

**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 September 30, 2019
OR
☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
Commission File Number: 001-34756

Tesla, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization) 3500 Deer Creek Road Palo Alto, California (Address of principal executive offices)	91-2197729 (I.R.S. Employer Identification No.) 94304 (Zip Code) (650) 681-5000 (Registrant's telephone number, including area code)
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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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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 October 21, 2019, there were 180,244,858 shares of the registrant's common stock outstanding.

TESLA, INC.
FORM 10-Q FOR THE QUARTER ENDED SEPTEMBER 30, 2019
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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 our strategy, future operations, 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. 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 for par values)
(unaudited)

	September 30, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	\$ 5,338	\$ 3,686
Restricted cash	233	193
Accounts receivable, net	1,128	949
Inventory	3,581	3,113
Prepaid expenses and other current assets	660	366
Total current assets	10,940	8,307
Operating lease vehicles, net	2,253	2,090
Solar energy systems, net	6,168	6,271
Property, plant and equipment, net	10,190	11,330
Operating lease right-of-use assets	1,234	—
Intangible assets, net	351	282
Goodwill	186	68
MyPower customer notes receivable, net of current portion	398	422
Restricted cash, net of current portion	255	398
Other assets	820	572
Total assets	\$ 32,795	\$ 29,740
Liabilities		
Current liabilities		
Accounts payable	\$ 3,468	\$ 3,405
Accrued liabilities and other	2,497	2,094
Deferred revenue	1,045	630
Resale value guarantees	441	503
Customer deposits	665	793
Current portion of long-term debt and finance leases	2,030	2,568
Total current liabilities	10,146	9,993
Long-term debt and finance leases, net of current portion	11,313	9,404
Deferred revenue, net of current portion	1,140	991
Resale value guarantees, net of current portion	38	329
Other long-term liabilities	2,676	2,710
Total liabilities	25,313	23,427
Commitments and contingencies (Note 14)		
Redeemable noncontrolling interests in subsidiaries	600	556
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; 180 and 173 shares issued and outstanding as of September 30, 2019 and December 31, 2018, respectively	0	0
Additional paid-in capital	12,348	10,249
Accumulated other comprehensive loss	(120)	(8)
Accumulated deficit	(6,188)	(5,318)
Total stockholders' equity	6,040	4,923
Noncontrolling interests in subsidiaries	842	834
Total liabilities and equity	\$ 32,795	\$ 29,740

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 September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Revenues				
Automotive sales	\$ 5,132	\$ 5,878	\$ 13,809	\$ 11,558
Automotive leasing	221	221	644	634
Total automotive revenues	5,353	6,099	14,453	12,192
Energy generation and storage	402	399	1,095	1,183
Services and other	548	326	1,646	860
Total revenues	6,303	6,824	17,194	14,235
Cost of revenues				
Automotive sales	4,014	4,406	11,124	9,027
Automotive leasing	117	119	340	361
Total automotive cost of revenues	4,131	4,525	11,464	9,388
Energy generation and storage	314	330	956	1,036
Services and other	667	445	2,096	1,212
Total cost of revenues	5,112	5,300	14,516	11,636
Gross profit	1,191	1,524	2,678	2,599
Operating expenses				
Research and development	334	351	998	1,104
Selling, general and administrative	596	730	1,947	2,167
Restructuring and other	—	27	161	130
Total operating expenses	930	1,108	3,106	3,401
Income (loss) from operations	261	416	(428)	(802)
Interest income	15	7	34	17
Interest expense	(185)	(175)	(515)	(488)
Other income, net	85	23	70	36
Income (loss) before income taxes	176	271	(839)	(1,237)
Provision for income taxes	26	17	68	36
Net income (loss)	150	254	(907)	(1,273)
Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	7	(57)	60	(157)
Net income (loss) attributable to common stockholders	<u>\$ 143</u>	<u>\$ 311</u>	<u>\$ (967)</u>	<u>\$ (1,116)</u>
Net income (loss) per share of common stock attributable to common stockholders				
Basic	<u>\$ 0.80</u>	<u>\$ 1.82</u>	<u>(5.54)</u>	<u>(6.56)</u>
Diluted	<u>\$ 0.78</u>	<u>\$ 1.75</u>	<u>(5.54)</u>	<u>(6.56)</u>
Weighted average shares used in computing net income (loss) per share of common stock				
Basic	<u>179</u>	<u>171</u>	<u>176</u>	<u>170</u>
Diluted	<u>184</u>	<u>178</u>	<u>176</u>	<u>170</u>

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

Tesla, Inc.
Consolidated Statements of Comprehensive Income (Loss)
(in millions)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income (loss)	\$ 150	\$ 254	\$ (907)	\$ (1,273)
Other comprehensive loss:				
Foreign currency translation adjustment	(114)	(10)	(112)	(25)
Comprehensive income (loss)	36	244	(1,019)	(1,298)
Less: Comprehensive income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	7	(57)	60	(157)
Comprehensive income (loss) attributable to common stockholders	<u>\$ 29</u>	<u>\$ 301</u>	<u>\$ (1,079)</u>	<u>\$ (1,141)</u>

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)

	Redeemable Noncontrolling Interests	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
		Shares	Amount						
Three Months Ended September 30, 2018									
Balance as of June 30, 2018	\$ 540	171	\$ 0	\$ 9,657	\$ (5,768)	\$ 18	\$ 3,907	\$ 821	\$ 4,728
Exercises of conversion feature of convertible senior notes	—	0	0	0	—	—	0	—	0
Common stock issued	—	1	0	95	—	—	95	—	95
Stock-based compensation	—	—	—	206	—	—	206	—	206
Contributions from noncontrolling interests	76	—	—	—	—	—	—	37	37
Distributions to noncontrolling interests	(19)	—	—	—	—	—	—	(51)	(51)
Buy-outs of noncontrolling interests	(3)	—	—	0	—	—	0	—	0
Net (loss) income	(43)	—	—	—	311	—	311	(14)	297
Other comprehensive loss	—	—	—	—	—	(10)	(10)	—	(10)
Balance as of September 30, 2018	\$ 551	172	\$ 0	\$ 9,958	\$ (5,457)	\$ 8	\$ 4,509	\$ 793	\$ 5,302
Nine Months Ended September 30, 2018									
Balance as of December 31, 2017	\$ 398	169	\$ 0	\$ 9,178	\$ (4,973)	\$ 33	\$ 4,238	\$ 997	\$ 5,235
Adjustments for prior periods from adopting ASC 606	8	—	—	—	623	—	623	(89)	534
Adjustments for prior periods from adopting Accounting Standards Update No. 2017-05	—	—	—	—	9	—	9	—	9
Reclass from mezzanine equity to equity for Convertible Senior Notes due in 2018	—	—	—	0	—	—	0	—	0
Exercises of conversion feature of convertible senior notes	—	0	0	0	—	—	—	—	—
Common stock issued	—	3	0	220	—	—	220	—	220
Stock-based compensation	—	—	—	560	—	—	560	—	560
Contributions from noncontrolling interests	248	—	—	—	—	—	—	118	118
Distributions to noncontrolling interests	(49)	—	—	—	—	—	—	(127)	(127)
Buy-outs of noncontrolling interests	(3)	—	—	0	—	—	0	—	0
Net loss	(51)	—	—	—	(1,116)	—	(1,116)	(106)	(1,222)
Other comprehensive loss	—	—	—	—	—	(25)	(25)	—	(25)
Balance as of September 30, 2018	\$ 551	172	\$ 0	\$ 9,958	\$ (5,457)	\$ 8	\$ 4,509	\$ 793	\$ 5,302

	Redeemable Noncontrolling Interests	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
Three Months Ended September 30, 2019									
Balance as of June 30, 2019	\$ 580	179	\$ 0	\$ 12,052	\$ (6,331)	\$ (6)	\$ 5,715	\$ 854	\$ 6,569
Common stock issued	—	1	0	78	—	—	78	—	78
Issuance of common stock upon acquisition, net of transaction costs	—	—	—	1	—	—	1	—	1
Stock-based compensation	—	—	—	217	—	—	217	—	217
Contributions from noncontrolling interests	12	—	—	—	—	—	—	51	51
Distributions to noncontrolling interests	(11)	—	—	—	—	—	—	(51)	(51)
Net income (loss)	19	—	—	—	143	—	143	(12)	131
Other comprehensive loss	—	—	—	—	—	(114)	(114)	—	(114)
Balance as of September 30, 2019	<u>\$ 600</u>	<u>180</u>	<u>\$ 0</u>	<u>\$ 12,348</u>	<u>\$ (6,188)</u>	<u>\$ (120)</u>	<u>\$ 6,040</u>	<u>\$ 842</u>	<u>\$ 6,882</u>

	Redeemable Noncontrolling Interests	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity	Noncontrolling Interests in Subsidiaries	Total Equity
Nine Months Ended September 30, 2019									
Balance as of December 31, 2018	\$ 556	173	\$ 0	\$ 10,249	\$ (5,318)	\$ (8)	\$ 4,923	\$ 834	\$ 5,757
Adjustments for prior periods from adopting ASC 842	—	—	—	—	97	—	97	—	97
Conversion feature of Convertible Senior Notes due in 2024	—	—	—	491	—	—	491	—	491
Purchase of convertible note hedges	—	—	—	(476)	—	—	(476)	—	(476)
Sales of warrants	—	—	—	174	—	—	174	—	174
Common stock issued	—	3	0	173	—	—	173	—	173
Issuance of common stock in May 2019 public offering at 243.00 per share, net of issuance costs of \$ 15	—	3	0	847	—	—	847	—	847
Issuance of common stock upon acquisition, net of transaction costs	—	1	0	220	—	—	220	—	220
Stock-based compensation	—	—	—	672	—	—	672	—	672
Contributions from noncontrolling interests	53	—	—	—	—	—	—	100	100
Distributions to noncontrolling interests	(49)	—	—	—	—	—	—	(112)	(112)
Buy-outs of noncontrolling interests	—	—	—	(8)	—	—	(8)	—	(8)
Other	—	—	—	6	—	—	6	—	6
Net income (loss)	40	—	—	—	(967)	—	(967)	20	(947)
Other comprehensive loss	—	—	—	—	—	(112)	(112)	—	(112)
Balance as of September 30, 2019	<u>\$ 600</u>	<u>180</u>	<u>\$ 0</u>	<u>\$ 12,348</u>	<u>\$ (6,188)</u>	<u>\$ (120)</u>	<u>\$ 6,040</u>	<u>\$ 842</u>	<u>\$ 6,882</u>

