Notes Receivable

As of June 30, 2022 and December 31, 2021, the total outstanding balance of MyPower customer notes receivable, net of allowance for expected credit losses, was $287 million and $299 million, respectively, of which $8 million and $11 million were due in the next 12 months as of June 30, 2022 and December 31, 2021, respectively. As of June 30, 2022 and December 31, 2021, the allowance for expected credit losses was $41 million.

Concentration of Risk

Credit Risk

Financial instruments that potentially subject us to a concentration of credit risk consist of cash, cash equivalents, marketable securities, restricted cash, accounts receivable and other finance receivables. Our cash balances are primarily on deposit at high credit quality financial institutions or invested in money market funds. These deposits are typically in excess of insured limits. As of June 30, 2022 and December 31, 2021, no entity represented 10% or more of our total receivables balance.

Supply Risk

We are dependent on our suppliers, including single source suppliers, and the inability of these suppliers to deliver necessary components of our products in a timely manner at prices, quality levels and volumes acceptable to us, or our inability to efficiently manage these components from these suppliers, could have a material adverse effect on our business, prospects, financial condition and operating results.

Operating Lease Vehicles

The gross cost of operating lease vehicles as of June 30, 2022 and December 31, 2021 was $5.73 billion and $5.28 billion, respectively. Operating lease vehicles on the consolidated balance sheets are presented net of accumulated depreciation of $955 million and $773 million as of June 30, 2022 and December 31, 2021, respectively.

Warranties

We provide a manufacturer's warranty on all new and used vehicles and a warranty on the installation and components of the energy generation and storage systems we sell for periods typically between 10 to 25 years. We accrue a warranty reserve for the products sold by us, which includes our best estimate of the projected costs to repair or replace items under warranties and recalls if identified. These estimates are based on actual claims incurred to date and an estimate of the nature, frequency and costs of future claims. These estimates are inherently uncertain given our relatively short history of sales, and changes to our historical or projected warranty experience may cause material changes to the warranty reserve in the future. The warranty reserve does not include projected warranty costs associated with our vehicles subject to operating lease accounting and our solar energy systems under lease contracts or Power Purchase Agreements ("PPAs"), as the costs to repair these warranty claims are expensed as incurred. The portion of the warranty reserve expected to be incurred within the next 12 months is included within Accrued liabilities and other, while the remaining balance is included within Other long-term liabilities on the consolidated balance sheets. Warranty expense is recorded as a component of Cost of revenues in the consolidated statements of operations. Due to the magnitude of our automotive business, accrued warranty balance is primarily related to our automotive segment. Accrued warranty activity consisted of the following (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Accrued warranty—beginning of period	$ 2,287	$ 1,534	$ 2,101	$ 1,468
Warranty costs incurred	(187)	(125)	(338)	(241)
Net changes in liability for pre-existing warranties, including expirations and foreign exchange impact	14	7	17	6
Provision for warranty	319	275	653	458
Accrued warranty—end of period	$ 2,433	$ 1,691	$ 2,433	$ 1,691

Recent Accounting Pronouncements

Recently issued accounting pronouncements not yet adopted

In October 2021, the Financial Accounting Standards Board ("FASB") issued ASU No. 2021-08, Accounting for Contract Assets and Contract Liabilities from Contracts with Customers (Topic 805). This ASU requires an acquirer in a business combination to recognize and measure contract assets and contract liabilities (deferred revenue) from acquired contracts using the revenue recognition guidance in Topic 606. At the acquisition date, the acquirer applies the revenue model as if it had originated the acquired contracts. The ASU is effective for annual periods beginning after December 15, 2022, including interim periods within those fiscal years. Adoption of the ASU should be applied prospectively. Early adoption is also permitted, including adoption in an interim period. If early adopted, the amendments are applied retrospectively to all business combinations for which the acquisition date occurred during the fiscal year of adoption. This ASU is currently not expected to have a material impact on our consolidated financial statements.

In March 2022, the FASB issued ASU 2022-02, Troubled Debt Restructurings and Vintage Disclosures. This ASU eliminates the accounting guidance for troubled debt restructurings by creditors that have adopted ASU 2016-13, Measurement of Credit Losses on Financial Instruments, which we adopted on January 1, 2020. This ASU also enhances the disclosure requirements for certain loan refinancing and restructurings by creditors when a borrower is experiencing financial difficulty. In addition, the ASU amends the guidance on vintage disclosures to require entities to disclose current period gross write-offs by year of origination for financing receivables and net investments in leases within the scope of ASC 326-20. The ASU is effective for annual periods beginning after December 15, 2022, including interim periods within those fiscal years. Adoption of the ASU would be applied prospectively. Early adoption is also permitted, including adoption in an interim period. This ASU is currently not expected to have a material impact on our consolidated financial statements.

Recently adopted accounting pronouncements

In November 2021, the FASB issued ASU No. 2021-10, Government Assistance (Topic 832). This ASU requires business entities to disclose information about government assistance they receive if the transactions were accounted for by analogy to either a grant or a contribution accounting model. The disclosure requirements include the nature of the transaction and the related accounting policy used, the line items on the balance sheets and statements of operations that are affected and the amounts applicable to each financial statement line item and the significant terms and conditions of the transactions. The ASU is effective for annual periods beginning after December 15, 2021. The disclosure requirements can be applied either retrospectively or prospectively to all transactions in the scope of the amendments that are reflected in the financial statements at the date of initial application and new transactions that are entered into after the date of initial application. We adopted the ASU prospectively on January 1, 2022. The additional annual disclosures required are not expected to have a material impact on our consolidated financial statements.

Note 3 – Digital Assets, Net

During the six months ended June 30, 2022 and 2021, we purchased and/or received an immaterial amount and $1.50 billion, respectively, of digital assets. As of June 30, 2022, we have converted approximately 75% of our purchases into fiat currency. During the three and six months ended June 30, 2022, we recorded impairment loss of $170 million as well as realized gains of $64 million in connection with converting our holdings of digital assets into fiat currency. During the six months ended June 30, 2021, we realized gains of $128 million in connection with converting our holdings of digital assets into fiat currency. During the three and six months ended June 30, 2021, we recorded $23 million and $50 million, respectively, of impairment losses on such digital assets. The gains are presented net of impairment losses in Restructuring and other in the consolidated statements of operations. As of June 30, 2022 and December 31, 2021, the carrying value of our digital assets held was $218 million and $1.26 billion, which reflects cumulative impairments of $169 million and $101 million, each period, respectively. The fair market value of such digital assets held as of June 30, 2022 was $222 million.

Note 4 – Intangible Assets

Information regarding our intangible assets including assets recognized from our acquisitions was as follows (in millions):

	June 30, 2022				December 31, 2021			
	Gross Carrying Amount	Accumulated Amortization	Other	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Other	Net Carrying Amount
Finite-lived intangible assets:								
Developed technology	$ 299	$ (168)	$ 2	$ 133	$ 299	$ (150)	$ 3	$ 152
Trade names	2	(2)	—	—	2	(1)	—	1
Favorable contracts and leases, net	113	(44)	—	69	113	(40)	—	73
Other	36	(22)	1	15	36	(21)	1	16
Total finite-lived intangible assets	450	(236)	3	217	450	(212)	4	242
Indefinite-lived intangible assets:								
Gigafactory Nevada water rights	15	—	—	15	15	—	—	15
Other	9	—	—	9	—	—	—	—
Total infinite-lived intangible assets	24	—	—	24	15	—	—	15
Total intangible assets	$ 474	$ (236)	$ 3	$ 241	$ 465	$ (212)	$ 4	$ 257

Total future amortization expense for finite-lived intangible assets was estimated as follows (in millions):

Six months ending December 31, 2022	$ 25
2023	43
2024	28
2025	28
2026	27
Thereafter	66
Total	$ 217

Note 5 – Fair Value of Financial Instruments

ASC 820*, Fair Value Measurements*, states that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. The three-tiered fair value hierarchy, which prioritizes which inputs should be used in measuring fair value, is comprised of: (Level I) observable inputs such as quoted prices in active markets; (Level II) inputs other than quoted prices in active markets that are observable either directly or indirectly and (Level III) unobservable inputs for which there is little or no market data. The fair value hierarchy requires the use of observable market data when available in determining fair value. Our assets and liabilities that were measured at fair value on a recurring basis were as follows (in millions):

	June 30, 2022				December 31, 2021			
	Fair Value	**Level I**	**Level II**	**Level III**	**Fair Value**	**Level I**	**Level II**	**Level III**
Money market funds	$ 8,032	$ 8,032	$ —	$ —	$ 9,548	$ 9,548	$ —	$ —
U.S. government securities	211	—	211	—	—	—	—	—
Corporate debt securities	580	—	580	—	131	—	131	—
Interest rate swap liabilities	—	—	—	—	31	—	31	—
Total	$ 8,823	$ 8,032	$ 791	$ —	$ 9,710	$ 9,548	$ 162	$ —

All of our money market funds were classified within Level I of the fair value hierarchy because they were valued using quoted prices in active markets. Our U.S. government securities and marketable securities are classified within Level II of the fair value hierarchy and the market approach was used to determine fair value of these investments. Our interest rate swaps were classified within Level II of the fair value hierarchy because they were valued using alternative pricing sources or models that utilized market observable inputs, including current and forward interest rates.

Our cash, cash equivalents and marketable securities classified by security type as of June 30, 2022 and December 31, 2021 consisted of the following (in millions):

	June 30, 2022					
	Adjusted Cost	**Gross Unrealized Gains**	**Gross Unrealized Losses**	**Fair Value**	**Cash and Cash Equivalents**	**Short-Term Marketable Securities**
Cash	$ 10,092	$ —	$ —	$ 10,092	$ 10,092	$ —
Money market funds	8,032	—	—	8,032	8,032	—
U.S. government securities	212	—	(1)	211	200	11
Corporate debt securities	594	1	(15)	580	—	580
Total cash, cash equivalents and short-term marketable securities	$ 18,930	$ 1	$ (16)	$ 18,915	$ 18,324	$ 591

	December 31, 2021					
	Adjusted Cost	**Gross Unrealized Gains**	**Gross Unrealized Losses**	**Fair Value**	**Cash and Cash Equivalents**	**Short-Term Marketable Securities**
Cash	$ 8,028	$ —	$ —	$ 8,028	$ 8,028	$ —
Money market funds	9,548	—	—	9,548	9,548	—
Corporate debt securities	132	—	(1)	131	—	131
Total cash, cash equivalents and short-term marketable securities	$ 17,708	$ —	$ (1)	$ 17,707	$ 17,576	$ 131

We record gross realized gains, losses and credit losses as a component of Other income, net in the consolidated statements of operations. For the three and six months ended June 30, 2022, we did not recognize any material gross realized gains, losses or credit losses. The ending allowance balances for credit losses were immaterial as of June 30, 2022 and December 31, 2021. We have determined that the gross unrealized losses on our marketable securities as of June 30, 2022 and December 31, 2021 were temporary in nature.

The following table summarizes the fair value of our marketable securities by stated contractual maturities as of June 30, 2022 (in millions):

Due in 1 year or less	$	59
Due in 1 year through 5 years		428
Due in 5 years through 10 years		104
Total	$	591

Interest Rate Swaps

We had previously entered into fixed-for-floating interest rate swap agreements to swap variable interest payments on certain debt for fixed interest payments, as required by certain of our lenders. We did not designate our interest rate swaps as hedging instruments. Accordingly, our interest rate swaps were recorded at fair value on the consolidated balance sheets within Other non-current assets or Other long-term liabilities, with any changes in their fair values recognized as Other income, net, in the consolidated statements of operations and with any cash flows recognized as operating activities in the consolidated statements of cash flows. Our interest rate swaps outstanding were as follows (in millions):

	June 30, 2022			December 31, 2021		
	Aggregate Notional Amount	Gross Asset at Fair Value	Gross Liability at Fair Value	Aggregate Notional Amount	Gross Asset at Fair Value	Gross Liability at Fair Value
Interest rate swaps	$ —	$ —	$ —	$ 312	$ —	$ 31

Our interest rate swaps activity was as follows (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Gross losses	$ —	$ 9	$ —	$ 9
Gross gains	$ —	$ —	$ 10	$ 20

Disclosure of Fair Values

Our financial instruments that are not re-measured at fair value include accounts receivable, MyPower customer notes receivable, accounts payable, accrued liabilities, customer deposits and debt. The carrying values of these financial instruments approximate their fair values, other than our 2.375% Convertible Senior Notes due in 2022 (“2022 Notes”), 2.00% Convertible Senior Notes due in 2024 (“2024 Notes”) (collectively referred to as “Convertible Senior Notes” below), and Solar Asset and Loan-backed Notes.

We estimate the fair value of the Convertible Senior Notes using commonly accepted valuation methodologies and market-based risk measurements that are indirectly observable, such as credit risk (Level II). In addition, we estimate the fair values of our Solar Asset and Loan-backed Notes based on rates currently offered for instruments with similar maturities and terms (Level III). The following table presents the estimated fair values and the carrying values (in millions):

	June 30, 2022		December 31, 2021	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Convertible Senior Notes (1)	$ 46	$ 498	$ 119	$ 2,016
Solar Asset and Loan-backed Notes	$ 450	$ 425	$ 827	$ 834

(1)The 2022 Notes were fully settled in the first quarter of 2022.

Note 6 – Inventory

Our inventory consisted of the following (in millions):

	June 30, 2022	December 31, 2021
Raw materials	$ 4,949	$ 2,816
Work in process	1,370	1,089
Finished goods (1)	1,185	1,277
Service parts	604	575
Total	$ 8,108	$ 5,757

(1)Finished goods inventory includes vehicles in transit to fulfill customer orders, new vehicles available for sale, used vehicles, energy storage products and Solar Roof products available for sale.

We write-down inventory for any excess or obsolete inventories or when we believe that the net realizable value of inventories is less than the carrying value. During the three and six months ended June 30, 2022, we recorded write-downs of $23 million and $49 million, respectively, in Cost of revenues in the consolidated statements of operations. During the three and six months ended June 30, 2021, we recorded write-downs of $33 million and $56 million, respectively, in Cost of revenues in the consolidated statements of operations.

Note 7 – Property, Plant and Equipment, Net

Our property, plant and equipment, net, consisted of the following (in millions):

	June 30, 2022	December 31, 2021
Machinery, equipment, vehicles and office furniture	$ 11,749	$ 9,953
Tooling	2,417	2,188
Leasehold improvements	2,018	1,826
Land and buildings	6,406	4,675
Computer equipment, hardware and software	1,746	1,414
Construction in progress	4,544	5,559
	28,880	25,615
Less: Accumulated depreciation	(7,787)	(6,731)
Total	$ 21,093	$ 18,884

Construction in progress is primarily comprised of construction of Gigafactory Berlin-Brandenburg and Gigafactory Texas, expansion of Gigafactory Shanghai and equipment and tooling related to the manufacturing of our products. Completed assets are transferred to their respective asset classes and depreciation begins when an asset is ready for its intended use. Interest on outstanding debt is capitalized during periods of significant capital asset construction and amortized over the useful lives of the related assets. During the three and six months ended June 30, 2022, we capitalized interest of an immaterial amount. During the three and six months ended June 30, 2021, we capitalized $23 million and $38 million, respectively, of interest.

Depreciation expense during the three and six months ended June 30, 2022 was $578 million and $1.13 billion, respectively. Depreciation expense during the three and six months ended June 30, 2021 was $461 million and $885 million, respectively. Gross property, plant and equipment under finance leases as of June 30, 2022 and December 31, 2021 was $2.77 billion and $2.75 billion, respectively, with accumulated depreciation of $1.44 billion and $1.21 billion, respectively.

Panasonic has partnered with us on Gigafactory Nevada with investments in the production equipment that it uses to manufacture and supply us with battery cells. Under our arrangement with Panasonic, we plan to purchase the full output from their production equipment at negotiated prices. As the terms of the arrangement convey a finance lease under ASC 842, *Leases*, we account for their production equipment as leased assets when production commences. We account for each lease and any non-lease components associated with that lease as a single lease component for all asset classes, except production equipment classes embedded in supply agreements. This results in us recording the cost of their production equipment within Property, plant and equipment, net, on the consolidated balance sheets with a corresponding liability recorded to debt and finance leases. Depreciation on Panasonic production equipment is computed using the units-of-production method whereby capitalized costs are amortized over the total estimated productive life of the respective assets. As of June 30, 2022 and December 31, 2021, we had cumulatively capitalized gross costs of $2.01 billion and $1.98 billion, respectively, on the consolidated balance sheets in relation to the production equipment under our Panasonic arrangement.

Note 8 – Accrued Liabilities and Other

Our accrued liabilities and other current liabilities consisted of the following (in millions):

	June 30, 2022	December 31, 2021
Accrued purchases (1)	$ 2,130	$ 2,045
Taxes payable (2)	1,045	1,122
Payroll and related costs	1,077	906
Accrued warranty reserve, current portion	778	703
Sales return reserve, current portion	257	265
Operating lease liabilities, current portion	413	368
Other current liabilities	337	310
Total	$ 6,037	$ 5,719

(1)Accrued purchases primarily reflects receipts of goods and services for which we had not yet been invoiced. As we are invoiced for these goods and services, this balance will reduce and accounts payable will increase.

(2)Taxes payable includes value added tax, sales tax, property tax, use tax and income tax payables.