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

Tesla, Inc.
Consolidated Statements of Cash Flows
(in millions)
(unaudited)

	Nine Months Ended September 30,	
	2019	2018
Cash Flows from Operating Activities		
Net loss	\$ (907)	\$ (1,273)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation, amortization and impairment	1,577	1,404
Stock-based compensation	617	544
Amortization of debt discounts and issuance costs	138	121
Inventory write-downs	167	60
Loss on disposals of fixed assets	69	133
Foreign currency transaction gains	(102)	(7)
Non-cash interest and other operating activities	189	22
Operating cash flow related to repayment of discounted convertible notes	(188)	—
Changes in operating assets and liabilities, net of effect of business combinations:		
Accounts receivable	(150)	(686)
Inventory	(485)	(1,111)
Operating lease vehicles	(467)	(189)
Prepaid expenses and other current assets	(236)	(31)
Other non-current assets	46	(62)
Accounts payable and accrued liabilities	142	1,628
Deferred revenue	625	284
Customer deposits	(114)	10
Resale value guarantee	(112)	(58)
Other long-term liabilities	171	74
Net cash provided by operating activities	980	863
Cash Flows from Investing Activities		
Purchases of property and equipment excluding finance leases, net of sales	(915)	(1,776)
Purchases of solar energy systems	(68)	(189)
Purchase of intangible assets	(5)	—
Business combinations, net of cash acquired	(45)	(7)
Net cash used in investing activities	(1,033)	(1,972)
Cash Flows from Financing Activities		
Proceeds from issuances of common stock in public offerings	848	—
Proceeds from issuances of convertible and other debt	7,119	3,947
Repayments of convertible and other debt	(5,601)	(3,111)
Repayments of borrowings issued to related parties	—	(100)
Collateralized lease repayments	(302)	(343)
Proceeds from exercises of stock options and other stock issuances	167	220
Principal payments on finance leases	(223)	(106)
Common stock and debt issuance costs	(32)	(5)
Purchase of convertible note hedges	(476)	—
Proceeds from issuance of warrants	174	—
Proceeds from investments by noncontrolling interests in subsidiaries	153	366
Distributions paid to noncontrolling interests in subsidiaries	(211)	(179)
Payments for buy-outs of noncontrolling interests in subsidiaries	(8)	(3)
Net cash provided by financing activities	1,608	686
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(6)	(19)
Net increase (decrease) in cash and cash equivalents and restricted cash	1,549	(442)
Cash and cash equivalents and restricted cash, beginning of period	4,277	3,965
Cash and cash equivalents and restricted cash, end of period	\$ 5,826	\$ 3,523
Supplemental Non-Cash Investing and Financing Activities		
Equity issued in connection with business combination	\$ 207	\$ —
Acquisitions of property and equipment included in liabilities	\$ 375	\$ 306
Estimated fair value of facilities under build-to-suit leases	\$ —	\$ 62

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 the Company, manages resource allocations and measures performance among two operating and reportable segments: (i) automotive and (ii) energy generation and storage.

Note 2 – Summary of Significant Accounting Policies

Unaudited Interim Financial Statements

The consolidated balance sheet as of September 30, 2019, the consolidated statements of operations, the consolidated statements of comprehensive income (loss) and the consolidated statements of redeemable noncontrolling interests and equity for the three and nine months ended September 30, 2019 and 2018 and the consolidated statements of cash flows for the nine months ended September 30, 2019 and 2018, as well as other information disclosed in the accompanying notes, are unaudited. The consolidated balance sheet as of December 31, 2018 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, 2018.

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.

Revenue Recognition

Automotive Sales Revenue

Automotive Sales with and without Resale Value Guarantee

Automotive sales revenue includes revenues related to deliveries of new vehicles, and specific other features and services that meet the definition of a performance obligation include access to our Supercharger network, internet connectivity, Autopilot and Full Self-Driving (“FSD”) features and over-the-air software updates. Deferred revenue related to the access to our Supercharger network, internet connectivity, Autopilot and FSD features and over-the-air software updates on automotive sales with and without resale value guarantee amounted to \$1.30 billion and \$883 million as of September 30, 2019 and December 31, 2018, 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, 2018 was \$177 million for the nine months ended September 30, 2019. From the deferred revenue balance as of January 1, 2018, revenue recognized during the nine months ended September 30, 2018 was \$60 million. Of the total deferred revenue on automotive sales with and without resale value guarantees, we expect to recognize \$662 million of revenue in the next 12 months. The remaining balance will be recognized over the various performance periods of the obligations, which is up to the eight-year life of the vehicle.

At the time of revenue recognition, we reduce the transaction price and record a sales return reserve against revenue for estimated variable consideration related to future product returns. Such estimates are based on historical experience. On a quarterly basis, we assess the estimated market values of vehicles under our buyback options program to determine whether there will be changes to future product returns. As we accumulate more data related to the buyback values of our vehicles or as market conditions change, there may be material changes to their estimated values. Due to price adjustments we made to our vehicle offerings during the first half of 2019, we estimated that there is a greater likelihood that customers will exercise their buyback options that were provided prior to such adjustments. As a result, along with the estimated variable consideration related to normal future product returns for vehicles sold under the buyback options program, we adjusted our sales return reserve on vehicles previously sold under our buyback options program resulting in a reduction of automotive sales revenues of \$555 million for the nine months ended September 30, 2019. If customers elect to exercise the buyback option, we expect to be able to subsequently resell the returned vehicles, which resulted in a corresponding reduction in cost of automotive sales of \$451 million for the nine months ended September 30, 2019. The net impact was \$104 million reduction in gross profit for the nine months ended September 30, 2019. The total sales return reserve on vehicles previously sold under our buyback options program was \$627 million as of September 30, 2019, of which \$80 million was short term.

Automotive Regulatory Credits

We recognize revenue on the sale of regulatory credits at the time control of the regulatory credits is transferred to the purchasing party as automotive revenue in the consolidated statements of operations. Deferred revenue related to sales of automotive regulatory credits was \$140 million and \$0 as of September 30, 2019 and December 31, 2018, respectively. We expect to recognize the deferred revenue as of September 30, 2019 over the next 1 to 3 years.

Automotive Leasing Revenue

Automotive leasing revenue includes revenue recognized under lease accounting guidance for our direct leasing programs as well as the two programs with resale value guarantees described below.

Direct Vehicle Leasing Program

We have outstanding leases under our direct vehicle leasing programs in the U.S., Canada and in certain countries in Europe. As of September 30, 2019, the direct vehicle leasing program is offered for new Model S, Model X vehicles in the U.S. and Canada and for new Model 3 vehicles in the U.S. Qualifying customers are permitted to lease a vehicle directly from Tesla for up to 48 months. At the end of the lease term, customers are required to return the vehicles to us or for Model S and Model X leases, may opt to purchase the vehicles for a pre-determined residual value. We account for these leasing transactions as operating leases. We record leasing revenues to automotive leasing revenue on a straight-line basis over the contractual term, and we record the depreciation of these vehicles to cost of automotive leasing revenue.

We capitalize shipping costs and initial direct costs such as the incremental cost of referral fees and sales commissions from the origination of automotive lease agreements as an element of operating lease vehicles, net, and subsequently amortize these costs over the term of the related lease agreement. Our policy is to exclude taxes collected from a customer from the transaction price of automotive contracts. Total capitalized costs were immaterial as of September 30, 2019.

Vehicle Sales to Leasing Partners with a Resale Value Guarantee and a Buyback Option

We offer buyback options in connection with automotive sales with resale value guarantees with certain leasing partner sales in the United States. These transactions entail a transfer of leases, which we have originated with an end-customer, to our leasing partner. As control of the vehicles has not been transferred, these transactions were accounted for as interest bearing collateralized borrowings in accordance with ASC 840, *Leases*, prior to January 1, 2019. Under this program, cash is received for the full price of the vehicle and the collateralized borrowing value is generally recorded within resale value guarantees and the customer upfront deposit is recorded within deferred revenue. We amortize the deferred revenue amount to automotive leasing revenue on a straight-line basis over the option period and accrue interest expense based on our borrowing rate. We capitalize vehicles under this program to operating lease vehicles, net, on the consolidated balance sheets, and we record depreciation from these vehicles to cost of automotive leasing revenue during the period the vehicle is under a lease arrangement. Cash received for these vehicles, net of revenue recognized during the period, is classified as collateralized lease (repayments) borrowings within cash flows from financing activities in the consolidated statements of cash flows. With the adoption of ASC 842 on January 1, 2019, all new agreements under this program are accounted for as operating leases under ASC 842 and there was no material change in the timing and amount of revenue recognized over the term. Consequently, any cash flows for new agreements are classified as operating cash activities on the consolidated statements of cash flows.

At the end of the lease term, we settle our liability in cash by either purchasing the vehicle from the leasing partner for the buyback option amount or paying a shortfall to the option amount the leasing partner may realize on the sale of the vehicle. Any remaining balances within deferred revenue and resale value guarantee will be settled to automotive leasing revenue. The end customers can extend the lease for a period of up to 6 months. In cases where the leasing partner retains ownership of the vehicle after the end of our option period, we expense the net value of the leased vehicle to cost of automotive leasing revenue. The maximum amount we could be required to pay under this program, should we decide to repurchase all vehicles, was \$291 million and \$480 million as of September 30, 2019 and December 31, 2018, respectively, including \$254 million within a 12-month period from September 30, 2019. As of September 30, 2019 and December 31, 2018, we had \$328 million and \$558 million, respectively, of such borrowings recorded in resale value guarantees and \$47 million and \$93 million, respectively, recorded in deferred revenue liability. For the three and nine months ended September 30, 2019, we recognized \$43 million and \$146 million, respectively, of leasing revenue related to this program, and \$89 million and \$257 million, respectively, for the same periods in 2018. The net carrying amount of operating lease vehicles under this program was \$265 million and \$469 million, respectively, as of September 30, 2019 and December 31, 2018.

Vehicle Sales to Customers with a Resale Value Guarantee where Exercise is Probable

For certain international programs where we have offered resale value guarantees to certain customers who purchased vehicles and where we expect the customer has a significant economic incentive to exercise the resale value guarantee provided to them, we continue to recognize these transactions as operating leases. The process to determine whether there is a significant economic incentive includes a comparison of a vehicle's estimated market value at the time the option is exercisable with the guaranteed resale value to determine the customer's economic incentive to exercise. We have not sold any vehicles under this program since the first half of 2017 and all current period activity relates to the exercise or cancellation of active transactions. The amount of sale proceeds equal to the resale value guarantee is deferred until the guarantee expires or is exercised. The remaining sale proceeds are deferred and recognized on a straight-line basis over the stated guarantee period to automotive leasing revenue. The guarantee period expires at the earlier of the end of the guarantee period or the pay-off of the initial loan. We capitalize the cost of these vehicles on the consolidated balance sheets as operating lease vehicles, net, and depreciate their value, less salvage value, to cost of automotive leasing revenue over the same period.

In cases where a customer retains ownership of a vehicle at the end of the guarantee period, the resale value guarantee liability and any remaining deferred revenue balances related to the vehicle are settled to automotive leasing revenue, and the net book value of the leased vehicle is expensed to cost of automotive leasing revenue. If a customer returns the vehicle to us during the guarantee period, we purchase the vehicle from the customer in an amount equal to the resale value guarantee and settle any remaining deferred balances to automotive leasing revenue, and we reclassify the net book value of the vehicle on the consolidated balance sheets to used vehicle inventory. As of September 30, 2019 and December 31, 2018, \$151 million and \$150 million, respectively, of the guarantees were exercisable by customers within the next 12 months. For the three and nine months ended September 30, 2019, we recognized \$32 million and \$117 million, respectively, of leasing revenue related to this program, and \$30 million and \$107 million, respectively, for the same periods in 2018. The net carrying amount of operating lease vehicles under this program was \$113 million and \$212 million, respectively, as of September 30, 2019 and December 31, 2018.

Services and Other Revenue

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

Revenues related to repair and maintenance services are recognized over time as services are provided and extended service plans are recognized over the performance period of the service contract as the obligation represents a stand-ready obligation to the customer. We sell used vehicles, services, service plans, vehicle components and merchandise separately and thus use standalone selling prices as the basis for revenue allocation to the extent that these items are sold in transactions with other performance obligations. Payment for used vehicles, services, and merchandise are typically received at the point when control transfers to the customer or in accordance with payment terms customary to the business. Payments received for prepaid plans are refundable upon customer cancellation of the related contracts and are included within customer deposits on the consolidated balance sheet. Deferred revenue related to services and other revenue was immaterial as of September 30, 2019 and December 31, 2018.

Energy Generation and Storage Sales

Energy generation and storage sales revenues consists of the sale of solar energy systems and energy storage systems to residential, small commercial, and large commercial and utility grade customers. Upon adoption of the new lease standard (refer to *Leases* section below for details), energy generation and storage sales revenues include agreements for solar energy systems and power purchase agreements ("PPAs") that commence after January 1, 2019, as these are now accounted for under ASC 606. 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 September 30, 2019 and December 31, 2018, deferred revenue related to such customer payments amounted to \$141 million and \$149 million, respectively. Revenue recognized from the deferred revenue balance as of December 31, 2018 was \$27 million for the nine months ended September 30, 2019. Revenue recognized from the deferred revenue balance as of January 1, 2018 was \$37 million for the nine months ended September 30, 2018. We have elected the practical expedient to omit disclosure of the amount of the transaction price allocated to remaining performance obligations for energy generation and storage sales with an original expected contract length of one year or less and the amount that we have the right to invoice when that amount corresponds directly with the value of the performance to date. As of September 30, 2019, 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 \$102 million. Of this amount, we expect to recognize \$5 million in the next 12 months and the remaining over a period up to 28 years.

Deferred revenue also includes the portion of rebates and incentives received from utility companies and various local and state government agencies, which is recognized as revenue over the lease term. As of September 30, 2019 and December 31, 2018, deferred revenue from rebates and incentives amounted to \$42 million and \$37 million, respectively.

We capitalize initial direct costs from the execution of agreements for solar energy systems and PPAs, which include the referral fees and sales commissions, as an element of solar energy systems, net, and subsequently amortize these costs over the term of the related agreements.

Revenue by source

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Automotive sales without resale value guarantee	\$ 4,821	\$ 5,297	\$ 13,423	\$ 10,178
Automotive sales with resale value guarantee (1)	177	392	(75)	1,056
Automotive regulatory credits	134	189	461	324
Energy generation and storage sales (2)	241	259	680	791
Services and other	548	326	1,646	860
Total revenues from sales and services	5,921	6,463	16,135	13,209
Automotive leasing	221	221	644	634
Energy generation and storage leasing (2)	161	140	415	392
Total revenues	\$ 6,303	\$ 6,824	\$ 17,194	\$ 14,235

- (1) We made pricing adjustments to our vehicle offerings during the nine months ended September 30, 2019, which resulted in a reduction of automotive sales with resale value guarantee revenues. Refer to *Automotive Sales with and without Resale Value Guarantee* section above for details. The amount presented represents automotive sales with resale value guarantee in the three and nine months ended September 30, 2019 net of such pricing adjustments impact.
- (2) Following the adoption of ASU No. 2016-02, *Leases*, solar energy system sales and PPAs that commence after January 1, 2019, where we are the lessor and were previously accounted for as leases, will no longer meet the definition of a lease and will instead be accounted for in accordance with ASC 606 (refer to the *Leases* section below for details).

Leases

In February 2016, the FASB issued ASU No. 2016-02 ("ASC 842"), *Leases*, to require lessees to recognize all leases, with certain exceptions, on the balance sheet, while recognition on the statement of operations will remain similar to current lease accounting. Subsequently, the FASB issued ASU No. 2018-10, *Codification Improvements to Topic 842, Leases*, ASU No. 2018-11, *Targeted Improvements*, ASU No. 2018-20, *Narrow-Scope Improvements for Lessors*, and ASU 2019-01, *Codification Improvements*, to clarify and amend the guidance in ASU No. 2016-02. ASC 842 eliminates real estate-specific provisions and modifies certain aspects of lessor accounting. This standard is effective for interim and annual periods beginning after December 15, 2018, with early adoption permitted. We adopted ASC 842 as of January 1, 2019 using the cumulative effect adjustment approach ("adoption of the new lease standard"). In addition, we elected the package of practical expedients permitted under the transition guidance within the new standard, which allowed us to carry forward the historical determination of contracts as leases, lease classification and not reassess initial direct costs for historical lease arrangements. Accordingly, previously reported financial statements, including footnote disclosures, have not been recast to reflect the application of the new standard to all comparative periods presented. The finance lease classification under ASC 842 includes leases previously classified as capital leases under ASC 840.

Agreements for solar energy system leases and PPAs (solar leases) that commence after January 1, 2019, where we are the lessor and would have been accounted for as operating leases no longer meet the definition of a lease upon the adoption of ASC 842 and will instead be accounted for in accordance with ASC 606. Under these two types of arrangements, the customer is not responsible for the design of the energy system but rather approved the energy system benefits in terms of energy capacity and production to be received over the term. Accordingly, the revenue from solar leases commencing after January 1, 2019 are now recognized as earned, based on the amount of capacity provided or electricity delivered at the contractual billing rates, assuming all other revenue recognition criteria have been met. Under the practical expedient available under ASC 606-10-55-18, we recognize revenue based on the value of the service which is consistent with the billing amount. There is no change to the amount and timing of revenue recognition for solar lease arrangements.

We have lease agreements with lease and non-lease components, and have elected to utilize the practical expedient to account for lease and non-lease components together as a single combined lease component, from both a lessee and lessor perspective. From a lessor perspective, the timing and pattern of transfer are the same for the non-lease components and associated lease component and, the lease component, if accounted for separately, would be classified as an operating lease. Additionally, we have determined that the leases previously identified as build-to-suit leasing arrangements under legacy lease accounting (ASC 840), were derecognized pursuant to the transition guidance provided for build-to-suit leases in ASC 842. Accordingly, these leases have been reassessed as operating leases as of the adoption date under ASC 842, and are included on the consolidated balance sheet as of September 30, 2019.

Operating lease assets are included within operating lease right-of-use assets, and the corresponding operating lease liabilities are included within accrued liabilities and other for the current portion, and within other long-term liabilities for the long-term portion on our consolidated balance sheet as of September 30, 2019. Finance lease assets are included within property, plant and equipment, net, and the corresponding finance lease liabilities are included within current portion of long-term debt and finance leases for the current portion, and within long-term debt and finance leases, net of current portion for the long-term portion on our consolidated balance sheet as of September 30, 2019.

We have elected not to present short-term leases on the consolidated balance sheet as these leases have a lease term of 12 months or less at lease inception and do not contain purchase options or renewal terms that we are reasonably certain to exercise. All other lease assets and lease liabilities are recognized based on the present value of lease payments over the lease term at commencement date. Because most of our leases do not provide an implicit rate of return, we used our incremental borrowing rate based on the information available at adoption date in determining the present value of lease payments.

Adoption of the new lease standard on January 1, 2019 had a material impact on our interim unaudited consolidated financial statements. The most significant impacts related to the (i) recognition of right-of-use ("ROU") assets of \$1.29 billion and lease liabilities of \$1.24 billion for operating leases on the consolidated balance sheet, and (ii) de-recognition of build-to-suit lease assets and liabilities of \$1.62 billion and \$1.74 billion, respectively, with the net impact of \$97 million recorded to accumulated deficit, as of January 1, 2019. We also reclassified prepaid expenses and other current asset balances of \$142 million and deferred rent balance, including tenant improvement allowances, and other liability balances of \$70 million relating to our existing lease arrangements as of December 31, 2018, into the ROU asset balance as of January 1, 2019. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. The standard did not materially impact our consolidated statement of operations and consolidated statement of cash flows.