Note 9 – Other Long-Term Liabilities

Our other long-term liabilities consisted of the following (in millions):

	June 30, 2022	December 31, 2021
Operating lease liabilities	$ 1,822	$ 1,671
Accrued warranty reserve	1,655	1,398
Sales return reserve	74	133
Deferred tax liability	22	24
Other non-current liabilities	353	320
Total other long-term liabilities	$ 3,926	$ 3,546

Note 10 – Debt

The following is a summary of our debt and finance leases as of June 30, 2022 (in millions):

	Net Carrying Value		Unpaid Principal Balance	Unused Committed Amount (1)	Contractual Interest Rates	Contractual Maturity Date
	Current	Long-Term				
Recourse debt:						
2024 Notes	$ 1	$ 45	$ 46	$ —	2.00 %	May 2024
Credit Agreement	—	—	—	2,265	Not applicable	July 2023
Solar Bonds	0	7	7	—	4.70-5.75 %	March 2025-January 2031
Total recourse debt	1	52	53	2,265		
Non-recourse debt:						
Automotive Asset-backed Notes	1,021	1,216	2,244	—	0.36-5.48 %	October 2022-September 2025
Solar Asset and Loan-backed Notes	12	438	459	—	4.12-7.74 %	December 2026-February 2048
Cash Equity Debt	23	376	411	—	5.25-5.81 %	July 2033-January 2035
Automotive Lease-backed Credit Facilities	—	—	—	152	Not applicable	September 2023
Other Loans	—	13	13	21	5.10 %	February 2033
Total non-recourse debt	1,056	2,043	3,127	173		
Total debt	1,057	2,095	$ 3,180	$ 2,438		
Finance leases	475	803				
Total debt and finance leases	$ 1,532	$ 2,898				

The following is a summary of our debt and finance leases as of December 31, 2021 (in millions):

	Net Carrying Value Current	Net Carrying Value Long-Term	Unpaid Principal Balance	Unused Committed Amount (1)	Contractual Interest Rates	Contractual Maturity Date
Recourse debt:						
2022 Notes	$ 29	$ —	$ 29	$ —	2.375 %	March 2022
2024 Notes	1	89	91	—	2.00 %	May 2024
Credit Agreement	—	1,250	1,250	920	3.25 %	July 2023
Solar Bonds	0	7	7	—	4.00-5.75 %	January 2022 - January 2031
Total recourse debt	30	1,346	1,377	920		
Non-recourse debt:						
Automotive Asset-backed Notes	1,007	1,706	2,723	—	0.12%-5.48 %	September 2022-September 2025
Solar Asset and Loan-backed Notes	27	800	844	—	2.87%-7.74 %	September 2024-September 2049
Cash Equity Debt	24	388	422	—	5.25-5.81 %	July 2033-January 2035
Automotive Lease-backed Credit Facilities	—	—	—	167	Not applicable	September 2023
Other Loans	—	14	14	21	5.10 %	February 2033
Total non-recourse debt	1,058	2,908	4,003	188		
Total debt	1,088	4,254	$ 5,380	$ 1,108		
Finance leases	501	991				
Total debt and finance leases	$ 1,589	$ 5,245				

(1)There are no restrictions on draw-down or use for general corporate purposes with respect to any available committed funds under our credit facilities, except certain specified conditions prior to draw-down, including pledging to our lenders sufficient amounts of qualified receivables, inventories, leased vehicles and our interests in those leases or various other assets and as may be described below and in the notes to the consolidated financial statements included in our report on Form 10-K for the year ended December 31, 2021.

Recourse debt refers to debt that is recourse to our general assets. Non-recourse debt refers to debt that is recourse to only assets of our subsidiaries. The differences between the unpaid principal balances and the net carrying values are due to debt discounts or deferred financing costs. As of June 30, 2022, we were in material compliance with all financial debt covenants.

2022 Notes and 2024 Notes

During the first two quarters of 2022, the closing price of our common stock continued to exceed 130% of the applicable conversion price of our 2024 Notes on at least 20 of the last 30 consecutive trading days of the quarter, causing the 2024 Notes to be convertible by their holders during the second and third quarters of 2022. Should the closing price conditions continue to be met in a future quarter for the 2024 Notes, the 2024 Notes will be convertible at their holders' option during the immediately following quarter.

During the first two quarters of 2022, $29 million and $45 million in aggregate principal amount of the 2022 Notes and 2024 Notes, respectively, were converted and settled in cash for their par amount, and the issuance of 0.4 million and 0.7 million shares of our common stock for the applicable conversion premium, respectively. The note hedges we entered into in connection with the issuance of the 2022 Notes and 2024 Notes were automatically settled with the respective conversions of the 2022 Notes and 2024 Notes, resulting in the receipt of 0.4 million and 0.7 million shares of our common stock, respectively. In March 2022, the 2022 Notes were fully settled.

Solar Asset and Loan-backed Notes

During the first two quarters of 2022, we early repaid $380 million in aggregate principal of the Solar Asset and Loan-backed Notes and recorded an extinguishment of debt charge of $11 million related to the early repayments in Interest expense in the consolidated statement of operations.

Interest Expense

The following table presents the interest expense related to the contractual interest coupon and the amortization of debt issuance costs, which include the 1.25% Convertible Senior Notes due in 2021 (fully settled in March 2021), the 2022 Notes (fully settled in March 2022) and the 2024 Notes (in millions):

	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Contractual interest coupon	$ 0	$ 3	$ 1	$ 10
Amortization of debt issuance costs	0	1	1	3
Total	$ 0	$ 4	$ 2	$ 13

Note 11 – Equity Incentive Plans

2018 CEO Performance Award

In March 2018, our stockholders approved the Board of Directors' grant of 101.3 million stock option awards, as adjusted to give effect to the five-for-one stock split effected in the form of a stock dividend in August 2020 ("Stock Split"), to our CEO (the "2018 CEO Performance Award"). The 2018 CEO Performance Award consists of 12 vesting tranches with a vesting schedule based entirely on the attainment of both operational milestones (performance conditions) and market conditions, assuming continued employment either as the CEO or as both Executive Chairman and Chief Product Officer and service through each vesting date. Each of the 12 vesting tranches of the 2018 CEO Performance Award will vest upon certification by the Board of Directors that both (i) the market capitalization milestone for such tranche, which begins at $100.0 billion for the first tranche and increases by increments of $50.0 billion thereafter (based on both a six calendar month trailing average and a 30 calendar day trailing average, counting only trading days), has been achieved, and (ii) any one of the following eight operational milestones focused on total revenue or any one of the eight operational milestones focused on Adjusted EBITDA have been achieved for the four consecutive fiscal quarters on an annualized basis and subsequently reported by us in our consolidated financial statements filed with our Forms 10-Q and/or 10-K. Adjusted EBITDA is defined as net income (loss) attributable to common stockholders before interest expense, provision (benefit) for income taxes, depreciation and amortization and stock-based compensation. Upon vesting and exercise, including the payment of the exercise price of $70.01 per share, our CEO must hold shares that he acquires for five years post-exercise, other than a cashless exercise where shares are simultaneously sold to pay for the exercise price and any required tax withholding.

The achievement status of the operational milestones as of June 30, 2022 is provided below. Although an operational milestone is deemed achieved in the last quarter of the relevant annualized period, it may be certified only after the financial statements supporting its achievement have been filed with our Forms 10-Q and/or 10-K.

Total Annualized Revenue			Annualized Adjusted EBITDA		
Milestone (in billions)		Achievement Status	Milestone (in billions)		Achievement Status
$	20.0	Achieved	$	1.5	Achieved
$	35.0	Achieved	$	3.0	Achieved
$	55.0	Achieved	$	4.5	Achieved
$	75.0	Probable	$	6.0	Achieved
$	100.0	-	$	8.0	Achieved
$	125.0	-	$	10.0	Achieved
$	150.0	-	$	12.0	Achieved
$	175.0	-	$	14.0	Achieved

Stock-based compensation under the 2018 CEO Performance Award represents a non-cash expense and is recorded as a Selling, general, and administrative operating expense in our consolidated statements of operations. In each quarter since the grant of the 2018 CEO Performance Award, we have recognized expense, generally on a pro-rated basis, for only the number of tranches (up to the maximum of 12 tranches) that corresponds to the number of operational milestones that have been achieved or have been determined probable of being achieved in the future, in accordance with the following principles.

On the grant date, a Monte Carlo simulation was used to determine for each tranche (i) a fixed amount of expense for such tranche and (ii) the future time when the market capitalization milestone for such tranche was expected to be achieved, or its "expected market capitalization milestone achievement time." Separately, based on a subjective assessment of our future financial performance, each quarter we determine whether it is probable that we will achieve each operational milestone that has not previously been achieved or deemed probable of achievement and if so, the future time when we expect to achieve that operational milestone, or its "expected operational milestone achievement time." When we first determine that an operational milestone has become probable of being achieved, we allocate the entire expense for the related tranche over the number of quarters between the grant date and the then-applicable "expected full achievement time." The "expected full achievement time" at any given time is the later of (i) the expected operational milestone achievement time (if the related operational milestone has not yet been achieved) and (ii) the expected market capitalization milestone achievement time (if the related market capitalization milestone had not yet been achieved). We immediately recognize a catch-up expense for all accumulated expense for the quarters from the grant date through the quarter in which the operational milestone was first deemed probable of being achieved. Each quarter thereafter, we recognize the prorated portion of the then-remaining expense for the tranche based on the number of quarters between such quarter and the then-applicable expected full achievement time, except that upon the achievement of both a market capitalization milestone and operational milestone with respect to a tranche, all remaining expense for that tranche is immediately recognized.

As a result, we have experienced significant catch-up expenses in quarters when one or more operational milestones were first determined to be probable of achievement. Historically, the expected market capitalization achievement times were generally later than the related expected operational milestone achievement times. Therefore, when market capitalization milestones were achieved earlier than originally forecasted due to periods of rapid stock price appreciation, we had higher catch-up expenses and the remaining expenses were being recognized over shorter periods of time at a higher per-quarter rate. All market capitalization milestones were achieved as of the second quarter of 2021.

During the first quarter of 2022, three operational milestones were achieved and consequently, we recognized an aggregate catch-up expense of $11 million.

As of June 30, 2022, we had $9 million of total unrecognized stock-based compensation expense remaining, which will be recognized over a weighted-average period of 0.3 years. For the three and six months ended June 30, 2022, we recorded stock-based compensation expense of $8 million and $57 million, respectively, related to the 2018 CEO Performance Award, and $176 million and $475 million, respectively, for the same periods in 2021.

Other Performance-Based Grants

2021 Performance-Based Stock Option & Restricted Stock Unit ("RSU") Awards

During the fourth quarter of 2021, the Compensation Committee of our Board of Directors granted to certain employees RSUs and stock options to purchase an aggregate 0.7 million shares of our common stock to create incentives for continued long-term success and to closely align compensation with our stockholders' interests in the achievement of certain performance milestones by our company.

We begin recording stock-based compensation expense when the performance milestones become probable of achievement. Following achievement, vesting occurs over a two-year period with continued employment. During the first quarter of 2022, the performance milestones related to this grant became probable of achievement and consequently, we recognized an aggregate catch-up expense of $30 million. As of June 30, 2022, we had unrecognized stock-based compensation expense of $283 million, which will be recognized over a weighted-average period of 3 years. For the three and six months ended June 30, 2022, we recorded $34 million and $103 million, respectively, of stock-based compensation expense related to this grant, net of forfeitures.

Summary Stock-Based Compensation Information

The following table summarizes our stock-based compensation expense by line item in the consolidated statements of operations (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Cost of revenues	$ 143	$ 108	$ 274	$ 211
Research and development	122	104	265	229
Selling, general and administrative	96	262	240	648
Total	$ 361	$ 474	$ 779	$ 1,088

Our income tax benefits recognized from stock-based compensation arrangements in each of the periods presented were immaterial due to cumulative losses and valuation allowances.

Note 12 – Commitments and Contingencies

Operating Lease Arrangement in Buffalo, New York

We have an operating lease through the Research Foundation for the State University of New York (the "SUNY Foundation") with respect to Gigafactory New York. Under the lease and a related research and development agreement, we are continuing to further develop the facility.

Under this agreement, we are obligated to, among other things, meet employment targets as well as specified minimum numbers of personnel in the State of New York and in Buffalo, New York and spend or incur $5.00 billion in combined capital, operational expenses, costs of goods sold and other costs in the State of New York during the 10-year period beginning April 30, 2018. On an annual basis during the initial lease term, as measured on each anniversary of such date, if we fail to meet these specified investment and job creation requirements, then we would be obligated to pay a $41 million "program payment" to the SUNY Foundation for each year that we fail to meet these requirements. Furthermore, if the arrangement is terminated due to a material breach by us, then additional amounts may become payable by us.

As we temporarily suspended most of our manufacturing operations at Gigafactory New York pursuant to a New York State executive order issued in March 2020 as a result of the COVID-19 pandemic, we were granted a deferral of our obligation to be compliant with our applicable targets through December 31, 2021 in an amendment memorialized in August 2021. The amendment also extended our overall agreement to spend or incur $5.00 billion in combined capital, operational expenses, costs of goods sold and other costs in the State of New York through December 31, 2029. On February 1, 2022, we reported to the State of New York that we had met and exceeded our annual requirements for jobs and investment in Buffalo and New York State. As of June 30, 2022, we are currently in excess of such targets relating to investments and personnel in the State of New York and Buffalo and do not currently expect any issues meeting our applicable obligations following this expected deferral or in the years beyond. However, if our expectations as to the costs and timelines of our investment and operations at Buffalo or our production ramp of the Solar Roof prove incorrect, we may incur additional expenses or be required to make substantial payments to the SUNY Foundation.

Operating Lease Arrangement in Shanghai, China

We have an operating lease arrangement for an initial term of 50 years with the local government of Shanghai for land use rights where we are constructing Gigafactory Shanghai. Under the terms of the arrangement, we are required to spend RMB 14.08 billion in capital expenditures by the end of 2023 and to generate RMB 2.23 billion of annual tax revenues starting at the end of 2023. If we are unwilling or unable to meet such target or obtain periodic project approvals, in accordance with the Chinese government's standard terms for such arrangements, we would be required to revert the site to the local government and receive compensation for the remaining value of the land lease, buildings and fixtures. We expect to meet the capital expenditure and tax revenue requirements based on our current level of spend and sales.

Legal Proceedings

Litigation Relating to the SolarCity Acquisition

Between September 1, 2016 and October 5, 2016, seven lawsuits were filed in the Delaware Court of Chancery by purported stockholders of Tesla challenging our acquisition of SolarCity Corporation ("SolarCity"). Following consolidation, the lawsuit names as defendants the members of Tesla's board of directors as then constituted and alleges, among other things, that board members breached their fiduciary duties in connection with the acquisition. The complaint asserts both derivative claims and direct claims on behalf of a purported class and seeks, among other relief, unspecified monetary damages, attorneys' fees and costs. On January 22, 2020, all of the director defendants except Elon Musk reached a settlement to resolve the lawsuit against them for an amount to be paid entirely under the applicable insurance policy. The settlement, which does not involve an admission of any wrongdoing by any party, was approved by the Court on August 17, 2020. Tesla received payment of approximately $43 million on September 16, 2020, which has been recognized in our consolidated statements of operations as a reduction to Selling, general and administrative operating expenses for costs previously incurred related to the acquisition of SolarCity. On February 4, 2020, the Court issued a ruling that denied plaintiffs' previously-filed motion for summary judgment and granted in part and denied in part defendants' previously-filed motion for summary judgment. The case was set for trial in March 2020 until it was postponed by the Court due to safety precautions concerning COVID-19. The trial was held from July 12 to July 23, 2021 and on August 16, 2021. On October 22, 2021, the Court approved the parties' joint stipulation that (a) the class is decertified and the action shall continue exclusively as a derivative action under Court of Chancery Rule 23.1 and (b) the direct claims against Elon Musk are dismissed with prejudice. Following post-trial briefing, post-trial argument was held on January 18, 2022.

On April 27, 2022, the Court entered judgment in favor of Mr. Musk on all counts. On May 26, 2022, the plaintiff filed a notice of appeal. The parties are in the process of submitting briefing before the Supreme Court of Delaware.

These plaintiffs and others filed parallel actions in the U.S. District Court for the District of Delaware on or about April 21, 2017. They include claims for violations of the federal securities laws and breach of fiduciary duties by Tesla's board of directors. Those actions have been consolidated and stayed pending the above-referenced Chancery Court litigation.

Litigation Relating to 2018 CEO Performance Award

On June 4, 2018, a purported Tesla stockholder filed a putative class and derivative action in the Delaware Court of Chancery against Elon Musk and the members of Tesla's board of directors as then constituted, alleging corporate waste, unjust enrichment and that such board members breached their fiduciary duties by approving the stock-based compensation plan awarded to Elon Musk in 2018. The complaint seeks, among other things, monetary damages and rescission or reformation of the stock-based compensation plan. On August 31, 2018, defendants filed a motion to dismiss the complaint; plaintiff filed its opposition brief on November 1, 2018; and defendants filed a reply brief on December 13, 2018. The hearing on the motion to dismiss was held on May 9, 2019. On September 20, 2019, the Court granted the motion to dismiss as to the corporate waste claim but denied the motion as to the breach of fiduciary duty and unjust enrichment claims. Defendants' answer was filed on December 3, 2019.

On January 25, 2021, the Court conditionally certified certain claims and a class of Tesla stockholders as a class action. On September 30, 2021, plaintiff filed a motion for leave to file a verified amended derivative complaint. On October 1, 2021, defendants Kimbal Musk and Steve Jurvetson moved for summary judgment as to the claims against them. Following the motion, plaintiff agreed to voluntarily dismiss the claims against Kimbal Musk and Steve Jurvetson. Plaintiff also moved for summary judgment on October 1, 2021. On October 27, 2021, the Court approved the parties' joint stipulation that, among other things, (a) all claims against Kimbal Musk and Steve Jurvetson in the Complaint are dismissed with prejudice; (b) the class is decertified and the action shall continue exclusively as a derivative action under Court of Chancery Rule 23.1; and (c) the direct claims against the remaining defendants are dismissed with prejudice. On November 18, 2021, the remaining defendants (a) moved for partial summary judgment, (b) opposed plaintiff's summary judgment motion and (c) opposed the plaintiff's motion to amend his complaint. In January 2022, the case was assigned to a different judge. On February 24, 2022, the court (i) granted plaintiff's motion to amend his complaint, and (ii) canceled oral argument on the summary judgment motions, stating that the court is "skeptical that this litigation can be resolved based on the undisputed facts" and the "case is going to trial," but that the "parties may reassert their arguments made in support of summary judgment in their pre-trial and post-trial briefs." Trial is currently set for October 24-31, 2022.

Litigation Related to Directors' Compensation

On June 17, 2020, a purported Tesla stockholder filed a derivative action in the Delaware Court of Chancery, purportedly on behalf of Tesla, against certain of Tesla's current and former directors regarding compensation awards granted to Tesla's directors, other than Elon Musk, between 2017 and 2020. The suit asserts claims for breach of fiduciary duty and unjust enrichment and seeks declaratory and injunctive relief, unspecified damages and other relief. Defendants filed their answer on September 17, 2020. Trial is set for September 11, 2023.

Litigation Relating to Potential Going Private Transaction

Between August 10, 2018 and September 6, 2018, nine purported stockholder class actions were filed against Tesla and Elon Musk in connection with Mr. Musk's August 7, 2018 Twitter post that he was considering taking Tesla private. All of the suits are now pending in the U.S. District Court for the Northern District of California. Although the complaints vary in certain respects, they each purport to assert claims for violations of federal securities laws related to Mr. Musk's statement and seek unspecified compensatory damages and other relief on behalf of a purported class of purchasers of Tesla's securities. Plaintiffs filed their consolidated complaint on January 16, 2019 and added as defendants the members of Tesla's board of directors. The now-consolidated purported stockholder class action was stayed while the issue of selection of lead counsel was briefed and argued before the Ninth Circuit. The Ninth Circuit ruled regarding lead counsel. Defendants filed a motion to dismiss the complaint on November 22, 2019. The hearing on the motion was held on March 6, 2020. On April 15, 2020, the Court denied defendants' motion to dismiss. The parties stipulated to certification of a class of stockholders, which the court granted on November 25, 2020. On January 11, 2022, plaintiff filed a motion for partial summary judgment. On April 1, 2022, the Court granted in part plaintiffs' motion for partial summary judgment. The Company disagrees with the ruling and accordingly, on April 22, 2022, asked the Court for reconsideration or, in the alternative, certification to file an interlocutory appeal. On June 16, 2022, in response to Tesla's motions, the Court denied certification to appeal and declined to reconsider its opinion but clarified its summary judgment ruling to make clear that it had not ruled that any misstatements it identified met the required materiality element under the securities statute. The issue of materiality and reliance will both be questions for the jury to decide at trial, which is set for January 17, 2023.