The cumulative effect of the changes made to our consolidated balance sheet as of January 1, 2019 for the adoption of the new lease standard was as follows (in millions):

	Balances at December 31, 2018	Adjustments from Adoption of New Lease Standard	Balances at January 1, 2019
Assets			
Prepaid expenses and other current assets	\$ 366	\$ 0	\$ 366
Property, plant and equipment, net	11,330	(1,617)	9,713
Operating lease right-of-use assets	—	1,286	1,286
Other assets	572	(141)	431
Liabilities			
Accrued liabilities and other	2,094	118	2,212
Current portion of long-term debt and finance leases	2,568	—	2,568
Long-term debt and finance leases, net of current portion	9,404	—	9,404
Other long-term liabilities	2,710	(687)	2,023
Equity			
Accumulated deficit	(5,318)	97	(5,221)

Income Taxes

There are transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. As of September 30, 2019 and December 31, 2018, the aggregate balances of our gross unrecognized tax benefits were \$303 million and \$253 million, respectively, of which \$280 million and \$244 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.

On June 7, 2019, the Ninth Circuit Court of Appeals issued a new opinion in *Altera Corp. v. Commissioner* requiring related parties in an intercompany cost-sharing arrangement to share expenses related to share-based compensation. This opinion reversed the prior decision of the United States Tax Court. We do not expect this to have an impact on our consolidated financial statements.

Net Income (Loss) per Share of Common Stock Attributable to Common Stockholders

Basic net income (loss) per share of common stock attributable to common stockholders is calculated by dividing net income (loss) attributable to common stockholders by the weighted-average shares of common stock outstanding for the period. During the nine months ended September 30, 2019, we increased net loss attributable to common stockholders by \$8 million to arrive at the numerator used to calculate net loss per share. This adjustment represents the difference between the cash we paid to a financing fund investor for their noncontrolling interest in one of our subsidiaries and the carrying amount of the noncontrolling interest on our consolidated balance sheet, in accordance with ASC 260, *Earnings per Share*. 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 (loss) per share of common stock attributable to common stockholders when their effect is dilutive. Since we intend to settle in cash the principal outstanding under the 1.25% Convertible Senior Notes due in 2021, the 2.375% Convertible Senior Notes due in 2022 and the 2.00% Convertible Senior Notes due in 2024, we use the treasury stock method when calculating their potential dilutive effect, if any. Furthermore, in connection with the offerings of our notes, we entered into convertible note hedges (see Note 11, *Long-Term Debt Obligations*). However, our convertible note hedges are not included when calculating potentially dilutive shares since their effect is always anti-dilutive.

The following table presents the computation of basic and diluted net income (loss) per share of common stock attributable to common stockholders (in millions, except per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income (loss) per share of common stock attributable to common stockholders, basic				
Net income (loss) attributable to common stockholders	\$ 143	\$ 311	\$ (967)	\$ (1,116)
Less: Buy-out of noncontrolling interest	—	—	8	—
Net income (loss) used in computing net income (loss) per share of common stock, basic	143	311	(975)	(1,116)
Weighted average shares used in computing net income (loss) per share of common stock, basic	179	171	176	170
Net income (loss) per share of common stock attributable to common stockholders, basic	<u>\$ 0.80</u>	<u>\$ 1.82</u>	<u>\$ (5.54)</u>	<u>\$ (6.56)</u>
Net income (loss) per share of common stock attributable to common stockholders, diluted				
Net income (loss) attributable to common stockholders	\$ 143	\$ 311	\$ (967)	\$ (1,116)
Less: Buy-out of noncontrolling interest	—	—	8	—
Net income (loss) used in computing net income (loss) per share of common stock, diluted	143	311	(975)	(1,116)
Weighted average shares used in computing net income (loss) per share of common stock, basic	179	171	176	170
Add:				
Stock-based awards	5	7	—	—
Warrants	—	0	—	—
Weighted average shares used in computing net income (loss) per share of common stock, diluted	184	178	176	170
Net income (loss) per share of common stock attributable to common stockholders, diluted	<u>\$ 0.78</u>	<u>\$ 1.75</u>	<u>\$ (5.54)</u>	<u>\$ (6.56)</u>

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Stock-based awards	7	3	12	10
Convertible senior notes	1	1	1	2

Restricted Cash

We maintain certain cash balances restricted as to withdrawal or use. Our restricted cash is comprised primarily of cash as collateral for our sales to lease partners with a resale value guarantee, letters of credit, real estate leases, insurance policies, credit card borrowing facilities and certain operating leases. In addition, restricted cash includes cash received from certain fund investors that have not been released for use by us and cash held to service certain payments under various secured debt facilities. The following table totals cash and cash equivalents and restricted cash as reported on the consolidated balance sheets; the sums are presented on the consolidated statements of cash flows (in millions):

	September 30, 2019	December 31, 2018	September 30, 2018	December 31, 2017
Cash and cash equivalents	\$ 5,338	\$ 3,686	\$ 2,967	\$ 3,368
Restricted cash	233	193	159	155
Restricted cash, net of current portion	255	398	397	442
Total as presented in the consolidated statements of cash flows	<u>\$ 5,826</u>	<u>\$ 4,277</u>	<u>\$ 3,523</u>	<u>\$ 3,965</u>

Concentration of Risk

Credit Risk

Financial instruments that potentially subject us to a concentration of credit risk consist of cash, cash equivalents, restricted cash, accounts receivable, convertible note hedges, and interest rate swaps. Our cash balances are primarily invested in money market funds or on deposit at high credit quality financial institutions in the U.S. These deposits are typically in excess of insured limits. As of September 30, 2019 and December 31, 2018, no entity represented 10% or more of our total accounts receivable balance. The risk of concentration for our interest rate swaps is mitigated by transacting with several highly-rated multinational banks.

Supply Risk

We are dependent on our suppliers, the majority of which are 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

Vehicles that are leased as part of our direct vehicle leasing program, vehicles delivered to leasing partners with a resale value guarantee and a buyback option, as well as vehicles delivered to customers with resale value guarantee where exercise is probable are classified as operating lease vehicles as the related revenue transactions are treated as operating leases (refer to the *Resale Value Guarantees Financing Programs under ASC 842* section above for details). Operating lease vehicles are recorded at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the expected operating lease term. The total cost of operating lease vehicles recorded on the consolidated balance sheets as of September 30, 2019 and December 31, 2018 was \$2.67 billion and \$2.55 billion, respectively. Accumulated depreciation related to leased vehicles as of September 30, 2019 and December 31, 2018 was \$414 million and \$458 million, respectively.

Warranties

We provide a manufacturer's warranty on all new and used vehicles, production powertrain components and systems and energy storage products we sell. In addition, we also provide a warranty on the installation and components of the solar energy systems we sell for periods typically between 10 to 30 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 when 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 lease accounting and our solar energy systems under lease contracts or 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 as of September 30, 2019 was primarily related to our automotive segment. Accrued warranty activity consisted of the following (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Accrued warranty—beginning of period	\$ 941	\$ 524	\$ 748	\$ 402
Warranty costs incurred	(59)	(54)	(175)	(148)
Net changes in liability for pre-existing warranties, including expirations and foreign exchange impact	(37)	(13)	36	(24)
Additional warranty accrued from adoption of the new revenue standard	—	—	—	37
Provision for warranty	138	187	374	377
Accrued warranty—end of period	<u>\$ 983</u>	<u>\$ 644</u>	<u>\$ 983</u>	<u>\$ 644</u>

For the three and nine months ended September 30, 2019, warranty costs incurred for vehicles accounted for as operating leases or collateralized debt arrangements were \$4 million and \$16 million, respectively, and for the three and nine months ended September 30, 2018, such costs were \$5 million and \$17 million, respectively.

Recent Accounting Pronouncements

Recently issued accounting pronouncements not yet adopted

In June 2016, the FASB issued ASU No. 2016-13, *Measurement of Credit Losses on Financial Instruments*, to require financial assets carried at amortized cost to be presented at the net amount expected to be collected based on historical experience, current conditions and forecasts. Subsequently, the FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326*, to clarify that receivables arising from operating leases are within the scope of lease accounting standards. Further, the FASB issued ASU No. 2019-04 and ASU No. 2019-05 to provide additional guidance on the credit losses standard. The ASUs are effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted. Adoption of the ASUs is on a modified retrospective basis. We are currently obtaining an understanding of the ASUs and plan to adopt them on January 1, 2020.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment*, to simplify the test for goodwill impairment by removing Step 2. An entity will, therefore, perform the goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognizing an impairment charge for the amount by which the carrying amount exceeds the fair value, not to exceed the total amount of goodwill allocated to the reporting unit. An entity still has the option to perform a qualitative assessment to determine if the quantitative impairment test is necessary. The ASU is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted. Adoption of the ASU is prospective. We plan to adopt the ASU prospectively on January 1, 2020. The ASU is currently not expected to have a material impact on our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that Is a Service Contract*. The ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The ASU is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted. Adoption of the ASU is either retrospective or prospective. We plan to adopt the ASU prospectively on January 1, 2020. The ASU is currently not expected to have a material impact on our consolidated financial statements.

Recently adopted accounting pronouncements

In February 2016, the FASB issued ASU No. 2016-02, *Leases*, to require lessees to recognize all leases, with limited exceptions, on the balance sheet, while recognition on the statement of operations will remain similar to legacy lease accounting, ASC 840. The ASU also eliminates real estate-specific provisions and modifies certain aspects of lessor accounting. Subsequently, the FASB issued ASU No. 2018-10, *Codification Improvements to Topic 842*, ASU No. 2018-11, *Targeted Improvements*, ASU No. 2018-20, *Narrow-Scope Improvements for Lessors*, and ASU 2019-01, *Codification Improvements*, to clarify and amend the guidance in ASU No. 2016-02. We adopted the ASUs on January 1, 2019 on a modified retrospective basis through a cumulative adjustment to our beginning accumulated deficit balance. Prior comparative periods have not been recast under this method, and we adopted all available practical expedients, as applicable. Further, solar leases that commence on or after January 1, 2019, where we are the lessor and which were accounted for as leases under ASC 840, will no longer meet the definition of a lease. Instead, solar leases commencing on or after January 1, 2019 will be accounted for under ASC 606. In addition to recognizing operating leases that were previously not recognized on the consolidated balance sheet, our build-to-suit leases were also de-recognized with a net decrease of approximately \$97 million to our beginning accumulated deficit after income tax effects, as our build-to-suit leases no longer qualify for build-to-suit accounting and are instead recognized as operating leases. Upon adoption, our consolidated balance sheet include an overall reduction in assets of \$473 million and a reduction in liabilities of \$570 million. The adoption of the ASUs did not have a material impact on the consolidated statement of operations or the consolidated statement of cash flows.

In August 2017, the FASB issued ASU No. 2017-12, *Targeted Improvements to Accounting for Hedging Activities*, to simplify the application of current hedge accounting guidance. The ASU expands and refines hedge accounting for both non-financial and financial risk components and aligns the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. We adopted the ASU prospectively on January 1, 2019, and the ASU did not have a material impact on the consolidated financial statements.

In January 2018, the FASB issued ASU No. 2018-01, *Land Easement Practical Expedient Transition to Topic 842*, to permit an entity to elect a practical expedient to not re-evaluate land easements that existed or expired before the entity's adoption of ASU No. 2016-02, *Leases*, and that were not accounted for as leases. The ASU did not have a material impact on the consolidated financial statements.

Note 3 – Business Combinations

Maxwell Acquisition

On May 16, 2019 (the "Acquisition Date"), we completed our strategic acquisition of Maxwell Technologies, Inc. ("Maxwell"), an energy storage and power delivery products company, for its complementary technology and workforce. Pursuant to the related Agreement and Plan of Merger (the "Merger Agreement"), each issued and outstanding share of Maxwell common stock was converted into 0.0193 (the "Exchange Ratio") shares of our common stock. In addition, Maxwell's stock option awards and restricted stock unit awards were assumed by us and converted into corresponding equity awards in respect of our common stock based on the Exchange Ratio, with the awards retaining the same vesting and other terms and conditions as in effect immediately prior to the acquisition.

Fair Value of Purchase Consideration

The Acquisition Date fair value of the purchase consideration was \$207 million (902,968 shares issued at \$229.49 per share, the opening price of our common stock on the Acquisition Date).

Fair Value of Assets Acquired and Liabilities Assumed

We accounted for the acquisition using the purchase method of accounting for business combinations under ASC 805, *Business Combinations*. The total purchase price is allocated to the tangible and identifiable intangible assets acquired and liabilities based on their estimated fair values as of the Acquisition Date.

Fair value estimates are based on a complex series of judgments about future events and uncertainties and rely heavily on estimates and assumptions. The judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives and the expected future cash flows and related discount rates, can materially impact our results of operations. Significant inputs used for the model included the amount of cash flows, the expected period of the cash flows and the discount rates. During the third quarter of 2019, we finalized our estimate of the Acquisition Date fair values of the assets acquired and the liabilities assumed and there were no changes to the fair values of the assets acquired and the liabilities assumed.

The allocation of the purchase price is based on management's estimate of the Acquisition Date fair values of the assets acquired and liabilities assumed, as follows (in millions):

Assets acquired:	
Cash and cash equivalents	\$ 32
Accounts receivable	24
Inventory	32
Property, plant and equipment	27
Operating lease right-of-use assets	10
Intangible assets	105
Prepaid expenses and other assets, current and non-current	3
Total assets acquired	233
Liabilities and equity assumed:	
Accounts payable	(10)
Accrued liabilities and other	(28)
Debt and financial leases, current and non-current	(44)
Deferred revenue, current	(1)
Other long-term liabilities	(14)
Additional paid-in capital	(8)
Total liabilities and equity assumed	(105)
Net assets acquired	128
Goodwill	79
Total purchase price	<u>\$ 207</u>

Goodwill represented the excess of the purchase price over the fair value of the net assets acquired and was primarily attributable to the expected synergies from integrating Maxwell's technology into our automotive business as well as the acquired talent. Goodwill is not deductible for U.S. income tax purposes and is not amortized. Rather, we assess goodwill for impairment annually in the fourth quarter, or more frequently if events or changes in circumstances indicate that it might be impaired, by comparing its carrying value to the reporting unit's fair value.

Identifiable Intangible Assets Acquired

A preliminary assessment of the fair value of identified intangible assets and their respective useful lives are as follows (in millions, except for estimated useful life):

	Fair Value	Useful Life (in years)
Developed technology	\$ 102	9
Customer relations	2	9
Trade name	1	10
Total intangible assets	<u>\$ 105</u>	

Maxwell's results of operations since the Acquisition Date have been included within the automotive segment. Standalone and pro forma results of operations have not been presented because they were not material to the consolidated financial statements.

Other Acquisitions

During the nine months ended September 30, 2019, we completed various other acquisitions generally for the related technology and workforce. Total consideration for these acquisitions was \$96 million, of which \$80 million was paid in cash. In aggregate, \$36 million was attributed to intangible assets, \$41 million was attributed to goodwill within the automotive segment, and \$19 million was attributed to net assets assumed. Goodwill is not deductible for U.S. income tax purposes. The identifiable intangible assets were related to purchased technology, with estimated useful lives of one to nine years.

Standalone and pro forma results of operations have not been presented because they were not material to the consolidated financial statements, either individually or in aggregate.

Note 4 – Goodwill and Intangible Assets

Goodwill increased \$118 million from \$68 million as of December 31, 2018 to \$186 million as of September 30, 2019 primarily due to completed business combinations during the nine months ended September 30, 2019 (see Note 3, *Business Combinations*).

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

	September 30, 2019				December 31, 2018			
	Gross Carrying Amount	Accumulated Amortization	Other	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Other	Net Carrying Amount
Finite-lived intangible assets:								
Developed technology	\$ 291	\$ (62)	\$ 0	\$ 229	\$ 152	\$ (40)	\$ 1	\$ 113
Trade names	3	(1)	0	2	45	(44)	0	1
Favorable contracts and leases, net	113	(22)	—	91	113	(17)	—	96
Other	38	(14)	0	24	36	(12)	1	25
Total finite-lived intangible assets	445	(99)	—	346	346	(113)	2	235
Indefinite-lived intangible assets:								
Gigafactory 1 water rights	5	—	—	5	—	—	—	—
In-process research and development (“IPR&D”)	60	—	(60)	—	60	—	(13)	47
Total indefinite-lived intangible assets	65	—	(60)	5	60	—	(13)	47
Total intangible assets	<u>\$ 510</u>	<u>\$ (99)</u>	<u>\$ (60)</u>	<u>\$ 351</u>	<u>\$ 406</u>	<u>\$ (113)</u>	<u>\$ (11)</u>	<u>\$ 282</u>

In April 2019, the Company determined to abandon further development efforts on the IPR&D and therefore impaired the remaining \$7 million in the quarter ended June 30, 2019, in restructuring and other expenses.

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

Three months ending December 31, 2019	\$ 13
2020	50
2021	49
2022	48
2023	42
Thereafter	144
Total	<u>\$ 346</u>

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):

	September 30, 2019				December 31, 2018			
	Fair Value	Level I	Level II	Level III	Fair Value	Level I	Level II	Level III
Money market funds (cash and cash equivalents & restricted cash)	\$ 1,413	\$ 1,413	\$ —	\$ —	\$ 1,813	\$ 1,813	\$ —	\$ —
Interest rate swap asset	1	—	1	—	12	—	12	—
Interest rate swap liability	(41)	—	(41)	—	(1)	—	(1)	—
Total	<u>\$ 1,373</u>	<u>\$ 1,413</u>	<u>\$ (40)</u>	<u>\$ —</u>	<u>\$ 1,824</u>	<u>\$ 1,813</u>	<u>\$ 11</u>	<u>\$ —</u>

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 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. During the nine months ended September 30, 2019, there were no transfers between the levels of the fair value hierarchy.

Interest Rate Swaps

We enter 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 do not designate our interest rate swaps as hedging instruments. Accordingly, our interest rate swaps are recorded at fair value on the consolidated balance sheets within other assets or other long-term liabilities, with any changes in their fair values recognized as other income (expense), net, in the consolidated statements of operations and with any cash flows recognized as investing activities in the consolidated statements of cash flows. Our interest rate swaps outstanding were as follows (in millions):

	September 30, 2019			December 31, 2018		
	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	\$ 987	\$ 1	\$ 41	\$ 800	\$ 12	\$ 1

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Gross gains	\$ —	\$ 5	\$ —	\$ 18
Gross losses	\$ 13	\$ —	\$ 51	\$ 1

Disclosure of Fair Values

Our financial instruments that are not re-measured at fair value include accounts receivable, MyPower customer notes receivable, rebates receivable, accounts payable, accrued liabilities, customer deposits, participation interest and debt. The carrying values of these financial instruments other than the participation interest, the convertible senior notes, the 5.30% Senior Notes due in 2025, the solar asset-backed notes, the solar loan-backed notes and the automotive asset-backed notes approximate their fair values.