Between October 17, 2018 and March 8, 2021, seven derivative lawsuits were filed in the Delaware Court of Chancery, purportedly on behalf of Tesla, against Mr. Musk and the members of Tesla's board of directors, as constituted at relevant times, in relation to statements made and actions connected to a potential going private transaction, with certain of the lawsuits challenging additional Twitter posts by Mr. Musk, among other things. Five of those actions were consolidated, and all seven actions have been stayed pending resolution of the above-referenced consolidated purported stockholder class action. In addition to these cases, two derivative lawsuits were filed on October 25, 2018 and February 11, 2019 in the U.S. District Court for the District of Delaware, purportedly on behalf of Tesla, against Mr. Musk and the members of the Tesla board of directors as then constituted. Those cases have also been consolidated and stayed pending resolution of the above-referenced consolidated purported stockholder class action.

Unless otherwise stated, the individual defendants named in the stockholder proceedings described above and the Company with respect to the stockholder class action proceedings described above believe that the claims in such proceedings have no merit and intend to defend against them vigorously. We are unable to reasonably estimate the possible loss or range of loss, if any, associated with these claims.

On November 15, 2021, JPMorgan Chase Bank ("JP Morgan") filed a lawsuit against Tesla in the Southern District of New York alleging breach of a stock warrant agreement that was entered into as part of a convertible notes offering in 2014. In 2018, JP Morgan informed Tesla that it had adjusted the strike price based upon Mr. Musk's August 7, 2018 Twitter post that he was considering taking Tesla private. Tesla disputed JP Morgan's adjustment as a violation of the parties' agreement. In 2021, Tesla delivered shares to JP Morgan per the agreement, which they duly accepted. JP Morgan now alleges that it is owed approximately $162 million as the value of additional shares that it claims should have been delivered as a result of the adjustment to the strike price in 2018. On January 24, 2022, Tesla filed multiple counterclaims as part of its answer to the underlying lawsuit, asserting among other points that JP Morgan should have terminated the stock warrant agreement in 2018 rather than make an adjustment to the strike price that it should have known would lead to a commercially unreasonable result. Tesla believes that the adjustments made by JP Morgan were neither proper nor commercially reasonable, as required under the stock warrant agreements. JP Morgan filed a motion for judgment on the pleadings, which Tesla opposed, and that motion is currently pending before the Court.

Litigation and Investigations Relating to Alleged Discrimination and Harassment

On October 4, 2021, in a case captioned *Diaz v. Tesla*, a jury in the Northern District of California returned a verdict of $136.9 million against Tesla on claims by a former contingent worker that he was subjected to race discrimination while assigned to work at Tesla's Fremont Factory from 2015-2016. On November 16, 2021, Tesla filed a post-trial motion for relief that included a request for a new trial or reduction of the jury's damages. The Court held a hearing on Tesla's motion on January 19, 2022. On April 13, 2022, the Court granted Tesla's motion in part, reducing the total damages to $15 million and conditionally denied the motion for a new trial subject to the plaintiff's acceptance of the reduced award. On June 21, 2022, the plaintiff rejected the reduced award and, as a result, on June 27, 2022, the Court ordered a new trial to commence on March 27, 2023. Tesla continues to believe that the facts and law do not justify the damages awarded and is assessing its next steps.

On February 9, 2022, shortly after the *Diaz* jury verdict, the California Department of Fair Employment and Housing ("DFEH") filed a civil complaint against Tesla (and filed an amended complaint on March 11, 2022) in Alameda County, California Superior Court, alleging systemic race discrimination, hostile work environment and pay equity claims, among others. DFEH's amended complaint seeks monetary damages and injunctive relief. On April 18, 2022, Tesla filed a: (1) motion to stay the case, (2) motion to strike and (3) demurrer seeking dismissal of the lawsuit or, in the alternative, certain claims. On June 8, 2022, the Court denied Tesla's motion to stay the case. A hearing on the motion to strike and the demurrer seeking dismissal of the lawsuit is scheduled for August 24, 2022.

Additionally, on June 1, 2022 the EEOC issued a cause finding against Tesla that closely parallels the DFEH's allegations. Tesla will begin the mandatory pre-filing conciliation process with the EEOC.

On June 16, 2022, two Tesla stockholders filed separate derivative actions in the U.S. District Court for the Western District of Texas, purportedly on behalf of Tesla, against certain of Tesla's current and former directors. Both suits assert claims for breach of fiduciary duty, unjust enrichment, and violation of the federal securities laws in connection with alleged race and gender discrimination and sexual harassment. Among other things, plaintiffs seek declaratory and injunctive relief, unspecified damages payable to Tesla, and attorneys' fees. We anticipate that the directors will move to dismiss both actions because neither shareholder made a demand upon the Tesla's board of directors prior to filing suit.

Certain Investigations and Other Matters

We receive requests for information from regulators and governmental authorities, such as the National Highway Traffic Safety Administration, the National Transportation Safety Board, the SEC, the Department of Justice ("DOJ") and various state, federal, and international agencies. We routinely cooperate with such regulatory and governmental requests, including subpoenas, formal and informal requests and other investigations and inquiries.

For example, the SEC had issued subpoenas to Tesla in connection with Elon Musk's prior statement that he was considering taking Tesla private. The take-private investigation was resolved and closed with a settlement entered into with the SEC in September 2018 and as further clarified in April 2019 in an amendment. On November 16, 2021, and June 13, 2022, the SEC issued subpoenas to us seeking information on our governance processes around compliance with the SEC settlement, as amended.

Separately, the DOJ previously asked us to voluntarily provide it with information about the above matter related to taking Tesla private and Model 3 production rates. We have not received any further requests from DOJ on these matters since we last provided information in May 2019. There have not been any additional developments in these matters that we deem to be material, and to our knowledge no government agency in any ongoing investigation has concluded that any wrongdoing occurred. As is our normal practice, we have been cooperating and will continue to cooperate with government authorities. We cannot predict the outcome or impact of any ongoing matters. Should the government decide to pursue an enforcement action, there exists the possibility of a material adverse impact on our business, results of operation, prospects, cash flows and financial position.

We are also subject to various other legal proceedings and claims that arise from the normal course of business activities. If an unfavorable ruling or development were to occur, there exists the possibility of a material adverse impact on our business, results of operations, prospects, cash flows, financial position and brand.

Indemnifications

We are contractually obligated to compensate certain fund investors for any losses that they may suffer in certain limited circumstances resulting from reductions in investment tax credits claimed under U.S. federal laws for the installation of solar power facilities and energy storage systems that are charged from a co-sited solar power facility. We believe that any payments to the fund investors in excess of the amounts already recognized by us for this obligation are not probable or material based on the facts known at the filing date.

We are eligible to receive certain state and local incentives that are associated with renewable energy generation. The amount of incentives that can be claimed is based on the projected or actual solar energy system size and/or the amount of solar energy produced. We also currently participate in one state's incentive program that is based on either the fair market value or the tax basis of solar energy systems placed in service. State and local incentives received are allocated between us and fund investors in accordance with the contractual provisions of each fund. We are not contractually obligated to indemnify any fund investor for any losses they may incur due to a shortfall in the amount of state or local incentives actually received.

Note 13 – Variable Interest Entity Arrangements

We have entered into various arrangements with investors to facilitate the funding and monetization of our solar energy systems and vehicles. In particular, our wholly owned subsidiaries and fund investors have formed and contributed cash and assets into various financing funds and entered into related agreements. We have determined that the funds are variable interest entities ("VIEs") and we are the primary beneficiary of these VIEs by reference to the power and benefits criterion under ASC 810, *Consolidation*. We have considered the provisions within the agreements, which grant us the power to manage and make decisions that affect the operation of these VIEs, including determining the solar energy systems and the associated customer contracts to be sold or contributed to these VIEs, redeploying solar energy systems and managing customer receivables. We consider that the rights granted to the fund investors under the agreements are more protective in nature rather than participating.

As the primary beneficiary of these VIEs, we consolidate in the financial statements the financial position, results of operations and cash flows of these VIEs, and all intercompany balances and transactions between us and these VIEs are eliminated in the consolidated financial statements. Cash distributions of income and other receipts by a fund, net of agreed upon expenses, estimated expenses, tax benefits and detriments of income and loss and tax credits, are allocated to the fund investor and our subsidiary as specified in the agreements.

Generally, our subsidiary has the option to acquire the fund investor's interest in the fund for an amount based on the market value of the fund or the formula specified in the agreements.

Upon the sale or liquidation of a fund, distributions would occur in the order and priority specified in the agreements.

Pursuant to management services, maintenance and warranty arrangements, we have been contracted to provide services to the funds, such as operations and maintenance support, accounting, lease servicing and performance reporting. In some instances, we have guaranteed payments to the fund investors as specified in the agreements. A fund's creditors have no recourse to our general credit or to that of other funds. None of the assets of the funds had been pledged as collateral for their obligations.

The aggregate carrying values of the VIEs' assets and liabilities, after elimination of any intercompany transactions and balances, in the consolidated balance sheets were as follows (in millions):

	June 30, 2022	December 31, 2021
Assets		
Current assets		
Cash and cash equivalents	$ 65	$ 79
Accounts receivable, net	45	22
Prepaid expenses and other current assets	301	152
Total current assets	411	253
Solar energy systems, net	3,924	4,108
Other non-current assets	388	265
Total assets	$ 4,723	$ 4,626
Liabilities		
Current liabilities		
Accrued liabilities and other	$ 66	$ 74
Deferred revenue	10	10
Current portion of debt and finance leases	1,045	1,031
Total current liabilities	1,121	1,115
Deferred revenue, net of current portion	143	153
Debt and finance leases, net of current portion	1,592	2,093
Other long-term liabilities	11	11
Total liabilities	$ 2,867	$ 3,372

Note 14 – Segment Reporting and Information about Geographic Areas

We have two operating and reportable segments: (i) automotive and (ii) energy generation and storage. The automotive segment includes the design, development, manufacturing, sales and leasing of electric vehicles as well as sales of automotive regulatory credits. Additionally, the automotive segment is also comprised of services and other, which includes non-warranty after-sales vehicle services, sales of used vehicles, retail merchandise, sales by our acquired subsidiaries to third party customers and vehicle insurance revenue. The energy generation and storage segment includes the design, manufacture, installation, sales and leasing of solar energy generation and energy storage products and related services and sales of solar energy systems incentives. Our CODM does not evaluate operating segments using asset or liability information. The following table presents revenues and gross profit by reportable segment (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Automotive segment				
Revenues	$ 16,068	$ 11,157	$ 34,208	$ 21,052
Gross profit	$ 4,137	$ 2,864	$ 9,669	$ 5,180
Energy generation and storage segment				
Revenues	$ 866	$ 801	$ 1,482	$ 1,295
Gross profit	$ 97	$ 20	$ 25	$ (81)

The following table presents revenues by geographic area based on the sales location of our products (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
United States	$ 9,614	$ 5,205	$ 18,348	$ 9,629
China	3,787	2,859	8,437	5,902
Other	3,533	3,894	8,905	6,816
Total	$ 16,934	$ 11,958	$ 35,690	$ 22,347

The following table presents long-lived assets by geographic area (in millions):

	June 30, 2022	December 31, 2021
United States	$ 20,278	$ 19,026
Germany	3,186	2,606
China	2,561	2,415
Other International	692	602
Total	$ 26,717	$ 24,649

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

The following discussion and analysis should be read in conjunction with the consolidated financial statements and the related notes included elsewhere in this Quarterly Report on Form 10-Q.

Overview

Our mission is to accelerate the world's transition to sustainable energy. We design, develop, manufacture, lease and sell high-performance fully electric vehicles, solar energy generation systems and energy storage products. We also offer maintenance, installation, operation, financial and other services related to our products. Additionally, we are increasingly focused on products and services based on artificial intelligence, robotics and automation.

In 2022, we have produced 563,987 vehicles and delivered 564,743 vehicles through the second quarter, despite ongoing supply chain challenges and factory shutdowns. We are currently focused on increasing vehicle production and capacity, improving and developing battery technologies, improving our FSD capabilities, increasing the affordability and efficiency of our vehicles and expanding our global infrastructure.

In 2022, we have deployed 1.98 GWh of energy storage products and 154 megawatts of solar energy systems through the second quarter. We are currently focused on ramping production of energy storage products, improving our Solar Roof installation capability and efficiency, and increasing market share of retrofit and new build solar energy systems.

During the three and six months ended June 30, 2022, we recognized total revenues of $16.93 billion and $35.69 billion, respectively, representing increases of $4.98 billion and $13.34 billion, respectively, over the same periods ended June 30, 2021. We continue to ramp production, build new manufacturing capacity and expand our operations to enable increased deliveries and deployments of our products and further revenue growth.

During the three and six months ended June 30, 2022, our net income attributable to common stockholders was $2.26 billion and $5.58 billion, respectively, representing favorable changes of $1.12 billion and $4.00 billion, respectively, over the same periods ended June 30, 2021. We continue to focus on improving our profitability through production and operational efficiencies.

We ended the second quarter of 2022 with $18.92 billion in cash and cash equivalents and marketable securities, representing an increase of $1.21 billion from the end of 2021. Our cash flows provided by operating activities during the six month period ended June 30, 2022 was $6.35 billion, representing an increase of $2.58 billion compared to $3.77 billion during the same period ended June 30, 2021. Capital expenditures amounted to $3.50 billion during the six month period ended June 30, 2022, compared to $2.85 billion during the same period ended June 30, 2021. Sustained growth has allowed our business to generally fund itself, and we will continue investing in a number of capital-intensive projects in upcoming periods.

Management Opportunities, Challenges and Risks and 2022 Outlook

Impact of COVID-19 Pandemic

Beginning in the first quarter of 2021, there has been a trend in many parts of the world of increasing availability and administration of vaccines against COVID-19, as well as an easing of restrictions on social, business, travel and government activities and functions. On the other hand, infection rates and regulations continue to fluctuate in various regions and there are ongoing global impacts resulting from the pandemic, including challenges and increases in costs for logistics and supply chains, such as increased port congestion, intermittent supplier delays, labor shortages and a shortfall of semiconductor supply. We have been affected by temporary manufacturing closures, employment and compensation adjustments, and impediments to administrative activities supporting our product deliveries and deployments.

In addition, we have experienced and are experiencing varying levels of inflation resulting in part from various supply chain disruptions, increased shipping and transportation costs, increased raw material and labor costs and other disruptions caused by the COVID-19 pandemic and general global economic conditions. The inflationary impact on our cost structure has contributed to adjustments in our product pricing, despite a continued focus on reducing our manufacturing costs where possible.

Ultimately, we cannot predict the duration of the COVID-19 pandemic or global economic trends. We continue to monitor macroeconomic conditions to remain flexible and to optimize and evolve our business as appropriate, and attempt to optimally project demand and infrastructure requirements globally and deploy our production, workforce and other resources accordingly.

Automotive—Production

The following is a summary of the status of production of each of our announced vehicle models in production and under development, as of the date of this Quarterly Report on Form 10-Q:

Production Location	Vehicle Model(s)	Production Status
Fremont Factory	Model S / Model X	Active
	Model 3 / Model Y	Active
Gigafactory Shanghai	Model 3 / Model Y	Active
Gigafactory Berlin-Brandenburg	Model Y	Active
Gigafactory Texas	Model Y	Active
	Cybertruck	In development
TBD	Tesla Semi	In development
TBD	Tesla Roadster	In development
TBD	Robotaxi & Others	In development

We are focused on growing our manufacturing capacity, which includes ramping all of our production vehicles to their installed production capacities as well as increasing capacity at our current factories. Our current production continues to be affected by the industry-wide semiconductor and other component shortages, requiring additional workaround manufacturing and production design solutions to be implemented which may be difficult to sustain. The next phase of production growth will depend on the ramp at Gigafactory Berlin-Brandenburg and Gigafactory Texas and the upgrade and expansion of Gigafactory Shanghai, as well as our ability to add to our available sources of battery cell supply by manufacturing our own cells that we are developing to have high-volume output, lower capital and production costs and longer range. Consistent with our approach of innovating manufacturing techniques at our new factories, we expect as well to pioneer new methods related to the mass production of these cells and our unique structural battery pack concept. Beginning this quarter, at Gigafactory Texas, we began delivering to customers Model Ys with Tesla-made 4680 cells with a structural battery pack. Our goals are to improve vehicle performance, decrease production costs and increase affordability.

However, these plans are subject to uncertainties inherent in establishing and ramping manufacturing operations, which may be exacerbated by the new product and manufacturing technologies we are introducing, the number of concurrent international projects, any industry-wide component constraints which may increase the number of manufacturing and production design workaround solutions required, labor shortages and any future impact from events outside of our control such as the COVID-19 pandemic. For example, spikes in COVID-19 cases in Shanghai resulted in limited production and temporary shutdowns to Gigafactory Shanghai as well as parts of our supply chain in the first and second quarters of 2022. Moreover, we have set ambitious technological targets with our plans for battery cells as well as for iterative manufacturing and design improvements for our vehicles with each new factory.

Automotive—Demand and Sales

Our cost reduction efforts and additional localized procurement and manufacturing are key to our vehicles' affordability, and for example, have allowed us to competitively price our vehicles in China. In addition to our ongoing production ramp in 2022, we will also continue to generate demand and brand awareness by improving our vehicles' performance and functionality, including through products based on artificial intelligence such as Autopilot and FSD, and other software features. Moreover, we expect to continue to benefit from a spike in demand in the automotive industry generally, as well as ongoing electrification of the automotive sector and increasing environmental awareness.

However, we operate in a cyclical industry that is sensitive to political and regulatory uncertainty, including with respect to trade and the environment, all of which may also be compounded by any future global impact from the COVID-19 pandemic, inflationary pressures and potential increases in interest rates. Moreover, as additional competitors enter the marketplace and help bring the world closer to sustainable transportation, we will have to continue to execute well to maintain our momentum.

Automotive—Deliveries and Customer Infrastructure

As our deliveries increase, we must work constantly to prevent our vehicle delivery capability from becoming a bottleneck on our total deliveries. Increasing the exports of vehicles manufactured at Gigafactory Shanghai has been effective in mitigating the strain on our deliveries in markets outside of the United States, and we expect to benefit further from situating additional factories closer to local markets, including the recent production launch at Gigafactory Berlin-Brandenburg and Gigafactory Austin. As we expand our manufacturing operations globally, we will have to continue to increase and staff our delivery, servicing and charging infrastructure accordingly, maintain our vehicle reliability and optimize our Supercharger locations to ensure cost effectiveness and customer satisfaction. In particular, we remain focused on increasing the capability and efficiency of our servicing operations.

Energy Generation and Storage Demand, Production and Deployment

The long-term success of this business is dependent upon increasing margins through greater volumes. We continue to increase the production of our energy storage products to meet high levels of demand, including the construction and ramp of our Megafactory in Lathrop, California, but such production is also sensitive to global component constraints. For Megapack, energy storage deployments can vary meaningfully quarter to quarter depending on the timing of specific project milestones. For Powerwall, better availability and growing grid stability concerns drive higher customer interest, and we are emphasizing cross-selling with our residential solar energy products. We remain committed to growing our retrofit solar energy business by offering a low-cost and simplified online ordering experience. In addition, we continue to improve our installation capabilities and price efficiencies for Solar Roof by on-boarding and training new installers, as well as collaborating with real estate developers and builders on new homes to reduce installation time and costs. As these product lines grow, we will have to maintain adequate battery cell supply for our energy storage products and hire additional personnel, particularly skilled electricians, to support the ramp of Solar Roof.

Cash Flow and Capital Expenditure Trends

Our capital expenditures are typically difficult to project beyond the short-term given the number and breadth of our core projects at any given time, and may further be impacted by uncertainties in future global market conditions. We are simultaneously ramping new products, including new iterations of our Megapack, ramping manufacturing facilities on three continents and piloting the development and manufacture of new battery cell technologies, and the pace of our capital spend may vary depending on overall priority among projects, the pace at which we meet milestones, production adjustments to and among our various products, increased capital efficiencies and the addition of new projects. Owing and subject to the foregoing as well as the pipeline of announced projects under development, all other continuing infrastructure growth and varying levels of inflation, we currently expect our capital expenditures to be between $6.00 to $8.00 billion in 2022 and each of the next two fiscal years.

Our business has recently been consistently generating cash flow from operations in excess of our level of capital spend, and with better working capital management resulting in shorter days sales outstanding than days payable outstanding, our sales growth is also facilitating positive cash generation. On the other hand, we are likely to see heightened levels of capital expenditures during certain periods depending on the specific pace of our capital-intensive projects and rising material prices and increasing supply chain and labor expenses resulting from changes in global trade conditions and labor availability associated with the COVID-19 pandemic. Overall, we expect our ability to be self-funding to continue as long as macroeconomic factors support current trends in our sales.

Operating Expense Trends

As long as we see expanding sales, and excluding the potential impact of macroeconomic conditions including increased labor costs and impairment charges on certain assets as explained below, we generally expect operating expenses relative to revenues to decrease as we continue to increase operational efficiency and process automation. We expect operating expenses to grow in 2022 as we are expanding our operations globally.

In the first quarter of 2021, we invested an aggregate $1.50 billion in bitcoin. As with any investment and consistent with how we manage fiat-based cash and cash-equivalent accounts, we may increase or decrease our holdings of digital assets at any time based on the needs of the business and our view of market and environmental conditions. Digital assets are considered indefinite-lived intangible assets under applicable accounting rules. Accordingly, any decrease in their fair values below our carrying values for such assets at any time subsequent to their acquisition will require us to recognize impairment charges, whereas we may make no upward revisions for any market price increases until a sale. For any digital assets held now or in the future, these charges may negatively impact our profitability in the periods in which such impairments occur even if the overall market values of these assets increase. For example, in the six month period ended June 30, 2022, we recorded $170 million of impairment losses resulting from changes to the carrying value of our bitcoin and gains of $64 million on certain conversions of bitcoin into fiat currency by us.

Critical Accounting Policies and Estimates

The consolidated financial statements are prepared in accordance with GAAP. The preparation of the consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience, as appropriate, and on various other assumptions that we believe to be reasonable under the circumstances. Changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows may be affected.

Due to the COVID-19 pandemic, there has been uncertainty and disruption in the global economy and financial markets. The estimates used for, but not limited to, determining significant economic incentive for resale value guarantee arrangements, sales return reserves, the collectability of accounts receivable, inventory valuation, warranties, fair value of long-lived assets, goodwill, fair value of financial instruments, fair value and residual value of operating lease vehicles and solar energy systems subject to leases could be impacted. We have assessed the impact and are not aware of any specific events or circumstances that required an update to our estimates and assumptions or materially affected the carrying value of our assets or liabilities as of the date of issuance of this Quarterly Report on Form 10-Q. These estimates may change as new events occur and additional information is obtained. Actual results could differ materially from these estimates under different assumptions or conditions.

For a description of our critical accounting policies and estimates, refer to Part II, Item 7, *Critical Accounting Policies and Estimates* in our Annual Report on Form 10-K for the year ended December 31, 2021. There have been no material changes to our critical accounting policies and estimates since our Annual Report on Form 10-K for the year ended December 31, 2021.

Recent Accounting Pronouncements

See Note 2, *Summary of Significant Accounting Policies*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Results of Operations

Revenues

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
(Dollars in millions)	2022	2021	$	%	2022	2021	$	%
Automotive sales	$ 13,670	$ 9,520	$ 4,150	44%	$ 29,184	$ 17,707	$ 11,477	65%
Automotive regulatory credits	344	354	(10)	-3%	1,023	872	151	17%
Automotive leasing	588	332	256	77%	1,256	629	627	100%
Total automotive revenues	14,602	10,206	4,396	43%	31,463	19,208	12,255	64%
Services and other	1,466	951	515	54%	2,745	1,844	901	49%
Total automotive & services and other segment revenue	16,068	11,157	4,911	44%	34,208	21,052	13,156	62%
Energy generation and storage segment revenue	866	801	65	8%	1,482	1,295	187	14%
Total revenues	$ 16,934	$ 11,958	$ 4,976	42%	$ 35,690	$ 22,347	$ 13,343	60%

Automotive & Services and Other Segment

Automotive sales revenue includes revenues related to cash and financing deliveries of new Model S, Model X, Model 3, and Model Y vehicles, including access to our Supercharger network, internet connectivity, FSD features and over-the-air software updates. These deliveries are vehicles that are not subject to lease accounting.

Automotive regulatory credits includes sales of regulatory credits to other automotive manufacturers. Our revenue from automotive regulatory credits is directly related to our new vehicle production, sales and pricing negotiated with our customers. We monetize them proactively as new vehicles are sold based on standing arrangements with buyers of such credits, typically as close as possible to the production and delivery of the vehicle or changes in regulation impacting the credits.

Automotive leasing revenue includes the amortization of revenue for vehicles under direct operating lease agreements as well as those sold with resale value guarantees accounted for as operating leases under lease accounting. Additionally, automotive leasing revenue includes direct sales-type leasing programs where we recognize all revenue associated with the sales-type lease upon delivery to the customer.

Services and other revenue consists of non-warranty after-sales vehicle services, paid supercharging, sales of used vehicles, retail merchandise, sales by our acquired subsidiaries to third party customers and vehicle insurance revenue.

Automotive sales revenue increased $4.15 billion, or 44%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021, primarily due to an increase of 44,364 Model 3 and Model Y cash deliveries, and an increase of 12,658 Model S and Model X cash deliveries year over year. This was achieved from production ramping of Model Y at Gigafactory Shanghai and the Fremont Factory as well as the start of production at Gigafactory Berlin-Brandenburg and Gigafactory Texas in 2022, at a higher combined average selling price from a higher proportion of Model Y sales. There was also an increase in production and an increase in the average selling price of Model S and Model X with a higher proportion of Model X sales, compared to the prior period as deliveries of the new versions of Model S and Model X only began ramping in the second and fourth quarters of 2021, respectively.

Automotive sales revenue increased $11.48 billion, or 65%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to an increase of 156,279 Model 3 and Model Y cash deliveries, and an increase of 22,963 Model S and Model X cash deliveries year over year. This was achieved from production ramping of Model Y at Gigafactory Shanghai and the Fremont Factory as well as the start of production at Gigafactory Berlin-Brandenburg and Gigafactory Texas in 2022, at a higher combined average selling price from a higher proportion of Model Y sales offset by regional sales mix. There was also an increase in production and an increase in the average selling price of Model S and Model X with a higher proportion of Model X sales, compared to the prior period as deliveries of the new versions of Model S and Model X only began ramping in the second and fourth quarters of 2021, respectively.

Automotive regulatory credits revenue decreased $10 million, or 3%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021 primarily due to changes in pricing in certain regions.

Automotive regulatory credits revenue increased $151 million, or 17%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to changes in regulation which entitled us to additional consideration of $288 million in revenue in the first quarter of 2022 for credits sold previously, in the absence of which we had a decrease in automotive regulatory credits revenue driven by lower sales of regulatory credits.

Automotive leasing revenue increased $256 million, or 77%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Automotive leasing revenue increased $627 million, or 100%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. The changes for both periods are primarily due to an increase in direct sales-type leasing revenue and an increase in activities under our direct operating lease program.

Services and other revenue increased $515 million, or 54%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Services and other revenue increased $901 million, or 49%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. The changes for both periods are primarily due to increase in used vehicle revenue driven by increases in volume and average selling prices of used Tesla vehicles, non-warranty maintenance services revenue as our fleet continues to grow, paid supercharging revenue, insurance services revenue and retail merchandise revenue.

Energy Generation and Storage Segment

Energy generation and storage revenue includes sales and leasing of solar energy generation and energy storage products, financing of solar energy generation products, services related to such products and sales of solar energy systems incentives.

Energy generation and storage revenue increased $65 million, or 8%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021, primarily due to an increase in solar cash and loan deployments and Powerwall. This was partially offset by lower deployments of Megapack.

Energy generation and storage revenue increased $187 million, or 14%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to an increase in deployments of Powerwall. This was partially offset by lower deployments of Megapack.

Cost of Revenues and Gross Margin

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Change $	Change %	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021	Change $	Change %
Cost of revenues								
Automotive sales	$ 10,153	$ 7,119	$ 3,034	43 %	$ 21,067	$ 13,576	$ 7,491	55 %
Automotive leasing	368	188	180	96 %	776	348	428	123 %
Total automotive cost of revenues	10,521	7,307	3,214	44 %	21,843	13,924	7,919	57 %
Services and other	1,410	986	424	43 %	2,696	1,948	748	38 %
Total automotive & services and other segment cost of revenues	11,931	8,293	3,638	44 %	24,539	15,872	8,667	55 %
Energy generation and storage segment	769	781	(12)	-2 %	1,457	1,376	81	6 %
Total cost of revenues	$ 12,700	$ 9,074	$ 3,626	40 %	$ 25,996	$ 17,248	$ 8,748	51 %
Gross profit total automotive	$ 4,081	$ 2,899			$ 9,620	$ 5,284		
Gross margin total automotive	27.9 %	28.4 %			30.6 %	27.5 %		
Gross profit total automotive & services and other segment	$ 4,137	$ 2,864			$ 9,669	$ 5,180		
Gross margin total automotive & services and other segment	25.7 %	25.7 %			28.3 %	24.6 %		
Gross profit energy generation and storage segment	$ 97	$ 20			$ 25	$ (81)		
Gross margin energy generation and storage segment	11.2 %	2.5 %			1.7 %	-6.3 %		
Total gross profit	$ 4,234	$ 2,884			$ 9,694	$ 5,099		
Total gross margin	25.0 %	24.1 %			27.2 %	22.8 %		

Automotive & Services and Other Segment

Cost of automotive sales revenue includes direct and indirect materials, labor costs, manufacturing overhead, including depreciation costs of tooling and machinery, shipping and logistic costs, vehicle connectivity costs, allocations of electricity and infrastructure costs related to our Supercharger network and reserves for estimated warranty expenses. Cost of automotive sales revenues also includes adjustments to warranty expense and charges to write down the carrying value of our inventory when it exceeds its estimated net realizable value and to provide for obsolete and on-hand inventory in excess of forecasted demand.

Cost of automotive leasing revenue includes the depreciation of operating lease vehicles, cost of goods sold associated with direct sales-type leases and warranty expense related to leased vehicles. Cost of automotive leasing revenue also includes vehicle connectivity costs and allocations of electricity and infrastructure costs related to our Supercharger network for vehicles under our leasing programs.

Cost of services and other revenue includes costs associated with providing non-warranty after-sales services, costs of paid supercharging, cost of used vehicles including refurbishment costs, costs for retail merchandise, and costs to provide vehicle insurance. Cost of services and other revenue also includes direct parts, material and labor costs and manufacturing overhead associated with the sales by our acquired subsidiaries to third party customers.

Cost of automotive sales revenue increased $3.03 billion, or 43%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021, in line with the growth in revenue year over year, as discussed above. There were also idle capacity charges of $168 million due to the temporary suspension of production at Gigafactory Shanghai as well as the ramping up of production in Gigafactory Texas during the three months ended June 30, 2022. Further there was an increase in combined average Model 3 and Model Y costs per unit due to overall rising raw material, commodity, logistics and expedite costs and the ramping up of production at Gigafactory Berlin-Brandenburg and Gigafactory Texas during the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. These increases were partially offset by a decrease in combined average Model S and Model X costs per unit driven by lower average cost for the new versions of Model S and Model X from ramping up production.

Cost of automotive sales revenue increased $7.49 billion, or 55%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, in line with the growth in revenue year over year, as discussed above. There were also idle capacity charges of $198 million due to the temporary suspension of production at Gigafactory Shanghai as well as the ramping up of production in Gigafactory Texas during the six months ended June 30, 2022. These increases were partially offset by a decrease in combined average Model S and Model X costs per unit driven by lower average cost for the new versions of Model S and Model X from ramping up production.

Cost of automotive leasing revenue increased $180 million, or 96%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Cost of automotive leasing revenue increased $428 million, or 123%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to an increase in cumulative vehicles under our direct operating lease program and an increase in direct sales-type leasing cost of revenues from more activities in the current year.

Cost of services and other revenue increased $424 million, or 43%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Cost of services and other revenue increased $748 million, or 38%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. The change in both periods is primarily due to an increase in costs to support our increase in non-warranty maintenance services revenue, an increase in used vehicle cost of revenue driven by increases in volume and costs of used Tesla vehicles, an increase in costs of paid supercharging, insurance services and retail merchandise.

Gross margin for total automotive decreased from 28.4% to 27.9% in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. This was driven by the change in automotive sales revenue and cost of automotive sales revenue, as discussed earlier.

Gross margin for total automotive increased from 27.5% to 30.6% in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. This was driven by the growth in automotive sales revenue and cost of automotive sales revenue as well as increase from regulatory credits revenue, as discussed earlier.

Gross margin for total automotive & services and other segment stayed flat at 25.7% in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Gross margin for total automotive & services and other segment increased from 24.6% to 28.3% in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to the automotive gross margin impacts discussed above and an improvement in our services and other gross margin. Additionally, services and other was a higher percentage of the segment gross margin during the three months and six months ended June 30, 2022 as compared to the prior year.

Energy Generation and Storage Segment

Cost of energy generation and storage revenue includes direct and indirect material and labor costs, warehouse rent, freight, warranty expense, other overhead costs and amortization of certain acquired intangible assets. Cost of energy generation and storage revenue also includes charges to write down the carrying value of our inventory when it exceeds its estimated net realizable value and to provide for obsolete and on-hand inventory in excess of forecasted demand. In agreements for solar energy system and PPAs where we are the lessor, the cost of revenue is primarily comprised of depreciation of the cost of leased solar energy systems, maintenance costs associated with those systems and amortization of any initial direct costs.

Cost of energy generation and storage revenue decreased $12 million, or 2%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021, due to lower deployments of Megapack. This was partially offset by higher solar cash and loan deployments and higher Powerwall deployments.

Cost of energy generation and storage revenue increased $81 million, or 6%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to increases in deployments of Powerwall and higher average cost of solar and cash and loan deployments due to increased component costs, partially offset by lower deployments of Megapack.

Gross margin for energy generation and storage increased from 2.5% to 11.2% in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Gross margin for energy generation and storage increased from -6.3% to 1.7% in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021, primarily due to higher deployments of Powerwall which operated at a higher gross margin. This was partially offset by higher average cost of solar and cash and loan deployments due to increased component costs, as well as lower deployments of Megapack.

Research and Development Expense

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
(Dollars in millions)	2022	2021	$	%	2022	2021	$	%
Research and development	$ 667	$ 576	$ 91	16%	$ 1,532	$ 1,242	$ 290	23%
As a percentage of revenues	4%	5%			4%	6%		

Research and development ("R&D") expenses consist primarily of personnel costs for our teams in engineering and research, manufacturing engineering and manufacturing test organizations, prototyping expense, contract and professional services and amortized equipment expense.

R&D expenses increased $91 million, or 16%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. The increase was primarily due to a $47 million increase in employee and labor related expenses, an $18 million increase in stock-based compensation expense, a $14 million increase in facilities, outside services, freight and depreciation expense, and a $12 million increase in R&D expensed materials. These increases were to support our expanding product roadmap and technologies including our proprietary battery cells.

R&D expenses increased $290 million, or 23%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. The increase was primarily due to a $122 million increase in employee and labor related expenses, a $107 million increase in facilities, freight and depreciation expense, a $36 million increase in stock-based compensation expense, and a $25 million increase in R&D expensed materials. These increases were to support our expanding product roadmap and technologies including our proprietary battery cells and there were additional R&D expenses in the first quarter of 2022 as we were in the pre-production phase at Gigafactory Texas and started production at Gigafactory Berlin-Brandenburg only closer to the end of the first quarter of 2022.

R&D expenses as a percentage of revenue decreased from 5% to 4% in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. R&D expenses as a percentage of revenue decreased from 6% to 4% in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. Our R&D expenses have decreased as a proportion of total revenues despite expanding product roadmap and technologies.

Selling, General and Administrative Expense

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
(Dollars in millions)	2022	2021	$	%	2022	2021	$	%
Selling, general and administrative	$ 961	$ 973	$ (12)	-1%	$ 1,953	$ 2,029	$ (76)	-4%
As a percentage of revenues	6%	8%			5%	9%		

Selling, general and administrative ("SG&A") expenses generally consist of personnel and facilities costs related to our stores, marketing, sales, executive, finance, human resources, information technology and legal organizations, as well as fees for professional and contract services and litigation settlements.

SG&A expenses decreased $12 million, or 1%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. This is primarily due to a decrease of $166 million in stock-based compensation expense, most of which is attributable to the lower stock-based compensation expense of $167 million on the 2018 CEO Performance Award. See Note 11*, Equity Incentive Plans*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q. This was offset by an increase of $109 million in employee and labor related expenses from increased headcount and an increase of $45 million in office, information technology, facilities-related expenses, sales and marketing activities and other costs.