We estimate the fair value of the convertible senior notes and the 5.30% Senior Notes due in 2025 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 the participation interest, the solar asset-backed notes, the solar loan-backed notes and the automotive asset-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):

	September 30, 2019		December 31, 2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Convertible senior notes	\$ 4,207	\$ 4,867	\$ 3,661	\$ 4,347
Senior notes	\$ 1,781	\$ 1,620	\$ 1,779	\$ 1,575
Participation interest	\$ 20	\$ 20	\$ 19	\$ 18
Solar asset-backed notes	\$ 1,159	\$ 1,205	\$ 1,183	\$ 1,207
Solar loan-backed notes	\$ 175	\$ 189	\$ 203	\$ 212
Automotive asset-backed notes	\$ 829	\$ 835	\$ 1,172	\$ 1,180

Note 6 – Inventory

Our inventory consisted of the following (in millions):

	September 30, 2019	December 31, 2018
Raw materials	\$ 1,284	\$ 932
Work in process	335	297
Finished goods	1,583	1,581
Service parts	379	303
Total	\$ 3,581	\$ 3,113

Finished goods inventory included vehicles in transit to fulfill customer orders, new vehicles available for immediate sale at our retail and service center locations, used vehicles and energy storage products.

For solar energy systems, we commence transferring component parts from inventory to construction in progress, a component of solar energy systems, once a lease contract with a customer has been executed and installation has been initiated. Additional costs incurred on the leased systems, including labor and overhead, are recorded within construction in progress.

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 nine months ended September 30, 2019, we recorded write-downs of \$24 million and \$113 million, respectively, in cost of revenues. During the three and nine months ended September 30, 2018, we recorded write-downs of \$12 million and \$54 million, respectively, in cost of revenues.

Note 7 – Solar Energy Systems, Net

Solar energy systems, net, consisted of the following (in millions):

	September 30, 2019	December 31, 2018
Solar energy systems in service	\$ 6,649	\$ 6,431
Initial direct costs related to customer solar energy system lease acquisition costs	102	99
	6,751	6,530
Less: accumulated depreciation and amortization	(666)	(496)
	6,085	6,034
Solar energy systems under construction	23	68
Solar energy systems pending interconnection	60	169
Solar energy systems, net (1)	\$ 6,168	\$ 6,271

- (1) As of September 30, 2019 and December 31, 2018, solar energy systems, net, included \$6 million of finance leased assets with accumulated depreciation and amortization of \$5 million and \$4 million, respectively.

Note 8 – Property, Plant and Equipment

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

	September 30, 2019	December 31, 2018
Machinery, equipment, vehicles and office furniture	\$ 7,007	\$ 6,329
Tooling	1,477	1,398
Leasehold improvements	1,029	961
Land and buildings	2,956	4,047
Computer equipment, hardware and software	549	487
Construction in progress	700	807
	13,718	14,029
Less: Accumulated depreciation	(3,528)	(2,699)
Total	\$ 10,190	\$ 11,330

As of December 31, 2018, the table above included \$1.69 billion of gross build-to-suit lease assets. As a result of the adoption of the new lease standard on January 1, 2019, we have de-recognized all build-to-suit lease assets and have reassessed these leases to be operating lease right-of-use assets within the consolidated balance sheet as of September 30, 2019 (see Note 2, *Summary of Significant Accounting Policies*). This includes construction in progress associated with certain build-to-suit lease costs incurred at our Buffalo, New York manufacturing facility, referred to as Gigafactory 2.

Construction in progress is primarily comprised of tooling and equipment related to the manufacturing of our products and Gigafactory Shanghai construction. 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 nine months ended September 30, 2019, we capitalized \$6 million and \$21 million, respectively, of interest. During the three and nine months ended September 30, 2018, we capitalized \$12 million and \$47 million, respectively, of interest.

Depreciation expense during the three and nine months ended September 30, 2019 was \$353 million and \$987 million, respectively. Depreciation expense during the three and nine months ended September 30, 2018 was \$300 million and \$797 million, respectively. Gross property and equipment under finance leases as of September 30, 2019 and December 31, 2018 was \$1.98 billion and \$1.52 billion, respectively. Accumulated depreciation on property and equipment under finance leases as of these dates was \$406 million and \$232 million, respectively.

Panasonic has partnered with us on Gigafactory 1 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 these terms convey a finance lease, as defined in ASC 842, *Leases*, their production equipment, we consider them to be leased assets when production commences. 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 long-term debt and finance leases. For all suppliers and partners for which we plan to purchase the full output from their production equipment located at Gigafactory 1, we have applied similar accounting. As of September 30, 2019 and December 31, 2018, we had cumulatively capitalized costs of \$1.65 billion and \$1.24 billion, respectively, on the consolidated balance sheets in relation to the production equipment under our Panasonic arrangement. We had cumulatively capitalized total costs for Gigafactory 1, including costs under our Panasonic arrangement, of \$5.15 billion and \$4.62 billion as of September 30, 2019 and December 31, 2018, respectively.

Note 9 – Other Long-Term Liabilities

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

	September 30, 2019	December 31, 2018
Accrued warranty reserve	\$ 692	\$ 547
Build-to-suit lease liability	—	1,662
Operating lease right-of-use liabilities	1,028	—
Deferred rent expense	—	59
Financing obligation	42	50
Sales return reserve	547	84
Other noncurrent liabilities	367	308
Total other long-term liabilities	<u>\$ 2,676</u>	<u>\$ 2,710</u>

As of December 31, 2018, the table above included \$1.66 billion of gross non-current build-to-suit lease liabilities. As a result of the adoption of the new lease standard on January 1, 2019, we have de-recognized all build-to-suit lease liabilities and have reassessed these leases to be operating lease right-of-use liabilities as of September 30, 2019. Due to price adjustments we made to our vehicle offerings during the nine months ended September 30, 2019, we increased our sales return reserve significantly on vehicles previously sold under our buyback options program. Refer to Note 2, *Summary of Significant Accounting Policies*, for details on these transactions.

Note 10 – Customer Deposits

Customer deposits primarily consisted of cash payments from customers at the time they place an order or reservation for a vehicle or an energy product and any additional payments up to the point of delivery or the completion of installation, including the fair values of any customer trade-in vehicles that are applicable toward a new vehicle purchase. Customer deposits also include prepayments on contracts that can be cancelled without significant penalties, such as vehicle maintenance plans. Customer deposit amounts and timing vary depending on the vehicle model, the energy product and the country of delivery. In the case of a vehicle, customer deposits are fully refundable up to the point the vehicle is placed into the production cycle. In the case of an energy generation or storage product, customer deposits are fully refundable prior to the entry into a purchase agreement or in certain cases for a limited time thereafter (in accordance with applicable laws). Customer deposits are included in current liabilities until refunded or until they are applied towards the customer's purchase balance. As of September 30, 2019 and December 31, 2018, we held \$665 million and \$793 million, respectively, in customer deposits.

Note 11 – Long-Term Debt Obligations

The following is a summary of our debt as of September 30, 2019 (in millions):

	Unpaid Principal Balance	Net Carrying Value		Unused Committed Amount (1)	Contractual Interest Rates	Contractual Maturity Date
		Current	Long-Term			
Recourse debt:						
1.25% Convertible Senior Notes due in 2021 ("2021 Notes")	1,380	—	1,289	—	1.25 %	March 2021
2.375% Convertible Senior Notes due in 2022 ("2022 Notes")	978	—	894	—	2.375 %	March 2022
2.00% Convertible Senior Notes due in 2024 ("2024 Notes")	1,840	—	1,361	—	2.00 %	May 2024
5.30% Senior Notes due in 2025 ("2025 Notes")	1,800	—	1,781	—	5.30 %	August 2025
Credit Agreement	1,827	149	1,678	413	3.0% -5.0%	June 2020-July 2023
1.625% Convertible Senior Notes due in 2019	566	567	—	—	1.625 %	November 2019
Zero-Coupon Convertible Senior Notes due in 2020	103	—	96	—	0.0 %	December 2020
Solar Bonds and other Loans	70	15	52	—	3.6%-5.8%	March 2020-January 2031
Total recourse debt	8,564	731	7,151	413		
Non-recourse debt:						
Warehouse Agreements	586	79	507	514	3.5%-3.7%	September 2021
Canada Credit Facility	47	25	22	—	4.1%-5.9%	November 2022
Term Loan due in 2019	159	159	—	—	6.3 %	December 2019
Term Loan due in 2021	164	8	155	—	5.8 %	January 2021
Solar Revolving Credit Facility	50	—	50	—	6.0 %	June 2022
China Loan Agreements	219	219	—	924	3.9 %	March 2020-September 2020
Cash equity debt	460	9	437	—	5.3%-5.8%	July 2033-January 2035
Solar asset-backed notes	1,187	34	1,125	—	4.0%-7.7%	September 2024-February 2048
Solar loan-backed notes	182	11	164	—	4.8%-7.5%	September 2048-September 2049
Automotive asset-backed notes	832	345	484	—	2.3%-7.9%	December 2019-June 2022
Solar Renewable Energy Credit and other Loans	25	23	1	9	5.1%-7.9%	December 2019-July 2021
Total non-recourse debt	3,911	912	2,945	1,447		
Total debt	\$ 12,475	\$ 1,643	\$ 10,096	\$ 1,860		

The following is a summary of our debt as of December 31, 2018 (in millions):

	Unpaid Principal Balance	Net Carrying Value		Unused Committed Amount (1)	Contractual Interest Rates	Contractual Maturity Date
		Current	Long-Term			
Recourse debt:						
0.25% Convertible Senior Notes due in 2019 ("2019 Notes")	920	913	—	—	0.25 %	March 2019
2021 Notes	1,380	—	1,244	—	1.25 %	March 2021
2022 Notes	978	—	871	—	2.375 %	March 2022
2025 Notes	1,800	—	1,779	—	5.30 %	August 2025
Credit Agreement	1,540	—	1,540	231	1% plus LIBOR	June 2020
1.625% Convertible Senior Notes due in 2019	566	541	—	—	1.625 %	November 2019
Zero-Coupon Convertible Senior Notes due in 2020	103	—	92	—	0.0 %	December 2020
Vehicle, Solar Bonds and other Loans	101	1	100	—	1.8%-7.6%	January 2019-January 2031
Total recourse debt	7,388	1,455	5,626	231		
Non-recourse debt:						
Warehouse Agreements	92	14	78	1,008	3.9%-4.2%	September 2020
Canada Credit Facility	73	32	41	—	3.6%-5.9%	November 2022
Term Loan due in 2019	181	181	—	—	6.1 %	January 2019
Term Loan due in 2021	169	7	162	—	6.0 %	January 2021
Cash equity debt	467	11	442	—	5.3%-5.8%	July 2033-January 2035
Solar asset-backed notes	1,214	28	1,155	—	4.0%-7.7%	September 2024-February 2048
Solar loan-backed notes	210	10	193	—	4.8%-7.5%	September 2048-September 2049
Automotive asset-backed notes	1,178	468	704	—	2.3%-7.9%	December 2019-June 2022
Solar Renewable Energy Credit and other Loans	27	16	10	18	5.1%-7.9%	December 2019-July 2021
Total non-recourse debt	3,611	767	2,785	1,026		
Total debt	\$ 10,999	\$ 2,222	\$ 8,411	\$ 1,257		

(1) Unused committed amounts under some of our credit facilities and financing funds 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, our interests in financing funds or various other assets). Upon draw-down of any unused committed amounts, there are no restrictions on use of available funds for general corporate purposes.