SG&A expenses decreased $76 million, or 4%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. This is primarily due to a decrease of $408 million in stock-based compensation expense, most of which is attributable to the lower stock-based compensation expense of $418 million on the 2018 CEO Performance Award. See Note 11, *Equity Incentive Plans*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q. This was offset by an increase of $219 million in employee and labor related expenses from increased headcount and an increase of $113 million in office, information technology, facilities-related expenses, sales and marketing activities and other costs.

SG&A expenses as a percentage of revenue decreased from 8% to 6% in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. SG&A expenses as a percentage of revenue decreased from 9% to 5% in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. Our SG&A expenses have decreased as a proportion of total revenues due to operational efficiencies.

Restructuring and Other Expense

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Change $	Change %	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021	Change $	Change %
Restructuring and other	$ 142	$ 23	$ 119	517 %	$ 142	$ (78)	$ 220	-282 %

During the three and six months ended June 30, 2022, we recorded impairment loss of $170 million as well as realized gains of $64 million in connection with converting our holdings of digital assets into fiat currency. During the six months ended June 30, 2021, we realized gains of $128 million in connection with converting our holdings of digital assets into fiat currency. During the three and six months ended June 30, 2021, we recorded $23 million and $50 million, respectively, of impairment losses on bitcoin. See Note 3, *Digital Assets, Net*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for further details. We also recorded other expenses of $36 million during the three months ended June 30, 2022, related to the recent employee terminations.

Interest Expense

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Change $	Change %	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021	Change $	Change %
Interest expense	$ (44)	$ (75)	$ 31	-41 %	$ (105)	$ (174)	$ 69	-40 %

Interest expense decreased $31 million, or 41%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Interest expense decreased $69 million, or 40%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. These decreases were primarily due to the continued reduction in our overall debt balance offset by lower capitalized interest. See Note 10, *Debt*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for further details.

Other Income, Net

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Change $	Change %	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021	Change $	Change %
Other income, net	$ 28	$ 45	$ (17)	-38 %	$ 84	$ 73	$ 11	15%

Other income, net, consists primarily of foreign exchange gains and losses related to our foreign currency-denominated monetary assets and liabilities and changes in the fair values of our fixed-for-floating interest rate swaps. We expect our foreign exchange gains and losses will vary depending upon movements in the underlying exchange rates.

Other income, net, changed unfavorably by $17 million in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Other income, net, changed favorably by $11 million in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. The change for both periods was primarily due to fluctuations in foreign currency exchange rates. Additionally we did not have any outstanding interest rate swaps in the three months ended June 30, 2022 which resulted in no impacts from mark to market movements as compared to the prior period.

Provision for Income Taxes

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Change $	Change %	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021	Change $	Change %
Provision for income taxes	$ 205	$ 115	$ 90	78%	$ 551	$ 184	$ 367	199%
Effective tax rate	8%	9%			9%	10%		

Our provision for income taxes increased by $90 million, or 78%, in the three months ended June 30, 2022 and increased by $367 million, or 199%, in the six months ended June 30, 2022 as compared to the three and six months ended June 30, 2021, primarily due to the increase in our pre-tax income year over year.

Our effective tax rate decreased from 9% to 8% in the three months ended June 30, 2022 and from 10% to 9% in the six months ended June 30, 2022 as compared to the three and six months ended June 30, 2021, primarily due to changes in mix of jurisdictional earnings.

See Note 2, *Summary of Significant Accounting Policies*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for further details.

Net Income Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Change $	Change %	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021	Change $	Change %
Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	$ 10	$ 36	$ (26)	-72%	$ (28)	$ 62	$ (90)	-145%

Net income attributable to noncontrolling interests and redeemable noncontrolling interests decreased $26 million, or 72%, in the three months ended June 30, 2022 as compared to the three months ended June 30, 2021. Net income attributable to noncontrolling interests and redeemable noncontrolling interests decreased by $90 million, or 145%, in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021. These changes were due to a decrease in allocations to financing fund investors.

Liquidity and Capital Resources

We expect to continue to generate net positive operating cash flow as we have done in the last four fiscal years. The cash we generate from our core operations enables us to fund ongoing operations and production, our research and development projects for new products and technologies including our proprietary battery cells, additional manufacturing ramps at existing manufacturing facilities such as the Fremont Factory, Gigafactory Nevada, Gigafactory Shanghai and Gigafactory New York, the ramp of Gigafactory Berlin-Brandenburg and Gigafactory Texas and the continued expansion of our retail and service locations, body shops, Mobile Service fleet, Supercharger network and energy product installation capabilities.

In addition, because a large portion of our future expenditures will be to fund our growth, we expect that if needed we will be able to adjust our capital and operating expenditures by operating segment. For example, if our near-term manufacturing operations decrease in scale or ramp more slowly than expected, including due to global economic or business conditions, we may choose to correspondingly slow the pace of our capital expenditures. Finally, we continually evaluate our cash needs and may decide it is best to raise additional capital or seek alternative financing sources to fund the rapid growth of our business, including through drawdowns on existing or new debt facilities or financing funds. Conversely, we may also from time to time determine that it is in our best interests to voluntarily repay certain indebtedness early.

Accordingly, we believe that our current sources of funds will provide us with adequate liquidity during the 12-month period following June 30, 2022, as well as in the long-term.

See the sections below for more details regarding the material requirements for cash in our business and our sources of liquidity to meet such needs.

Material Cash Requirements

From time to time in the ordinary course of business, we enter into agreements with vendors for the purchase of components and raw materials to be used in the manufacture of our products. However, due to contractual terms, variability in the precise growth curves of our development and production ramps, and opportunities to renegotiate pricing, we generally do not have binding and enforceable purchase orders under such contracts beyond the short-term, and the timing and magnitude of purchase orders beyond such period is difficult to accurately project.

As discussed in and subject to the considerations referenced in Part I, Item 2, *Management's Discussion and Analysis of Financial Condition and Results of Operations—Management Opportunities, Challenges and Risks and 2022 Outlook—Cash Flow and Capital Expenditure Trends* in this Quarterly Report on Form 10-Q, we currently expect our capital expenditures to support our projects globally to be between $6.00 to $8.00 billion in 2022 and each of the next two fiscal years. In connection with our operations at Gigafactory New York, we have an agreement to spend or incur $5.00 billion in combined capital, operational expenses, costs of goods sold and other costs in the State of New York through December 31, 2029 (pursuant to a deferral of our required timelines to meet such obligations that was granted in April 2021, and which was memorialized in an amendment to our agreement with the SUNY Foundation in August 2021). We also have an operating lease arrangement with the local government of Shanghai pursuant to which we are required to spend RMB 14.08 billion in capital expenditures at Gigafactory Shanghai by the end of 2023. For details regarding these obligations, refer to Note 12, *Commitments and Contingencies*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

As of June 30, 2022, we and our subsidiaries had outstanding $3.18 billion in aggregate principal amount of indebtedness, of which $1.06 billion is scheduled to become due in the succeeding 12 months. For details regarding our indebtedness, refer to Note 10, *Debt*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Sources and Conditions of Liquidity

Our sources to fund our material cash requirements are predominantly from our deliveries and servicing of new and used vehicles, sales and installations of our energy storage products and solar energy systems, proceeds from debt facilities and proceeds from equity offerings, when applicable.

As of June 30, 2022, we had $18.32 billion of cash and cash equivalents. Balances held in foreign currencies had a U.S. dollar equivalent of $5.07 billion and consisted primarily of Chinese yuan, euros and Canadian dollars. In addition, we had $2.44 billion of unused committed amounts under our credit facilities as of June 30, 2022. Certain of such unused committed amounts are subject to satisfying specified conditions prior to draw-down (such as pledging to our lenders sufficient amounts of qualified receivables, inventories, leased vehicles and our interests in those leases, solar energy systems and the associated customer contracts or various other assets). For details regarding our indebtedness, refer to Note 10, *Debt* to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

We continue adapting our investment strategy to meet our liquidity and risk objectives, such as investing in U.S. government and other marketable securities, digital assets and providing product related financing. In the first quarter of 2021, we invested an aggregate $1.50 billion in digital assets. As with any investment and consistent with how we manage fiat-based cash and cash equivalent accounts, we may increase or decrease our holdings of digital assets at any time based on the needs of the business and our view of market and environmental conditions. The fair market value of our remaining holdings of digital assets as of June 30, 2022 was $222 million. Additionally, we held short-term marketable securities of $591 million as of June 30, 2022.

Summary of Cash Flows

	Six Months Ended June 30,	
(Dollars in millions)	2022	2021
Net cash provided by operating activities	$ 6,346	$ 3,765
Net cash used in investing activities	$ (3,051)	$ (4,097)
Net cash used in financing activities	$ (2,320)	$ (2,565)

Cash Flows from Operating Activities

Our cash flows from operating activities are significantly affected by our cash investments to support the growth of our business in areas such as research and development and selling, general and administrative and working capital. Our operating cash inflows include cash from vehicle sales and related servicing, customer lease payments, customer deposits, cash from sales of regulatory credits and energy generation and storage products. These cash inflows are offset by our payments to suppliers for production materials and parts used in our manufacturing process, operating expenses, operating lease payments and interest payments on our financings.

Net cash provided by operating activities increased by $2.58 billion to $6.35 billion during the six months ended June 30, 2022 from $3.77 billion during the six months ended June 30, 2021. This increase was primarily due to the increase in net income excluding non-cash expenses, gains and losses of $4.19 billion, offset by the overall increase in net operating assets and liabilities of $1.61 billion. The increase in our net operating assets and liabilities was mainly driven by a larger increase of inventory in the six months ended June 30, 2022 as compared to the six months ended June 30, 2021 to support the ramp up in production at our factories and a larger increase in other non-current assets. The increase in our net operating assets and other liabilities was partially offset by a larger increase of other long-term liabilities and, an increase of deferred revenue from higher vehicle deliveries.

Cash Flows from Investing Activities

Cash flows from investing activities and their variability across each period related primarily to capital expenditures, which were $3.50 billion for the six months ended June 30, 2022 and $2.85 billion for the six months ended June 30, 2021, mainly for the expansions of Gigafactory Texas, the Fremont Factory, Gigafactory Berlin-Brandenburg, and Gigafactory Shanghai. We also paid $476 million for purchases of marketable securities in the six months ended June 30, 2022. Additionally, net cash inflows related to digital assets were $936 million in the six months ended June 30, 2022 from sales of digital assets.

Cash Flows from Financing Activities

Cash outflows from financing activities were $2.32 billion during six months ended June 30, 2022 compared to $2.57 billion net cash used in financing activities during the six months ended June 30, 2021. The change was primarily due to $327 million decrease in cash outflows from repayments of convertible and other debt, net of proceeds from issuances of convertible and other debt. See Note 10, *Debt*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for further details regarding our debt obligations.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Risk

We transact business globally in multiple currencies and hence have foreign currency risks related to our revenue, costs of revenue, operating expenses and localized subsidiary debt denominated in currencies other than the U.S. dollar (primarily the Chinese yuan, euro, pound sterling and Norwegian krone in relation to our current year operations). In general, we are a net receiver of currencies other than the U.S. dollar for our foreign subsidiaries. Accordingly, changes in exchange rates affect our revenue and other operating results as expressed in U.S. dollars as we do not typically hedge foreign currency risk.

We have also experienced, and will continue to experience, fluctuations in our net income as a result of gains (losses) on the settlement and the re-measurement of monetary assets and liabilities denominated in currencies that are not the local currency (primarily consisting of our intercompany and cash and cash equivalents balances).

We considered the historical trends in foreign currency exchange rates and determined that it is reasonably possible that adverse changes in foreign currency exchange rates of 10% for all currencies could be experienced in the near-term. These changes were applied to our total monetary assets and liabilities denominated in currencies other than our local currencies at the balance sheet date to compute the impact these changes would have had on our net income before income taxes. These changes would have resulted in a gain or loss of $86 million at June 30, 2022 and $277 million at December 31, 2021, assuming no foreign currency hedging.

Interest Rate Risk

We are exposed to interest rate risk on our borrowings that bear interest at floating rates. Pursuant to our risk management policies, in certain cases, we utilize derivative instruments to manage some of this risk. We do not enter into derivative instruments for trading or speculative purposes. A hypothetical 10% change in interest rates on our floating rate debt would have increased or decreased our interest expense by an immaterial amount for the six months ended June 30, 2022 and 2021, respectively.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). In designing and evaluating the disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that our management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that, as of June 30, 2022, our disclosure controls and procedures were designed at a reasonable assurance level and were effective to provide reasonable assurance that the information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and our Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the quarter ended June 30, 2022, which has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a description of our material pending legal proceedings, please see Note 12, *Commitments and Contingencies*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

In addition, each of the matters below is being disclosed pursuant to Item 103 of Regulation S-K because it relates to environmental regulations and aggregate civil penalties that we currently believe could potentially exceed $1 million. We believe that any proceeding that is material to our business or financial condition is likely to have potential penalties far in excess of such amount.

The German Umweltbundesamt has issued our subsidiary in Germany a notice and fine in the amount of 12 million euro alleging its non-compliance under applicable laws relating to market participation notifications and take-back obligations with respect to end-of-life battery products required thereunder. In response to Tesla's objection, the German Umweltbundesamt issued Tesla a revised fine notice dated April 29, 2021 in which it reduced the original fine amount to 1.45 million euro. This is primarily relating to administrative requirements, but Tesla has continued to take back battery packs, and although we cannot predict the outcome of this matter, including the final amount of any penalties, we filed a new objection in June 2021 and it is not expected to have a material adverse impact on our business.

District attorneys in certain California counties are conducting an investigation into Tesla's waste segregation practices pursuant to Cal. Health & Saf. Code section 25100 et seq. and Cal. Civil Code § 1798.80. Tesla has implemented various remedial measures, including conducting training and audits, and enhancements to its site waste management programs. While the outcome of this matter cannot be determined at this time, it is not currently expected to have a material adverse impact on our business.

ITEM 1A. RISK FACTORS

You should carefully consider the risks described below together with the other information set forth in this report, which could materially affect our business, financial condition and future results. The risks described below are not the only risks facing our company. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and operating results.

Risks Related to Our Ability to Grow Our Business

We may be impacted by macroeconomic conditions resulting from the global COVID-19 pandemic.

Since the first quarter of 2020, there has been a worldwide impact from the COVID-19 pandemic. Government regulations and shifting social behaviors have limited or closed non-essential transportation, government functions, business activities and person-to-person interactions. In some cases, the relaxation of such trends has been followed by actual or contemplated returns to stringent restrictions on gatherings or commerce, including in parts of the U.S., and the rest of the world.

During 2020, we temporarily suspended operations at each of our manufacturing facilities worldwide, and certain of our suppliers also shut down operations temporarily or permanently, including during the recently re-imposed lockdowns in certain parts of the world. We instituted temporary employee furloughs and compensation reductions while our U.S. operations were scaled back. Temporary impediments to administrative activities supporting our operations also hampered our product deliveries and deployments. In the first and second quarters of 2022, spikes in COVID-19 cases in Shanghai resulted in the temporary shutdown of Gigafactory Shanghai, as well as parts of our supply chain.

Global trade conditions and consumer trends that originated during the pandemic continue to persist and may also have long-lasting adverse impact on us and our industries independently of the progress of the pandemic. For example, pandemic-related issues have exacerbated port congestion and intermittent supplier shutdowns and delays, resulting in additional expenses to expedite delivery of critical parts. Similarly, increased demand for personal electronics has created a shortfall of semiconductors, which has caused challenges in our supply chain and production. In addition, labor shortages resulting from the pandemic, including worker absenteeism, may lead to increased difficulty in hiring and retaining manufacturing and service workers, as well as increased labor costs and supplier delays. Sustaining our production trajectory will require the ongoing readiness and solvency of our suppliers and vendors, a stable and motivated production workforce and government cooperation, including for travel and visa allowances. The contingencies inherent in the ramp at new facilities such as Gigafactory Berlin-Brandenburg and Gigafactory Texas may be exacerbated by these challenges.

We cannot predict the duration or direction of current global trends or their sustained impact. Ultimately, we continue to monitor macroeconomic conditions to remain flexible and to optimize and evolve our business as appropriate, and attempt to accurately project demand and infrastructure requirements globally and deploy our production, workforce and other resources accordingly. If we experience unfavorable global market conditions, or if we cannot or do not maintain operations at a scope that is commensurate with such conditions or are later required to or choose to suspend such operations again, our business, prospects, financial condition and operating results may be harmed.

We may experience delays in launching and ramping the production of our products and features, or we may be unable to control our manufacturing costs.

We have previously experienced and may in the future experience launch and production ramp delays for new products and features. For example, we encountered unanticipated supplier issues that led to delays during the initial ramp of our first Model X and experienced challenges with a supplier and with ramping full automation for certain of our initial Model 3 manufacturing processes. In addition, we may introduce in the future new or unique manufacturing processes and design features for our products. There is no guarantee that we will be able to successfully and timely introduce and scale such processes or features.

In particular, our future business depends in large part on increasing the production of mass-market vehicles including Model 3 and Model Y, which we are planning to achieve through multiple factories worldwide. We have relatively limited experience to date in manufacturing Model 3 and Model Y at high volumes and even less experience building and ramping vehicle production lines across multiple factories in different geographies. In order to be successful, we will need to implement, maintain and ramp efficient and cost-effective manufacturing capabilities, processes and supply chains and achieve the design tolerances, high quality and output rates we have planned at our manufacturing facilities in California, Nevada, Texas, China and Germany. We will also need to hire, train and compensate skilled employees to operate these facilities. Bottlenecks and other unexpected challenges such as those we experienced in the past may arise during our production ramps, and we must address them promptly while continuing to improve manufacturing processes and reducing costs. If we are not successful in achieving these goals, we could face delays in establishing and/or sustaining our Model 3 and Model Y ramps or be unable to meet our related cost and profitability targets.

We have experienced, and may also experience similar future delays in launching and/or ramping production of our energy storage products and Solar Roof; new product versions or variants such as the updated Model S and Model X; new vehicles such as

Tesla Semi, Cybertruck and the new Tesla Roadster; and future features and services based on artificial intelligence, such as new Autopilot or FSD functionalities, the autonomous Tesla ride-hailing network and robotics. Likewise, we may encounter delays with the design, construction and regulatory or other approvals necessary to build and bring online future manufacturing facilities and products.

Any delay or other complication in ramping the production of our current products or the development, manufacture, launch and production ramp of our future products, features and services, or in doing so cost-effectively and with high quality, may harm our brand, business, prospects, financial condition and operating results.

Our suppliers may fail to deliver components according to schedules, prices, quality and volumes that are acceptable to us, or we may be unable to manage these components effectively.