Recourse debt refers to debt that is recourse to our general assets. Non-recourse debt refers to debt that is recourse to only specified assets of our subsidiaries. The differences between the unpaid principal balances and the net carrying values are due to convertible senior note conversion features, debt discounts or deferred financing costs. As of September 30, 2019, we were in material compliance with all financial debt covenants, which include minimum liquidity and expense-coverage balances and ratios.

2019 Notes

During the first quarter of 2019, we repaid the \$920 million in aggregate principal amount of the 2019 Notes.

2024 Notes, Bond Hedges and Warrant Transactions

In May 2019, we issued \$1.84 billion in aggregate principal amount of 2.00% Convertible Senior Notes due in May 2024 in a public offering. The net proceeds from the issuance, after deducting transaction costs, were \$1.82 billion.

Each \$1,000 of principal of the 2024 Notes is initially convertible into 3.2276 shares of our common stock, which is equivalent to an initial conversion price of \$309.83 per share, subject to adjustment upon the occurrence of specified events. Holders of the 2024 Notes may convert, at their option, on or after February 15, 2024. Further, holders of the 2024 Notes may convert, at their option, prior to February 15, 2024 only under the following circumstances: (1) during any calendar quarter commencing after September 30, 2019 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each trading day; (2) during the five-business day period after any five-consecutive trading day period in which the trading price per \$1,000 principal amount of the 2024 Notes for each trading day of such period is less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or (3) if specified corporate events occur. Upon conversion, the 2024 Notes will be settled in cash, shares of our common stock or a combination thereof, at our election. If a fundamental change occurs prior to the maturity date, holders of the 2024 Notes may require us to repurchase all or a portion of their 2024 Notes for cash at a repurchase price equal to 100% of the principal amount plus any accrued and unpaid interest. In addition, if specific corporate events occur prior to the maturity date, we would increase the conversion rate for a holder who elects to convert its 2024 Notes in connection with such an event in certain circumstances. As of September 30, 2019, none of the conditions permitting the holders of the 2024 Notes to early convert had been met. Therefore, the 2024 Notes are classified as long-term.

In accordance with GAAP relating to embedded conversion features, we initially valued and bifurcated the conversion feature associated with the 2024 Notes. We recorded to stockholders' equity \$491 million for the conversion feature. The resulting debt discount is being amortized to interest expense at an effective interest rate of 8.68%.

In connection with the offering of the 2024 Notes, we entered into convertible note hedge transactions whereby we have the option to purchase initially (subject to adjustment for certain specified events) 6 million shares of our common stock at a price of \$309.83 per share. The cost of the convertible note hedge transactions was \$476 million. In addition, we sold warrants whereby the holders of the warrants have the option to purchase initially (subject to adjustment for certain specified events) 6 million shares of our common stock at a price of \$607.50 per share. We received \$174 million in cash proceeds from the sale of these warrants. Taken together, the purchase of the convertible note hedges and the sale of the warrants are intended to reduce potential dilution from the conversion of the 2024 Notes and to effectively increase the overall conversion price from \$309.83 to \$607.50 per share. As these transactions meet certain accounting criteria, the convertible note hedges and warrants are recorded in stockholders' equity and are not accounted for as derivatives. The net cost incurred in connection with the convertible note hedge and warrant transactions was recorded as a reduction to additional paid-in capital on the consolidated balance sheet.

Credit Agreement

In March 2019, we amended and restated the senior asset-based revolving credit agreement (the "Credit Agreement") to increase the total lender commitments by \$500 million to \$2.425 billion, and extend the term of substantially all of the total commitments to July 2023.

Warehouse Agreements

In August 2019, our subsidiaries amended the vehicle lease-backed loan and security agreements (the "Warehouse Agreements") to extend the availability period from August 16, 2019 to August 14, 2020 and extend the maturity date from September 2020 to September 2021.

China Loan Agreements

In March 2019, one of our subsidiaries entered into a loan agreement with a syndicate of lenders in China for an unsecured facility of up to RMB5.50 billion (or the equivalent amount drawn in U.S. dollars), to be used for expenditures related to the construction of and production at our Gigafactory Shanghai. Borrowed funds bear interest at an annual rate of: (i) for RMB-denominated loans, 90% of the one-year rate published by the People's Bank of China, and (ii) for U.S. dollar-denominated loans, the sum of one-year LIBOR plus 1.0%. The loan facility is non-recourse to our assets.

In September 2019, one of our subsidiaries entered into a loan agreement with a lender in China for an unsecured 12-month revolving facility of up to RMB5.00 billion (or the equivalent drawn in U.S. dollars), to finance vehicles in-transit to China. Borrowed funds bear interest at an annual rate no greater than 90% of the one-year rate published by the People's Bank of China. The loan facility is non-recourse to our assets.

Solar Revolving Credit Facility

In June 2019, one of our subsidiaries entered into a loan agreement with a bank for a revolving credit facility of up to \$0 million. The solar revolving credit facility bears interest at an annual rate of 2.50% plus: (i) for LIBOR loans, at our option, three-month LIBOR or daily LIBOR and (ii) for Base Rate loans, the highest of (a) the Federal Funds Rate plus 0.50%, (b) the Prime Rate, and (c) the three-month LIBOR plus 1.00%. The solar revolving credit facility is secured by certain assets of the subsidiary and was non-recourse to our other assets.

Term Loan due in 2019

In April 2019, we extended the maturity date of the Term Loan due in 2019 to June 2019. In June 2019, we further extended the maturity date of the Term Loan due in 2019 to December 2019.

Interest Incurred

The following table presents the interest expense related to the contractual interest coupon, the amortization of debt issuance costs and the amortization of debt discounts on our convertible senior notes with cash conversion features, which include the 2018 Notes, the 2019 Notes, the 2021 Notes, the 2022 Notes and the 2024 Notes (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Contractual interest coupon	\$ 19	\$ 11	\$ 45	\$ 32
Amortization of debt issuance costs	2	2	5	5
Amortization of debt discounts	43	31	104	92
Total	<u>\$ 64</u>	<u>\$ 44</u>	<u>\$ 154</u>	<u>\$ 129</u>

Note 12 – Leases

We have entered into various non-cancellable operating and finance lease agreements for certain of our offices, manufacturing and warehouse facilities, retail and service locations, equipment, vehicles, and solar energy systems, worldwide. We determine if an arrangement is a lease, or contains a lease, at inception and record the leases in our financial statements upon lease commencement, which is the date when the underlying asset is made available for use by the lessor.

Our leases, where we are the lessee, often include options to extend the lease term for up to 10 years. Some of our leases also include options to terminate the lease prior to the end of the agreed upon lease term. For purposes of calculating lease liabilities, lease terms include options to extend or terminate the lease when it is reasonably certain that we will exercise such options.

Lease expense for operating lease payments is recognized on a straight-line basis over the lease term. Certain operating leases provide for annual increases to lease payments based on an index or rate. We calculate the present value of future lease payments based on the index or rate at the lease commencement date for new leases commencing after January 1, 2019. For historical leases, we used the index or rate as of the adoption date. Differences between the calculated lease payment and actual payment are expensed as incurred. Lease expense for finance lease payments is recognized as amortization expense of the finance lease ROU asset and interest expense on the finance lease liability over the lease term.

The balances for the operating and finance leases where we are the lessee are presented as follows (in millions) within our consolidated balance sheet:

	September 30, 2019
Operating leases:	
Operating lease right-of-use assets	\$ 1,234
Accrued liabilities and other	\$ 223
Other long-term liabilities	1,028
Total operating lease liabilities	<u>\$ 1,251</u>
Finance leases:	
Solar energy systems, net	\$ 31
Property, plant and equipment, net	1,570
Total finance lease assets	<u>\$ 1,601</u>
Current portion of long-term debt and finance leases	\$ 387
Long-term debt and finance leases, net of current portion	1,217
Total finance lease liabilities	<u>\$ 1,604</u>

The components of lease expense are as follows (in millions) within our consolidated statements of operations:

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating lease expense:		
Operating lease expense (1)	\$ 110	\$ 317
Finance lease expense:		
Amortization of leased assets	\$ 78	\$ 210
Interest on lease liabilities	27	78
Total finance lease expense	<u>\$ 105</u>	<u>\$ 288</u>
Total lease expense	<u>\$ 215</u>	<u>\$ 605</u>

(1) Includes short-term leases and variable lease costs, which are immaterial.