Our products contain thousands of parts purchased globally from hundreds of suppliers, including single-source direct suppliers, which exposes us to multiple potential sources of component shortages. Unexpected changes in business conditions, materials pricing, including inflation of raw material costs, labor issues, wars, trade policies, natural disasters such as the March 2011 earthquakes in Japan, health epidemics such as the global COVID-19 pandemic, trade and shipping disruptions, port congestions and other factors beyond our or our suppliers' control could also affect these suppliers' ability to deliver components to us or to remain solvent and operational. For example, a global shortage of semiconductors has been reported since early 2021 and has caused challenges in the manufacturing industry and impacted our supply chain and production as well. In addition, a spike in COVID-19 cases in Shanghai in early 2022 led to temporary manufacturing shutdowns of certain of our suppliers. We have used alternative parts and programmed software to mitigate certain challenges caused by these shortages, but there is no guarantee we may be able to continually do so as we scale production to meet our growth targets. Additionally, if our suppliers do not accurately forecast and effectively allocate production or if they are not willing to allocate sufficient production to us, it may reduce our access to components and require us to search for new suppliers. The unavailability of any component or supplier could result in production delays, idle manufacturing facilities, product design changes and loss of access to important technology and tools for producing and supporting our products, as well as impact our capacity expansion and our ability to fulfill our obligations under customer contracts. Moreover, significant increases in our production, such as for Model 3 and Model Y, or product design changes by us have required and may in the future require us to procure additional components in a short amount of time. Our suppliers may not be willing or able to sustainably meet our timelines or our cost, quality and volume needs, or to do so may cost us more, which may require us to replace them with other sources. Finally, we have limited vehicle manufacturing experience outside of the Fremont Factory and Gigafactory Shanghai and we may experience issues increasing the level of localized procurement at Gigafactory Berlin-Brandenburg and Gigafactory Texas. While we believe that we will be able to secure additional or alternate sources or develop our own replacements for most of our components, there is no assurance that we will be able to do so quickly or at all. Additionally, we may be unsuccessful in our continuous efforts to negotiate with existing suppliers to obtain cost reductions and avoid unfavorable changes to terms, source less expensive suppliers for certain parts and redesign certain parts to make them less expensive to produce, especially in light of the increases in materials pricing. Any of these occurrences may harm our business, prospects, financial condition and operating results.

As the scale of our vehicle production increases, we will also need to accurately forecast, purchase, warehouse and transport components at high volumes to our manufacturing facilities and servicing locations internationally. If we are unable to accurately match the timing and quantities of component purchases to our actual needs or successfully implement automation, inventory management and other systems to accommodate the increased complexity in our supply chain and parts management, we may incur unexpected production disruption, storage, transportation and write-off costs, which may harm our business and operating results.

We may be unable to meet our projected construction timelines, costs and production ramps at new factories, or we may experience difficulties in generating and maintaining demand for products manufactured there.

Our ability to increase production of our vehicles on a sustained basis, make them affordable globally by accessing local supply chains and workforces and streamline delivery logistics is dependent on the construction and ramp of our current and future factories. The construction of and commencement and ramp of production at these factories are subject to a number of uncertainties inherent in all new manufacturing operations, including ongoing compliance with regulatory requirements, procurement and maintenance of construction, environmental and operational licenses and approvals for additional expansion, supply chain constraints, hiring, training and retention of qualified employees and the pace of bringing production equipment and processes online with the capability to manufacture high-quality units at scale. Moreover, we will have to establish and ramp production of our proprietary battery cells and packs at our new factories, and we additionally intend to incorporate sequential design and manufacturing changes into vehicles manufactured at each new factory. We have limited experience to date with developing and implementing manufacturing innovations outside of the Fremont Factory and Gigafactory Shanghai. In particular, the majority of our design and engineering resources are currently located in California. In order to meet our expectations for our new factories, we must expand and manage localized design and engineering talent and resources. If we experience any issues or delays in meeting our projected timelines, costs, capital efficiency and production capacity for our new factories, expanding and managing teams to implement iterative design and production changes there, maintaining and complying with the terms of any debt financing that we obtain to fund them or generating and maintaining demand for the vehicles we manufacture there, our business, prospects, operating results and financial condition may be harmed.

We may be unable to grow our global product sales, delivery and installation capabilities and our servicing and vehicle charging networks, or we may be unable to accurately project and effectively manage our growth.

Our success will depend on our ability to continue to expand our sales capabilities. We are targeting with Model 3 and Model Y a global mass demographic with a broad range of potential customers, in which we have relatively limited experience projecting demand and pricing our products. We currently produce numerous international variants at a limited number of factories, and if our specific demand expectations for these variants prove inaccurate, we may not be able to timely generate deliveries matched to the vehicles that we produce in the same timeframe or that are commensurate with the size of our operations in a given region. Likewise, as we develop and grow our energy products and services worldwide, our success will depend on our ability to correctly forecast demand in various markets.

Because we do not have independent dealer networks, we are responsible for delivering all of our vehicles to our customers. We have faced in the past, and may face difficulties with deliveries at increasing volumes, particularly in international markets requiring significant transit times. For example, we saw challenges in ramping our logistics channels in China and Europe to initially deliver Model 3 there in the first quarter of 2019. We have deployed a number of delivery models, such as deliveries to customers' homes and workplaces and touchless deliveries, but there is no guarantee that such models will be scalable or be accepted globally. Likewise, as we ramp our energy products, we are working to substantially increase our production and installation capabilities. If we experience production delays or inaccurately forecast demand, our business, financial condition and operating results may be harmed.

Moreover, because of our unique expertise with our vehicles, we recommend that our vehicles be serviced by us or by certain authorized professionals. If we experience delays in adding servicing capacity or servicing our vehicles efficiently, or experience unforeseen issues with the reliability of our vehicles, particularly higher-volume additions to our fleet such as Model 3 and Model Y, it could overburden our servicing capabilities and parts inventory. Similarly, the increasing number of Tesla vehicles also requires us to continue to rapidly increase the number of our Supercharger stations and connectors throughout the world.

There is no assurance that we will be able to ramp our business to meet our sales, delivery, installation, servicing and vehicle charging targets globally, that our projections on which such targets are based will prove accurate or that the pace of growth or coverage of our customer infrastructure network will meet customer expectations. These plans require significant cash investments and management resources and there is no guarantee that they will generate additional sales or installations of our products, or that we will be able to avoid cost overruns or be able to hire additional personnel to support them. As we expand, we will also need to ensure our compliance with regulatory requirements in various jurisdictions applicable to the sale, installation and servicing of our products, the sale or dispatch of electricity related to our energy products and the operation of Superchargers. If we fail to manage our growth effectively, it may harm our brand, business, prospects, financial condition and operating results.

We will need to maintain and significantly grow our access to battery cells, including through the development and manufacture of our own cells, and control our related costs.

We are dependent on the continued supply of lithium-ion battery cells for our vehicles and energy storage products, and we will require substantially more cells to grow our business according to our plans. Currently, we rely on suppliers such as Panasonic and Contemporary Amperex Technology Co. Limited (CATL) for these cells. We have to date fully qualified only a very limited number of such suppliers and have limited flexibility in changing suppliers. Any disruption in the supply of battery cells from our suppliers could limit production of our vehicles and energy storage products. In the long term, we intend to supplement cells from our suppliers with cells manufactured by us, which we believe will be more efficient, manufacturable at greater volumes and more cost-effective than currently available cells. However, our efforts to develop and manufacture such battery cells have required, and may continue to require, significant investments, and there can be no assurance that we will be able to achieve these targets in the timeframes that we have planned or at all. If we are unable to do so, we may have to curtail our planned vehicle and energy storage product production or procure additional cells from suppliers at potentially greater costs, either of which may harm our business and operating results.

In addition, the cost and mass production of battery cells, whether manufactured by our suppliers or by us, depends in part upon the prices and availability of raw materials such as lithium, nickel, cobalt and/or other metals. The prices for these materials fluctuate and their available supply may be unstable, depending on market conditions and global demand for these materials. For example, as a result of increased global production of electric vehicles and energy storage products, suppliers of these raw materials may be unable to meet our volume needs. Additionally, our suppliers may not be willing or able to reliably meet our timelines or our cost and quality needs, which may require us to replace them with other sources. Any reduced availability of these materials may impact our access to cells and our growth, and any increases in their prices may reduce our profitability if we cannot recoup such costs through increased prices. Moreover, our inability to meet demand and any product price increases may harm our brand, growth, prospects and operating results.

Our future growth and success are dependent upon consumers' demand for electric vehicles and specifically our vehicles in an automotive industry that is generally competitive, cyclical and volatile.

If the market for electric vehicles in general and Tesla vehicles in particular does not develop as we expect, develops more slowly than we expect, or if demand for our vehicles decreases in our markets or our vehicles compete with each other, our business, prospects, financial condition and operating results may be harmed.

We are still at an earlier stage of development and have limited resources and production relative to established competitors that offer internal combustion engine vehicles. In addition, electric vehicles still comprise a small percentage of overall vehicle sales. As a result, the market for our vehicles could be negatively affected by numerous factors, such as:

- perceptions about electric vehicle features, quality, safety, performance and cost;
- perceptions about the limited range over which electric vehicles may be driven on a single battery charge, and access to charging facilities;
- competition, including from other types of alternative fuel vehicles, plug-in hybrid electric vehicles and high fuel-economy internal combustion engine vehicles;
- volatility in the cost of oil and gasoline, such as wide fluctuations in crude oil prices during 2020;
- government regulations and economic incentives; and
- concerns about our future viability.

Finally, the target demographics for our vehicles, particularly Model 3 and Model Y, are highly competitive. Sales of vehicles in the automotive industry tend to be cyclical in many markets, which may expose us to further volatility.

We face strong competition for our products and services from a growing list of established and new competitors.

The worldwide automotive market is highly competitive today and we expect it will become even more so in the future. For example, Model 3 and Model Y face competition from existing and future automobile manufacturers in the extremely competitive entry-level premium sedan and compact SUV markets. A significant and growing number of established and new automobile manufacturers, as well as other companies, have entered, or are reported to have plans to enter, the market for electric and other alternative fuel vehicles, including hybrid, plug-in hybrid and fully electric vehicles, as well as the market for self-driving technology and other vehicle applications and software platforms. In some cases, our competitors offer or will offer electric vehicles in important markets such as China and Europe, and/or have announced an intention to produce electric vehicles exclusively at some point in the future. Many of our competitors have significantly greater or better-established resources than we do to devote to the design, development, manufacturing, distribution, promotion, sale and support of their products. Increased competition could result in our lower vehicle unit sales, price reductions, revenue shortfalls, loss of customers and loss of market share, which may harm our business, financial condition and operating results.

We also face competition in our energy generation and storage business from other manufacturers, developers, installers and service providers of competing energy technologies, as well as from large utilities. Decreases in the retail or wholesale prices of electricity from utilities or other renewable energy sources could make our products less attractive to customers and lead to an increased rate of customer defaults.

Risks Related to Our Operations

We may experience issues with lithium-ion cells or other components manufactured at Gigafactory Nevada and Gigafactory Shanghai, which may harm the production and profitability of our vehicle and energy storage products.

Our plan to grow the volume and profitability of our vehicles and energy storage products depends on significant lithium-ion battery cell production, including by our partner Panasonic at Gigafactory Nevada. In addition, we produce several vehicle components, such as battery modules and packs and drive units at Gigafactory Nevada and Gigafactory Shanghai, and we also manufacture energy storage products at Gigafactory Nevada. In the past, some of the manufacturing lines for certain product components took longer than anticipated to ramp to their full capacity, and additional bottlenecks may arise in the future as we continue to increase the production rate and introduce new lines. If we are unable to or otherwise do not maintain and grow our respective operations at Gigafactory Nevada and Gigafactory Shanghai production, or if we are unable to do so cost-effectively or hire and retain highly-skilled personnel there, our ability to manufacture our products profitably would be limited, which may harm our business and operating results.

Finally, the high volumes of lithium-ion cells and battery modules and packs manufactured at Gigafactory Nevada are stored and recycled at our various facilities. Any mishandling of battery cells may cause disruption to the operation of such facilities. While we have implemented safety procedures related to the handling of the cells, there can be no assurance that a safety issue or fire related to the cells would not disrupt our operations. Any such disruptions or issues may harm our brand and business.

We face risks associated with maintaining and expanding our international operations, including unfavorable and uncertain regulatory, political, economic, tax and labor conditions.

We are subject to legal and regulatory requirements, political uncertainty and social, environmental and economic conditions in numerous jurisdictions, including markets in which we generate significant sales, over which we have little control and which are inherently unpredictable. Our operations in such jurisdictions, particularly as a company based in the U.S., create risks relating to conforming our products to regulatory and safety requirements and charging and other electric infrastructures; organizing local operating entities; establishing, staffing and managing foreign business locations; attracting local customers; navigating foreign government taxes, regulations and permit requirements; enforceability of our contractual rights; trade restrictions, customs regulations, tariffs and price or exchange controls; and preferences in foreign nations for domestically manufactured products. Such conditions may increase our costs, impact our ability to sell our products and require significant management attention, and may harm our business if we are unable to manage them effectively.

Our business may suffer if our products or features contain defects, fail to perform as expected or take longer than expected to become fully functional.

If our products contain design or manufacturing defects that cause them not to perform as expected or that require repair, or certain features of our vehicles such as new Autopilot or FSD features take longer than expected to become enabled, are legally restricted or become subject to onerous regulation, our ability to develop, market and sell our products and services may be harmed, and we may experience delivery delays, product recalls, product liability, breach of warranty and consumer protection claims and significant warranty and other expenses. For example, we are developing self-driving and driver assist technologies to rely on vision-based sensors, unlike alternative technologies in development that additionally require other redundant sensors. There is no guarantee that any incremental changes in the specific equipment we deploy in our vehicles over time will not result in initial functional disparities from prior iterations or will perform as expected in the timeframe we anticipate, or at all.

Our products are also highly dependent on software, which is inherently complex and may contain latent defects or errors or be subject to external attacks. Issues experienced by our customers have included those related to the Model S and Model X 17-inch display screen, the panoramic roof and the 12-volt battery in the Model S, the seats and doors in the Model X and the operation of solar panels installed by us. Although we attempt to remedy any issues we observe in our products as effectively and rapidly as possible, such efforts may not be timely, may hamper production or may not completely satisfy our customers. While we have performed, and continue to perform, extensive internal testing on our products and features, we currently have a limited frame of reference by which to evaluate their long-term quality, reliability, durability and performance characteristics. There can be no assurance that we will be able to detect and fix any defects in our products prior to their sale to or installation for customers.

We may be required to defend or insure against product liability claims.

The automobile industry generally experiences significant product liability claims, and as such we face the risk of such claims in the event our vehicles do not perform or are claimed to not have performed as expected. As is true for other automakers, our vehicles have been involved and we expect in the future will be involved in accidents resulting in death or personal injury, and such accidents where Autopilot, Enhanced Autopilot or FSD Capability features are engaged are the subject of significant public attention. We have experienced, and we expect to continue to face, claims and regulatory scrutiny arising from or related to misuse or claimed failures of such new technologies that we are pioneering. In addition, the battery packs that we produce make use of lithium-ion cells. On rare occasions, lithium-ion cells can rapidly release the energy they contain by venting smoke and flames in a manner that can ignite nearby materials as well as other lithium-ion cells. While we have designed our battery packs to passively contain any single cell's release of energy without spreading to neighboring cells, there can be no assurance that a field or testing failure of our vehicles or other battery packs that we produce will not occur, in particular due to a high-speed crash. Likewise, as our solar energy systems and energy storage products generate and store electricity, they have the potential to fail or cause injury to people or property. Any product liability claim may subject us to lawsuits and substantial monetary damages, product recalls or redesign efforts, and even a meritless claim may require us to defend it, all of which may generate negative publicity and be expensive and time-consuming. In most jurisdictions, we generally self-insure against the risk of product liability claims for vehicle exposure, meaning that any product liability claims will likely have to be paid from company funds and not by insurance.

We will need to maintain public credibility and confidence in our long-term business prospects in order to succeed.

In order to maintain and grow our business, we must maintain credibility and confidence among customers, suppliers, analysts, investors, ratings agencies and other parties in our long-term financial viability and business prospects. Maintaining such confidence may be challenging due to our limited operating history relative to established competitors; customer unfamiliarity with our products; any delays we may experience in scaling manufacturing, delivery and service operations to meet demand; competition and uncertainty regarding the future of electric vehicles or our other products and services; our quarterly production and sales performance compared with market expectations; and other factors including those over which we have no control. In particular, Tesla's products, business, results of operations, statements and actions are well-publicized by a range of third parties. Such attention includes frequent criticism, which is often exaggerated or unfounded, such as speculation regarding the sufficiency or stability of our management team. Any such negative perceptions, whether caused by us or not, may harm our business and make it more difficult to raise additional funds if needed.

We may be unable to effectively grow, or manage the compliance, residual value, financing and credit risks related to, our various financing programs.

We offer financing arrangements for our vehicles in North America, Europe and Asia primarily ourselves and through various financial institutions. We also currently offer vehicle financing arrangements directly through our local subsidiaries in certain markets. Depending on the country, such arrangements are available for specified models and may include operating leases directly with us under which we typically receive only a very small portion of the total vehicle purchase price at the time of lease, followed by a stream of payments over the term of the lease. We have also offered various arrangements for customers of our solar energy systems whereby they pay us a fixed payment to lease or finance the purchase of such systems or purchase electricity generated by them. If we do not successfully monitor and comply with applicable national, state and/or local financial regulations and consumer protection laws governing these transactions, we may become subject to enforcement actions or penalties.

The profitability of any directly-leased vehicles returned to us at the end of their leases depends on our ability to accurately project our vehicles' residual values at the outset of the leases, and such values may fluctuate prior to the end of their terms depending on various factors such as supply and demand of our used vehicles, economic cycles and the pricing of new vehicles. We have made in the past and may make in the future certain adjustments to our prices from time to time in the ordinary course of business, which may impact the residual values of our vehicles and reduce the profitability of our vehicle leasing program. The funding and growth of this program also relies on our ability to secure adequate financing and/or business partners. If we are unable to adequately fund our leasing program through internal funds, partners or other financing sources, and compelling alternative financing programs are not available for our customers who may expect or need such options, we may be unable to grow our vehicle deliveries. Furthermore, if our vehicle leasing business grows substantially, our business may suffer if we cannot effectively manage the resulting greater levels of residual risk.

Similarly, we have provided resale value guarantees to vehicle customers and partners for certain financing programs, under which such counterparties may sell their vehicles back to us at certain points in time at pre-determined amounts. However, actual resale values are subject to fluctuations over the term of the financing arrangements, such as from the vehicle pricing changes discussed above. If the actual resale values of any vehicles resold or returned to us pursuant to these programs are materially lower than the pre-determined amounts we have offered, our financial condition and operating results may be harmed.

Finally, our vehicle and solar energy system financing programs and our energy storage sales programs also expose us to customer credit risk. In the event of a widespread economic downturn or other catastrophic event, our customers may be unable or unwilling to satisfy their payment obligations to us on a timely basis or at all. If a significant number of our customers default, we may incur substantial credit losses and/or impairment charges with respect to the underlying assets.

We must manage ongoing obligations under our agreement with the Research Foundation for the State University of New York relating to our Gigafactory New York.

We are party to an operating lease and a research and development agreement through the SUNY Foundation. These agreements provide for the construction and use of our Gigafactory New York, which we have primarily used for the development and production of our Solar Roof and other solar products and components, energy storage components and Supercharger components, and for other lessor-approved functions. Under this agreement, we are obligated to, among other things, meet employment targets as well as specified minimum numbers of personnel in the State of New York and in Buffalo, New York and spend or incur $5.00 billion in combined capital, operational expenses, costs of goods sold and other costs in the State of New York during a period that was initially 10 years beginning April 30, 2018. As we temporarily suspended most of our manufacturing operations at Gigafactory New York pursuant to a New York State executive order issued in March 2020 as a result of the COVID-19 pandemic, we were granted a deferral of our obligation to be compliant with our applicable targets through December 31, 2021 in an amendment memorialized in August 2021. As of June 30, 2022, we are currently in excess of such targets relating to investments and personnel in the State of New York and Buffalo. While we expect to have and grow significant operations at Gigafactory New York and the surrounding Buffalo area, any failure by us in any year over the course of the term of the agreement to meet all applicable future obligations may result in our obligation to pay a "program payment" of $41 million to the SUNY Foundation for such year, the termination of our lease at Gigafactory New York which may require us to pay additional penalties, and/or the need to adjust certain of our operations, in particular our production ramp of the Solar Roof or other components. Any of the foregoing events may harm our business, financial condition and operating results.

If we are unable to attract, hire and retain key employees and qualified personnel, our ability to compete may be harmed.

The loss of the services of any of our key employees or any significant portion of our workforce could disrupt our operations or delay the development, introduction and ramp of our products and services. In particular, we are highly dependent on the services of Elon Musk, Technoking of Tesla and our Chief Executive Officer. None of our key employees is bound by an employment agreement for any specific term and we may not be able to successfully attract and retain senior leadership necessary to grow our business. Our future success also depends upon our ability to attract, hire and retain a large number of engineering, manufacturing, marketing, sales and delivery, service, installation, technology and support personnel, especially to support our planned high-volume product sales, market and geographical expansion and technological innovations. Recruiting efforts, particularly for senior employees, may be time-consuming, which may delay the execution of our plans. If we are not successful in managing these risks, our business, financial condition and operating results may be harmed.

Employees may leave Tesla or choose other employers over Tesla due to various factors, such as a very competitive labor market for talented individuals with automotive or technology experience, or any negative publicity related to us. In regions where we have or will have operations, particularly significant engineering and manufacturing centers, there is strong competition for individuals with skillsets needed for our business, including specialized knowledge of electric vehicles, engineering and electrical and building construction expertise. Moreover, we may be impacted by perceptions relating to reductions in force that we have conducted in the past in order to optimize our organizational structure and reduce costs and the departure of certain senior personnel for various reasons. We also compete with both mature and prosperous companies that have far greater financial resources than we do and start-ups and emerging companies that promise short-term growth opportunities.

Finally, our compensation philosophy for all of our personnel reflects our startup origins, with an emphasis on equity-based awards and benefits in order to closely align their incentives with the long-term interests of our stockholders. We periodically seek and obtain approval from our stockholders for future increases to the number of awards available under our equity incentive and employee stock purchase plans. If we are unable to obtain the requisite stockholder approvals for such future increases, we may have to expend additional cash to compensate our employees and our ability to retain and hire qualified personnel may be harmed.

We are highly dependent on the services of Elon Musk, Technoking of Tesla and our Chief Executive Officer.

We are highly dependent on the services of Elon Musk, Technoking of Tesla and our Chief Executive Officer. Although Mr. Musk spends significant time with Tesla and is highly active in our management, he does not devote his full time and attention to Tesla. Mr. Musk also currently serves as Chief Executive Officer and Chief Technical Officer of Space Exploration Technologies Corp., a developer and manufacturer of space launch vehicles, and is involved in other emerging technology ventures.

Our information technology systems or data, or those of our service providers or customers or users could be subject to cyber-attacks or other security incidents, which could result in data breaches, intellectual property theft, claims, litigation, regulatory investigations, significant liability, reputational damage and other adverse consequences.

We continue to expand our information technology systems as our operations grow, such as product data management, procurement, inventory management, production planning and execution, sales, service and logistics, dealer management, financial, tax and regulatory compliance systems. This includes the implementation of new internally developed systems and the deployment of such systems in the U.S. and abroad. While, we maintain information technology measures designed to protect us against intellectual property theft, data breaches, sabotage and other external or internal cyber-attacks or misappropriation, our systems and those of our service providers are potentially vulnerable to malware, ransomware, viruses, denial-of-service attacks, phishing attacks, social engineering, computer hacking, unauthorized access, exploitation of bugs, defects and vulnerabilities, breakdowns, damage, interruptions, system malfunctions, power outages, terrorism, acts of vandalism, security breaches, security incidents, inadvertent or intentional actions by employees or other third parties, and other cyber-attacks.

To the extent any security incident results in unauthorized access or damage to or acquisition, use, corruption, loss, destruction, alteration or dissemination of our data, including intellectual property and personal information, or our products or vehicles, or for it to be believed or reported that any of these occurred, it could disrupt our business, harm our reputation, compel us to comply with applicable data breach notification laws, subject us to time consuming, distracting and expensive litigation, regulatory investigation and oversight, mandatory corrective action, require us to verify the correctness of database contents, or otherwise subject us to liability under laws, regulations and contractual obligations, including those that protect the privacy and security of personal information. This could result in increased costs to us and result in significant legal and financial exposure and/or reputational harm.

We also rely on service providers, and similar incidents relating to their information technology systems could also have a material adverse effect on our business. There have been and may continue to be significant supply chain attacks. Our service providers, including our workforce management software provider, have been subject to ransomware and other security incidents, and we cannot guarantee that our or our service providers' systems have not been breached or that they do not contain exploitable defects, bugs, or vulnerabilities that could result in a security incident, or other disruption to, our or our service providers' systems. Our ability to monitor our service providers' security measures is limited, and, in any event, malicious third parties may be able to circumvent those security measures.

Further, the implementation, maintenance, segregation and improvement of these systems require significant management time, support and cost, and there are inherent risks associated with developing, improving and expanding our core systems as well as implementing new systems and updating current systems, including disruptions to the related areas of business operation. These risks may affect our ability to manage our data and inventory, procure parts or supplies or manufacture, sell, deliver and service products, adequately protect our intellectual property or achieve and maintain compliance with, or realize available benefits under, tax laws and other applicable regulations.

Moreover, if we do not successfully implement, maintain or expand these systems as planned, our operations may be disrupted, our ability to accurately and/or timely report our financial results could be impaired and deficiencies may arise in our internal control over financial reporting, which may impact our ability to certify our financial results. Moreover, our proprietary information, including intellectual property and personal information, could be compromised or misappropriated and our reputation may be adversely affected. If these systems or their functionality do not operate as we expect them to, we may be required to expend significant resources to make corrections or find alternative sources for performing these functions.

Any unauthorized control or manipulation of our products' systems could result in loss of confidence in us and our products.

Our products contain complex information technology systems. For example, our vehicles and energy storage products are designed with built-in data connectivity to accept and install periodic remote updates from us to improve or update their functionality. While we have implemented security measures intended to prevent unauthorized access to our information technology networks, our products and their systems, malicious entities have reportedly attempted, and may attempt in the future, to gain unauthorized access to modify, alter and use such networks, products and systems to gain control of, or to change, our products' functionality, user interface and performance characteristics or to gain access to data stored in or generated by our products. We encourage reporting of potential vulnerabilities in the security of our products through our security vulnerability reporting policy, and we aim to remedy any reported and verified vulnerability. However, there can be no assurance that any vulnerabilities will not be exploited before they can be identified, or that our remediation efforts are or will be successful.

Any unauthorized access to or control of our products or their systems or any loss of data could result in legal claims or government investigations. In addition, regardless of their veracity, reports of unauthorized access to our products, their systems or data, as well as other factors that may result in the perception that our products, their systems or data are capable of being hacked, may harm our brand, prospects and operating results. We have been the subject of such reports in the past.

Our business may be adversely affected by any disruptions caused by union activities.

It is not uncommon for employees of certain trades at companies such as us to belong to a union, which can result in higher employee costs and increased risk of work stoppages. Moreover, regulations in some jurisdictions outside of the U.S. mandate employee participation in industrial collective bargaining agreements and work councils with certain consultation rights with respect to the relevant companies' operations. Although we work diligently to provide the best possible work environment for our employees, they may still decide to join or seek recognition to form a labor union, or we may be required to become a union signatory. From time to time, labor unions have engaged in campaigns to organize certain of our operations, as part of which such unions have filed unfair labor practice charges against us with the National Labor Relations Board (the "NLRB"), and they may do so in the future. In September 2019, an administrative law judge issued a recommended decision for Tesla on certain issues and against us on certain others. In March 2021, the NLRB adopted a portion of the recommendation and overturned others. Tesla appealed the decision to the United States Circuit Court for the Fifth Circuit, which is currently pending. Any unfavorable ultimate outcome for Tesla may have a negative impact on the perception of Tesla's treatment of our employees. Furthermore, we are directly or indirectly dependent upon companies with unionized work forces, such as suppliers and trucking and freight companies. Any work stoppages or strikes organized by such unions could delay the manufacture and sale of our products and may harm our business and operating results.

We may choose to or be compelled to undertake product recalls or take other similar actions.

As a manufacturing company, we must manage the risk of product recalls with respect to our products. Recalls for our vehicles have resulted from various hardware and software-related safety defect or non-compliance determinations. In addition to recalls initiated by us for various causes, testing of or investigations into our products by government regulators or industry groups may compel us to initiate product recalls or may result in negative public perceptions about the safety of our products, even if we disagree with the defect determination or have data that shows the actual safety risk to be non-existent. In the future, we may voluntarily or involuntarily initiate recalls if any of our products are determined by us or a regulator to contain a safety defect or be noncompliant with applicable laws and regulations, such as U.S. Federal Motor Vehicle Safety Standards. Such recalls, whether voluntary or involuntary or caused by systems or components engineered or manufactured by us or our suppliers, could result in significant expense, supply chain complications and service burdens, and may harm our brand, business, prospects, financial condition and operating results.

Our current and future warranty reserves may be insufficient to cover future warranty claims.

We provide a manufacturer's warranty on all new and used Tesla vehicles we sell. We also provide certain warranties with respect to the energy generation and storage systems we sell, including on their installation and maintenance. For components not manufactured by us, we generally pass through to our customers the applicable manufacturers' warranties, but may retain some warranty responsibilities for some or all of the life of such components. As part of our energy generation and storage system contracts, we may provide the customer with performance guarantees that guarantee that the underlying system will meet or exceed the minimum energy generation or other energy performance requirements specified in the contract. Under these performance guarantees, we generally bear the risk of electricity production or other performance shortfalls, including in some cases shortfalls caused by failures in components from third party manufacturers. These risks are exacerbated in the event such manufacturers cease operations or fail to honor their warranties.

If our warranty reserves are inadequate to cover future warranty claims on our products, our financial condition and operating results may be harmed. Warranty reserves include our management's best estimates of the projected costs to repair or to replace items under warranty, which are based on actual claims incurred to date and an estimate of the nature, frequency and costs of future claims. Such estimates are inherently uncertain and changes to our historical or projected experience, especially with respect to products such as Model 3, Model Y and Solar Roof that we have introduced relatively recently and/or that we expect to produce at significantly greater volumes than our past products, may cause material changes to our warranty reserves in the future.

Our insurance coverage strategy may not be adequate to protect us from all business risks.

We may be subject, in the ordinary course of business, to losses resulting from products liability, accidents, acts of God and other claims against us, for which we may have no insurance coverage. As a general matter, we do not maintain as much insurance coverage as many other companies do, and in some cases, we do not maintain any at all. Additionally, the policies that we do have may include significant deductibles or self-insured retentions, policy limitations and exclusions, and we cannot be certain that our insurance coverage will be sufficient to cover all future losses or claims against us. A loss that is uninsured or which exceeds policy limits may require us to pay substantial amounts, which may harm our financial condition and operating results.

Our debt agreements contain covenant restrictions that may limit our ability to operate our business.

The terms of certain of our credit facilities, including our senior asset-based revolving credit agreement, contain, and any of our other future debt agreements may contain, covenant restrictions that limit our ability to operate our business, including restrictions on our ability to, among other things, incur additional debt or issue guarantees, create liens, repurchase stock, or make other restricted payments, and make certain voluntary prepayments of specified debt. In addition, under certain circumstances we are required to comply with a fixed charge coverage ratio. As a result of these covenants, our ability to respond to changes in business and economic conditions and engage in beneficial transactions, including to obtain additional financing as needed, may be restricted. Furthermore, our failure to comply with our debt covenants could result in a default under our debt agreements, which could permit the holders to accelerate our obligation to repay the debt. If any of our debt is accelerated, we may not have sufficient funds available to repay it.

Additional funds may not be available to us when we need or want them.

Our business and our future plans for expansion are capital-intensive, and the specific timing of cash inflows and outflows may fluctuate substantially from period to period. We may need or want to raise additional funds through the issuance of equity, equity-related or debt securities or through obtaining credit from financial institutions to fund, together with our principal sources of liquidity, the costs of developing and manufacturing our current or future products, to pay any significant unplanned or accelerated expenses or for new significant strategic investments, or to refinance our significant consolidated indebtedness, even if not required to do so by the terms of such indebtedness. We cannot be certain that additional funds will be available to us on favorable terms when required, or at all. If we cannot raise additional funds when we need them, our financial condition, results of operations, business and prospects could be materially and adversely affected.

We may be negatively impacted by any early obsolescence of our manufacturing equipment.

We depreciate the cost of our manufacturing equipment over their expected useful lives. However, product cycles or manufacturing technology may change periodically, and we may decide to update our products or manufacturing processes more quickly than expected. Moreover, improvements in engineering and manufacturing expertise and efficiency may result in our ability to manufacture our products using less of our currently installed equipment. Alternatively, as we ramp and mature the production of our products to higher levels, we may discontinue the use of already installed equipment in favor of different or additional equipment. The useful life of any equipment that would be retired early as a result would be shortened, causing the depreciation on such equipment to be accelerated, and our results of operations may be harmed.

We hold and may acquire digital assets that may be subject to volatile market prices, impairment and unique risks of loss.

In January 2021, we updated our investment policy to provide us with more flexibility to further diversify and maximize returns on our cash that is not required to maintain adequate operating liquidity, allowing us to invest a portion of such cash in certain alternative reserve assets including digital assets, gold bullion, gold exchange-traded funds and other assets as specified in the future. Thereafter, we invested certain of such cash in bitcoin. As with any investment and consistent with how we manage fiat-based cash and cash equivalent accounts, we may increase or decrease our holdings of digital assets at any time based on the needs of the business and on our view of market and environmental conditions.

The prices of digital assets have been in the past and may continue to be highly volatile, including as a result of various associated risks and uncertainties. For example, the prevalence of such assets is a relatively recent trend, and their long-term adoption by investors, consumers and businesses is unpredictable. Moreover, their lack of a physical form, their reliance on technology for their creation, existence and transactional validation and their decentralization may subject their integrity to the threat of malicious attacks and technological obsolescence. Finally, the extent to which securities laws or other regulations apply or may apply in the future to such assets is unclear and may change in the future. If we hold digital assets and their values decrease relative to our purchase prices, our financial condition may be harmed.

Moreover, digital assets are currently considered indefinite-lived intangible assets under applicable accounting rules, meaning that any decrease in their fair values below our carrying values for such assets at any time subsequent to their acquisition will require us to recognize impairment charges, whereas we may make no upward revisions for any market price increases until a sale, which may adversely affect our operating results in any period in which such impairment occurs. Moreover, there is no guarantee that future changes in GAAP will not require us to change the way we account for digital assets held by us.

Finally, as intangible assets without centralized issuers or governing bodies, digital assets have been, and may in the future be, subject to security breaches, cyberattacks or other malicious activities, as well as human errors or computer malfunctions that may result in the loss or destruction of private keys needed to access such assets. While we intend to take all reasonable measures to secure any digital assets, if such threats are realized or the measures or controls we create or implement to secure our digital assets fail, it could result in a partial or total misappropriation or loss of our digital assets, and our financial condition and operating results may be harmed.

There is no guarantee that we will have sufficient cash flow from our business to pay our indebtedness or that we will not incur additional indebtedness.

As of June 30, 2022, we and our subsidiaries had outstanding $3.18 billion in aggregate principal amount of indebtedness (see *Note 10, Debt*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q). Our consolidated indebtedness may increase our vulnerability to any generally adverse economic and industry conditions. We and our subsidiaries may, subject to the limitations in the terms of our existing and future indebtedness, incur additional debt, secure existing or future debt or recapitalize our debt.

Our ability to make scheduled payments of the principal and interest on our indebtedness when due, to make payments upon conversion or repurchase demands with respect to our convertible senior notes or to refinance our indebtedness as we may need or desire, depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to satisfy our obligations under our existing indebtedness and any future indebtedness we may incur, and to make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as reducing or delaying investments or capital expenditures, selling assets, refinancing or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance existing or future indebtedness will depend on the capital markets and our financial condition at such time. In addition, our ability to make payments may be limited by law, by regulatory authority or by agreements governing our future indebtedness. We may not be able to engage in these activities on desirable terms or at all, which may result in a default on our existing or future indebtedness and harm our financial condition and operating results.

We are exposed to fluctuations in currency exchange rates.

We transact business globally in multiple currencies and have foreign currency risks related to our revenue, costs of revenue, operating expenses and localized subsidiary debt denominated in currencies other than the U.S. dollar, currently primarily the Chinese yuan, euro, pound sterling and Norwegian krone. To the extent we have significant revenues denominated in such foreign currencies, any strengthening of the U.S. dollar would tend to reduce our revenues as measured in U.S. dollars, as we have historically experienced. In addition, a portion of our costs and expenses have been, and we anticipate will continue to be, denominated in foreign currencies, including the Chinese yuan and Japanese yen. If we do not have fully offsetting revenues in these currencies and if the value of the U.S. dollar depreciates significantly against these currencies, our costs as measured in U.S. dollars as a percent of our revenues will correspondingly increase and our margins will suffer. Moreover, while we undertake limited hedging activities intended to offset the impact of currency translation exposure, it is impossible to predict or eliminate such impact. As a result, our operating results may be harmed.

We may need to defend ourselves against intellectual property infringement claims, which may be time-consuming and expensive.

Our competitors or other third parties may hold or obtain patents, copyrights, trademarks or other proprietary rights that could prevent, limit or interfere with our ability to make, use, develop, sell or market our products and services, which could make it more difficult for us to operate our business. From time to time, the holders of such intellectual property rights may assert their rights and urge us to take licenses and/or may bring suits alleging infringement or misappropriation of such rights, which could result in substantial costs, negative publicity and management attention, regardless of merit. While we endeavor to obtain and protect the intellectual property rights that we expect will allow us to retain or advance our strategic initiatives, there can be no assurance that we will be able to adequately identify and protect the portions of intellectual property that are strategic to our business, or mitigate the risk of potential suits or other legal demands by our competitors. Accordingly, we may consider the entering into licensing agreements with respect to such rights, although no assurance can be given that such licenses can be obtained on acceptable terms or that litigation will not occur, and such licenses and associated litigation could significantly increase our operating expenses. In addition, if we are determined to have or believe there is a high likelihood that we have infringed upon a third party's intellectual property rights, we may be required to cease making, selling or incorporating certain components or intellectual property into the goods and services we offer, to pay substantial damages and/or license royalties, to redesign our products and services and/or to establish and maintain alternative branding for our products and services. In the event that we are required to take one or more such actions, our brand, business, financial condition and operating results may be harmed.

Increased scrutiny and changing expectations from stakeholders with respect to the Company's ESG practices may result in additional costs or risks.

Companies across many industries are facing increasing scrutiny related to their environmental, social and governance (ESG) practices. Investor advocacy groups, certain institutional investors, investment funds and other influential investors are also increasingly focused on ESG practices and in recent years have placed increasing importance on the non-financial impacts of their investments. While our mission is to accelerate the world's transition to sustainable energy, if our ESG practices do not meet investor or other industry stakeholder expectations, which continue to evolve, we may incur additional costs and our brand, ability to attract and retain qualified employees and business may be harmed.

Our operations could be adversely affected by events outside of our control, such as natural disasters, wars or health epidemics.

We may be impacted by natural disasters, wars, health epidemics, weather conditions, the long-term effects of climate change, power outages or other events outside of our control. For example, our Fremont Factory and Gigafactory Nevada are located in seismically active regions in Northern California and Nevada, and our Gigafactory Shanghai is located in a flood-prone area. Moreover, the area in which our Gigafactory Texas is located experienced severe winter storms in the first quarter of 2021 that had a widespread impact on utilities and transportation. If major disasters such as earthquakes, floods or other climate-related events occur, or our information system or communication breaks down or operates improperly, our headquarters and production facilities may be seriously damaged, or we may have to stop or delay production and shipment of our products. In addition, the global COVID-19 pandemic has impacted economic markets, manufacturing operations, supply chains, employment and consumer behavior in nearly every geographic region and industry across the world, and we have been, and may in the future be, adversely affected as a result. Also, the broader consequences in the current conflict between Russia and Ukraine, which may include further embargoes, regional instability and geopolitical shifts; airspace bans relating to certain routes, or strategic decisions to alter certain routes; and potential retaliatory action by the Russian government against companies, and the extent of the conflict on our business and operating results cannot be predicted. We may incur expenses or delays relating to such events outside of our control, which could have a material adverse impact on our business, operating results and financial condition.

Risks Related to Government Laws and Regulations

Demand for our products and services may be impacted by the status of government and economic incentives supporting the development and adoption of such products.

Government and economic incentives that support the development and adoption of electric vehicles in the U.S. and abroad, including certain tax exemptions, tax credits and rebates, may be reduced, eliminated or exhausted from time to time. For example, previously available incentives favoring electric vehicles in areas including Ontario, Canada, Netherlands, Italy, Hong Kong and California have expired or were cancelled or temporarily unavailable, and in some cases were not eventually replaced or reinstituted, which may have negatively impacted sales. Certain government and economic incentives may also be implemented that provide disproportionate benefits to manufacturers who assemble domestically, have local suppliers or have other characteristics that may not apply to Tesla. Any similar developments could have some negative impact on demand for our vehicles, and we and our customers may have to adjust to them.

In addition, certain governmental rebates, tax credits and other financial incentives that are currently available with respect to our solar and energy storage product businesses allow us to lower our costs and encourage customers to buy our products and investors to invest in our solar financing funds. However, these incentives may expire when the allocated funding is exhausted, reduced or terminated as renewable energy adoption rates increase, sometimes without warning. For example, the U.S. federal government currently offers certain tax credits for the installation of solar power facilities and energy storage systems that are charged from a co-sited solar power facility; however, these tax credits are currently scheduled to decline and/or expire in 2023 and beyond. Likewise, in jurisdictions where net metering is currently available, our customers receive bill credits from utilities for energy that their solar energy systems generate and export to the grid in excess of the electric load they use. The benefit available under net metering has been or has been proposed to be reduced, altered or eliminated in several jurisdictions, and has also been contested and may continue to be contested before the Federal Energy Regulatory Commission. Any reductions or terminations of such incentives may harm our business, prospects, financial condition and operating results by making our products less competitive for customers, increasing our cost of capital and adversely impacting our ability to attract investment partners and to form new financing funds for our solar and energy storage assets.

Finally, we and our fund investors claim these U.S. federal tax credits and certain state incentives in amounts based on independently appraised fair market values of our solar and energy storage systems. Some governmental authorities have audited such values and in certain cases have determined that these values should be lower, and they may do so again in the future. Such determinations may result in adverse tax consequences and/or our obligation to make indemnification or other payments to our funds or fund investors.

We are subject to evolving laws and regulations that could impose substantial costs, legal prohibitions or unfavorable changes upon our operations or products.

As we grow our manufacturing operations in additional regions, we are or will be subject to complex environmental, manufacturing, health and safety laws and regulations at numerous jurisdictional levels in the U.S., China, Germany and other locations abroad, including laws relating to the use, handling, storage, recycling, disposal and/or human exposure to hazardous materials, product material inputs and post-consumer products and with respect to constructing, expanding and maintaining our facilities. New, or changes in, environmental and climate change laws, regulations or rules could also lead to increased costs of compliance, including remediations of any discovered issues, and changes to our operations, which may be significant, and any failures to comply could result in significant expenses, delays or fines. In addition, as we have increased our employee headcount and operations, we are and may continue to be subject to increased scrutiny, including litigation and government investigations relating to allegations such as discrimination and workplace misconduct, that we will need to defend against. If we are unable to successfully defend ourselves in such litigation or government investigations, it may harm our brand, ability to attract and retain qualified employees, business and financial condition. We are also subject to laws and regulations applicable to the supply, manufacture, import, sale and service of our products both domestically and abroad. For example, in countries outside of the U.S., we are required to meet standards relating to vehicle safety, fuel economy and emissions that are often materially different from requirements in the U.S., thus resulting in additional investment into the vehicles and systems to ensure regulatory compliance in those countries. This process may include official review and certification of our vehicles by foreign regulatory agencies prior to market entry, as well as compliance with foreign reporting and recall management systems requirements.

In particular, we offer in our vehicles in certain markets Enhanced Autopilot and FSD Capability features that today assist drivers with certain tedious and potentially dangerous aspects of road travel, but which currently require drivers to remain fully engaged in the driving operation. We are continuing to develop our Autopilot and FSD Capability technology with the goal of achieving fully self-driving capability in the future. There are a variety of international, federal and state regulations that may apply to the sale, registration and operation of fully self-driving vehicles, which include many existing vehicle standards that were not originally intended to apply to vehicles that may not be operated by a human driver. Such regulations continue to rapidly change, which increases the likelihood of a patchwork of complex or conflicting regulations, or may delay products or restrict certain features and their availability, which could adversely affect our business.

Finally, as a manufacturer, installer and service provider with respect to solar generation and energy storage systems, a supplier of electricity generated and stored by certain of the solar energy and energy storage systems we install for customers, and a provider of grid services through virtual power plant models, we are impacted by federal, state and local regulations and policies concerning the import or export of components, electricity pricing, the interconnection of electricity generation and storage equipment with the electrical grid and the sale of electricity generated by third party-owned systems. If regulations and policies are introduced that adversely impact the import or export of components, or the interconnection, maintenance or use of our solar and energy storage systems, they could deter potential customers from purchasing our solar and energy storage products and services, threaten the economics of our existing contracts and cause us to cease solar and energy storage system sales and services in the relevant jurisdictions, which may harm our business, financial condition and operating results.

Any failure by us to comply with a variety of U.S. and international privacy and consumer protection laws may harm us.

Any failure by us or our vendor or other business partners to comply with our public privacy notice or with federal, state or international privacy, data protection or security laws or regulations relating to the processing, collection, use, retention, security and transfer of personally identifiable information could result in regulatory or litigation-related actions against us, legal liability, fines, damages, ongoing audit requirements and other significant costs. Substantial expenses and operational changes may be required in connection with maintaining compliance with such laws, and even an unsuccessful challenge by customers or regulatory authorities of our activities could result in adverse publicity and could require a costly response from and defense by us. In addition, certain emerging privacy laws are still subject to a high degree of uncertainty as to their interpretation, application and impact, and may require extensive system and operational changes, be difficult to implement, increase our operating costs, adversely impact the cost or attractiveness of the products or services we offer, or result in adverse publicity and harm our reputation. For example, the General

Data Protection Regulation applies to the processing of personal information collected from individuals located in the European Union, and has created new compliance obligations and significantly increased fines for noncompliance. Similarly, the California Consumer Privacy Act imposes certain legal obligations on our use and processing of personal information related to California residents. Finally, new privacy and cybersecurity laws have come into effect in China. In addition to the risks related to general privacy regulation, we may also be subject to specific vehicle manufacturer obligations relating to cybersecurity, data privacy and data localization requirements which place additional risks to our international operations. Risks and penalties could include ongoing audit requirements, data protection authority investigations, legal proceedings by international governmental entities or others resulting in mandated disclosure of sensitive data or other commercially unfavorable terms. Notwithstanding our efforts to protect the security and integrity of our customers' personal information, we may be required to expend significant resources to comply with data breach requirements if, for example, third parties improperly obtain and use the personal information of our customers or we otherwise experience a data loss with respect to customers' personal information. A major breach of our network security and systems may result in fines, penalties and damages and harm our brand, prospects and operating results.

We could be subject to liability, penalties and other restrictive sanctions and adverse consequences arising out of certain governmental investigations and proceedings.

We are cooperating with certain government investigations as discussed in Note 12, *Commitments and Contingencies*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q. To our knowledge, no government agency in any such ongoing investigation has concluded that any wrongdoing occurred. However, we cannot predict the outcome or impact of any such ongoing matters, and there exists the possibility that we could be subject to liability, penalties and other restrictive sanctions and adverse consequences if the SEC, the U.S. Department of Justice or any other government agency were to pursue legal action in the future. Moreover, we expect to incur costs in responding to related requests for information and subpoenas, and if instituted, in defending against any governmental proceedings.

For example, on October 16, 2018, the U.S. District Court for the Southern District of New York entered a final judgment approving the terms of a settlement filed with the Court on September 29, 2018, in connection with the actions taken by the SEC relating to Mr. Musk's statement on August 7, 2018 that he was considering taking Tesla private. Pursuant to the settlement, we, among other things, paid a civil penalty of $20 million, appointed an independent director as the chair of our board of directors, appointed two additional independent directors to our board of directors and made further enhancements to our disclosure controls and other corporate governance-related matters. On April 26, 2019, this settlement was amended to clarify certain of the previously-agreed disclosure procedures, which was subsequently approved by the Court. All other terms of the prior settlement were reaffirmed without modification. Although we intend to continue to comply with the terms and requirements of the settlement, if there is a lack of compliance or an alleged lack of compliance, additional enforcement actions or other legal proceedings may be instituted against us.

We may face regulatory challenges to or limitations on our ability to sell vehicles directly.

While we intend to continue to leverage our most effective sales strategies, including sales through our website, we may not be able to sell our vehicles through our own stores in certain states in the U.S. with laws that may be interpreted to impose limitations on this direct-to-consumer sales model. It has also been asserted that the laws in some states limit our ability to obtain dealer licenses from state motor vehicle regulators, and such assertions persist. In certain locations, decisions by regulators permitting us to sell vehicles have been, and may be, challenged by dealer associations and others as to whether such decisions comply with applicable state motor vehicle industry laws. We have prevailed in many of these lawsuits and such results have reinforced our continuing belief that state laws were not intended to apply to a manufacturer that does not have franchise dealers. In some states, there have also been regulatory and legislative efforts by dealer associations to propose laws that, if enacted, would prevent us from obtaining dealer licenses in their states given our current sales model. A few states have passed legislation that clarifies our ability to operate, but at the same time limits the number of dealer licenses we can obtain or stores that we can operate. The application of state laws applicable to our operations continues to be difficult to predict.

Internationally, there may be laws in jurisdictions we have not yet entered or laws we are unaware of in jurisdictions we have entered that may restrict our sales or other business practices. Even for those jurisdictions we have analyzed, the laws in this area can be complex, difficult to interpret and may change over time. Continued regulatory limitations and other obstacles interfering with our ability to sell vehicles directly to consumers may harm our financial condition and operating results.

Risks Related to the Ownership of Our Common Stock

The trading price of our common stock is likely to continue to be volatile.

The trading price of our common stock has been highly volatile and could continue to be subject to wide fluctuations in response to various factors, some of which are beyond our control. Our common stock has experienced over the last 52 weeks an intra-day trading high of $1,243.49 per share and a low of $620.57 per share. The stock market in general, and the market for technology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. In particular, a large proportion of our common stock has been historically and may in the future be traded by short sellers which may put pressure on the supply and demand for our common stock, further influencing volatility in its market price. Public perception and other factors outside of our control may additionally impact the stock price of companies like us that garner a disproportionate degree of public attention, regardless of actual operating performance. In addition, in the past, following periods of volatility in the overall market or the market price of our shares, securities class action litigation has been filed against us. While we defend such actions vigorously, any judgment against us or any future stockholder litigation could result in substantial costs and a diversion of our management's attention and resources.

Our financial results may vary significantly from period to period due to fluctuations in our operating costs and other factors.

We expect our period-to-period financial results to vary based on our operating costs, which we anticipate will fluctuate as the pace at which we continue to design, develop and manufacture new products and increase production capacity by expanding our current manufacturing facilities and adding future facilities, may not be consistent or linear between periods. Additionally, our revenues from period to period may fluctuate as we introduce existing products to new markets for the first time and as we develop and introduce new products. As a result of these factors, we believe that quarter-to-quarter comparisons of our financial results, especially in the short term, are not necessarily meaningful and that these comparisons cannot be relied upon as indicators of future performance. Moreover, our financial results may not meet expectations of equity research analysts, ratings agencies or investors, who may be focused only on short-term quarterly financial results. If any of this occurs, the trading price of our stock could fall substantially, either suddenly or over time.

We may fail to meet our publicly announced guidance or other expectations about our business, which could cause our stock price to decline.

We may provide from time to time guidance regarding our expected financial and business performance. Correctly identifying key factors affecting business conditions and predicting future events is inherently an uncertain process, and our guidance may not ultimately be accurate and has in the past been inaccurate in certain respects, such as the timing of new product manufacturing ramps. Our guidance is based on certain assumptions such as those relating to anticipated production and sales volumes (which generally are not linear throughout a given period), average sales prices, supplier and commodity costs and planned cost reductions. If our guidance varies from actual results due to our assumptions not being met or the impact on our financial performance that could occur as a result of various risks and uncertainties, the market value of our common stock could decline significantly.

Transactions relating to our convertible senior notes may dilute the ownership interest of existing stockholders, or may otherwise depress the price of our common stock.

The conversion of some or all of the convertible senior notes issued by us or our subsidiaries would dilute the ownership interests of existing stockholders to the extent we deliver shares upon conversion of any of such notes by their holders, and we may be required to deliver a significant number of shares. Any sales in the public market of the common stock issuable upon such conversion could adversely affect their prevailing market prices. In addition, the existence of the convertible senior notes may encourage short selling by market participants because the conversion of such notes could be used to satisfy short positions, or the anticipated conversion of such notes into shares of our common stock could depress the price of our common stock.

If Elon Musk were forced to sell shares of our common stock that he has pledged to secure certain personal loan obligations, such sales could cause our stock price to decline.

Certain banking institutions have made extensions of credit to Elon Musk, our Chief Executive Officer, a portion of which was used to purchase shares of common stock in certain of our public offerings and private placements at the same prices offered to third-party participants in such offerings and placements. We are not a party to these loans, which are partially secured by pledges of a portion of the Tesla common stock currently owned by Mr. Musk. If the price of our common stock were to decline substantially, Mr. Musk may be forced by one or more of the banking institutions to sell shares of Tesla common stock to satisfy his loan obligations if he could not do so through other means. Any such sales could cause the price of our common stock to decline further.

Anti-takeover provisions contained in our governing documents, applicable laws and our convertible senior notes could impair a takeover attempt.

Our certificate of incorporation and bylaws afford certain rights and powers to our board of directors that may facilitate the delay or prevention of an acquisition that it deems undesirable. We are also subject to Section 203 of the Delaware General Corporation Law and other provisions of Delaware law that limit the ability of stockholders in certain situations to effect certain business combinations. In addition, the terms of our convertible senior notes may require us to repurchase such notes in the event of a fundamental change, including a takeover of our company. Any of the foregoing provisions and terms that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

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

In connection with the offering of the 2.375% Convertible Senior Notes due 2022, in March 2017 we sold warrants to each of Goldman, Sachs & Co., Deutsche Bank Securities Inc., Citigroup Global Markets Inc. (later partially assigned to National Bank of Canada), Morgan Stanley & Co. LLC, Barclays Capital Inc. or their respective affiliates (the “2017 Warrantholders”). Between June 17, 2022 and June 30, 2022, we issued an aggregate of 2,727,769 shares of our common stock to the 2017 Warrantholders pursuant to their exercise of such warrants, which were net of the applicable exercise prices. Such shares were issued pursuant to an exemption from registration provided by Rule 3(a)(9) of the Securities Act of 1933.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

See Index to Exhibits at the end of this Quarterly Report on Form 10-Q for the information required by this Item.

INDEX TO EXHIBITS

Exhibit Number	Exhibit Description	Form	Incorporated by Reference File No.	Exhibit	Filing Date	Filed Herewith
31.1	Rule 13a-14(a) / 15(d)-14(a) Certification of Principal Executive Officer	—	—	—	—	X
31.2	Rule 13a-14(a) / 15(d)-14(a) Certification of Principal Financial Officer	—	—	—	—	X
32.1*	Section 1350 Certifications	—	—	—	—	
101.INS	Inline XBRL Instance Document	—	—	—	—	X
101.SCH	Inline XBRL Taxonomy Extension Schema Document	—	—	—	—	X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.	—	—	—	—	X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	—	—	—	—	X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	—	—	—	—	X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	—	—	—	—	X
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101)					

* Furnished herewith

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

Tesla, Inc.

Date: July 25, 2022

/s/ Zachary J. Kirkhorn
Zachary J. Kirkhorn
Chief Financial Officer
(Principal Financial Officer and
Duly Authorized Officer)