Other information related to leases where we are the lessee is as follows:

	September 30, 2019
Weighted-average remaining lease term:	
Operating leases	6.6 years
Finance leases	4.2 years
Weighted-average discount rate:	
Operating leases	6.5%
Finance leases	6.6%

Supplemental cash flow information related to leases where we are the lessee is as follows(in millions):

	Nine Months Ended September 30, 2019	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflows from operating leases	\$	262
Operating cash outflows from finance leases (interest payments)	\$	76
Financing cash outflows from finance leases	\$	223
Leased assets obtained in exchange for finance lease liabilities	\$	497
Leased assets obtained in exchange for operating lease liabilities	\$	172

As of September 30, 2019, the maturities of our operating and finance lease liabilities (excluding short-term leases) are as follows(in millions):

	Operating Leases	Finance Leases
Three months ending December 31, 2019	\$ 76	\$ 122
2020	289	474
2021	256	456
2022	206	576
2023	174	141
Thereafter	562	18
Total minimum lease payments	1,563	1,787
Less: Interest	312	183
Present value of lease obligations	1,251	1,604
Less: Current portion	223	387
Long-term portion of lease obligations	\$ 1,028	\$ 1,217

As previously reported in our Annual Report on Form 10-K for the year ended December 31, 2018 and under legacy lease accounting (ASC 840), future minimum lease payments under non-cancellable leases as of December 31, 2018 are as follows (in millions):

	Operating Leases	Finance Leases
2019	\$ 276	\$ 417
2020	257	503
2021	230	506
2022	183	24
2023	158	5
Thereafter	524	6
Total minimum lease payments	\$ 1,628	1,461
Less: Interest		122
Present value of lease obligations		1,339
Less: Current portion		346
Long-term portion of lease obligations		\$ 993

Non-cancellable Operating Lease Receivables

Under the new lease standard, we are the lessor of certain vehicle arrangements as described in Note 2, *Summary of Significant Accounting Policies*. As of September 30, 2019, maturities of our operating lease receivables from customers for each of the next five years and thereafter were as follows (in millions):

Three months ending December 31, 2019	\$	155
2020		568
2021		418
2022		251
2023		188
Thereafter		2,458
Total	\$	<u>4,038</u>

As previously reported in our Annual Report on Form 10-K for the year ended December 31, 2018 and under legacy lease accounting (ASC 840), future minimum lease payments to be received from customers under non-cancellable leases as of December 31, 2018 are as follows (in millions):

2019	\$	502
2020		418
2021		271
2022		187
2023		189
Thereafter		2,469
Total	\$	<u>4,036</u>

The above tables do not include vehicle sales to customers or leasing partners with a resale value guarantee as the cash payments were received upfront. For our solar PPA arrangements, customers are charged solely based on actual power produced by the installed solar energy system at a predefined rate per kilowatt-hour of power produced. The future payments from such arrangements are not included in the above table as they are a function of the power generated by the related solar energy systems in the future. Following the adoption of the new lease standard, solar energy system sales and PPAs that commence after January 1, 2019, where we are the lessor and were previously accounted for as leases, will no longer meet the definition of a lease and are therefore not included in the table as of September 30, 2019 (refer to Note 2, *Summary of Significant Accounting Policies*).

Note 13 – Equity Incentive Plans

In June 2019, we adopted the 2019 Equity Incentive Plan (the “2019 Plan”), and simultaneously terminated the 2010 Equity Incentive Plan (the “2010 Plan”). No new awards will be granted under the 2010 Plan following the adoption of the 2019 Plan, but such termination will not affect outstanding awards under the 2010 Plan. The 2019 Plan has similar terms as the 2010 Plan and provides for the granting of stock options, restricted stock, RSUs, stock appreciation rights, performance units and performance shares to our employees, directors and consultants. Stock options granted under the 2019 Plan may be either incentive stock options or nonstatutory stock options. Incentive stock options may only be granted to our employees. Nonstatutory stock options may be granted to our employees, directors and consultants. Generally, our stock options and RSUs vest over four years and our stock options are exercisable over a maximum period of 10 years from their grant dates. Vesting typically terminates when the employment or consulting relationship ends.

As of September 30, 2019, 11,859,707 shares were reserved and available for issuance under the 2019 Plan.

2018 CEO Performance Award

In March 2018, our stockholders approved the Board of Directors' grant of 20,264,042 stock option awards to our CEO (the "2018 CEO Performance Award") at an exercise price of \$350.02 per share. 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 billion for the first tranche and increases by increments of \$50 billion thereafter, and (ii) any one of the following eight operational milestones focused on revenue or eight operational milestones focused on Adjusted EBITDA have been met for the previous four consecutive fiscal quarters on an annualized basis. 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.

Total Annualized Revenue (in billions)	Annualized Adjusted EBITDA (in billions)
\$20.0	\$1.5
\$35.0	\$3.0
\$55.0	\$4.5
\$75.0	\$6.0
\$100.0	\$8.0
\$125.0	\$10.0
\$150.0	\$12.0
\$ 175.0	\$14.0

As of September 30, 2019, two operational milestones have been achieved: (i) \$20.0 billion total annualized revenue and (ii) \$1.5 billion annualized adjusted EBITDA, each subject to the formal certification by our Board of Directors, while no market capitalization milestones have been achieved. Consequently, no shares subject to the 2018 CEO Performance Award have vested as of the date of this filing.

As of September 30, 2019, the following operational milestone was considered probable of achievement:

- Adjusted EBITDA of \$3.0 billion

Stock-based compensation expense associated with the 2018 CEO Performance Award is recognized ratably over the longer of the expected achievement period for each pair of market capitalization or operational milestones, beginning at the point in time, which may or may not be the grant date, when the relevant operational milestone is considered probable of being met. In addition, if an operational milestone that was not considered probable at the grant date later becomes probable, we will record at such time cumulative catch-up expense for the service provided between the grant date and such time, which may be material depending on the length of such period. The market capitalization milestone period and the valuation of each tranche are determined using a Monte Carlo simulation and is used as the basis for determining the expected achievement period. The probability of meeting an operational milestone is based on a subjective assessment of our future financial projections. Even though no tranches of the 2018 CEO Performance Award vest unless a market capitalization and a matching operational milestone are both achieved, stock-based compensation expense is recognized only when an operational milestone is considered probable of achievement regardless of how much additional market capitalization must be achieved in order for a tranche to vest. At our current market capitalization, even the first tranche of the 2018 CEO Performance Award will not vest unless our market capitalization were to more than double from the current level and stay at that increased level for a sustained period of time. Additionally, stock-based compensation represents a non-cash expense and is recorded as a selling, general, and administrative operating expense in our consolidated statements of operations.

As of September 30, 2019, we had \$431 million of total unrecognized stock-based compensation expense for the operational milestones that were achieved but not vested or were considered probable of achievement, which will be recognized over a weighted-average period of 2.5 years. As of September 30, 2019, we had unrecognized stock-based compensation expense of \$1.51 billion for the operational milestones that were considered not probable of achievement. For the three and nine months ended September 30, 2019, we recorded stock-based compensation expense of \$56 million and \$167 million, respectively, related to the 2018 CEO Performance Award. For the three months ended September 30, 2018, we recorded stock-based compensation expense of \$56 million related to this award. From March 21, 2018, when the grant was approved by our stockholders, through September 30, 2018, we recorded stock-based compensation expense of \$119 million related to the 2018 CEO Performance Award.

2014 Performance-Based Stock Option Awards

In 2014, to create incentives for continued long-term success beyond the Model S program and to closely align executive pay with our stockholders' interests in the achievement of significant milestones by us, the Compensation Committee of our Board of Directors granted stock option awards to certain employees (excluding our CEO) to purchase an aggregate of 1,073,000 shares of our common stock. Each award consisted of the following four vesting tranches with the vesting schedule based entirely on the attainment of the future performance milestones, assuming continued employment and service through each vesting date:

- 1/4th of each award vests upon completion of the first Model X production vehicle;
- 1/4th of each award vests upon achieving aggregate production of 100,000 vehicles in a trailing 12-month period;
- 1/4th of each award vests upon completion of the first Model 3 production vehicle; and
- 1/4th of each award vests upon achieving an annualized gross margin of greater than 30% for any three-year period.

As of September 30, 2019, the following performance milestones had been achieved:

- Completion of the first Model X production vehicle;
- Completion of the first Model 3 production vehicle; and
- Aggregate production of 100,000 vehicles in a trailing 12-month period.

We begin recognizing stock-based compensation expense as each performance milestone becomes probable of achievement. As of September 30, 2019, we had unrecognized stock-based compensation expense of \$5 million for the performance milestone that was considered not probable of achievement. For the three and nine months ended September 30, 2019, and for the same periods in 2018, we did not record any additional stock-based compensation related to these awards.

2012 CEO Performance Award

In August 2012, our Board of Directors granted 5,274,901 stock option awards to our CEO (the "2012 CEO Performance Award"). The 2012 CEO Performance Award consists of 10 vesting tranches with a vesting schedule based entirely on the attainment of both performance conditions and market conditions, assuming continued employment and service through each vesting date. Each vesting tranche requires a combination of a pre-determined performance milestone and an incremental increase in our market capitalization of \$4.00 billion, as compared to our initial market capitalization of \$3.20 billion at the time of grant. As of September 30, 2019, the market capitalization conditions for all of the vesting tranches and the following performance milestones had been achieved:

- Successful completion of the Model X alpha prototype;
- Successful completion of the Model X beta prototype;
- Completion of the first Model X production vehicle;
- Aggregate production of 100,000 vehicles;
- Successful completion of the Model 3 alpha prototype;
- Successful completion of the Model 3 beta prototype;
- Completion of the first Model 3 production vehicle;
- Aggregate production of 200,000 vehicles; and
- Aggregate production of 300,000 vehicles.

We begin recognizing stock-based compensation expense as each milestone becomes probable of achievement. As of September 30, 2019, we had unrecognized stock-based compensation expense of \$6 million for the performance milestone that was considered not probable of achievement. For the three and nine months ended September 30, 2019, we recorded no stock-based compensation expense related to the 2012 CEO Performance Award. For the three months ended September 30, 2018, we did not record any stock-based compensation expense related to this award. For the nine months ended September 30, 2018, the stock based compensation we recorded related to this award was immaterial.

Our CEO historically earned a base salary that reflected the applicable minimum wage requirements under California law, and he is subject to income taxes based on such base salary. However, he has never accepted his salary. Commencing in May 2019 at our CEO's request, we eliminated altogether the earning and accrual of this base salary.

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 September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Cost of revenues	\$ 29	\$ 30	\$ 91	\$ 76
Research and development	72	66	216	193
Selling, general and administrative	98	109	307	271
Restructuring and other	—	—	3	4
Total	<u>\$ 199</u>	<u>\$ 205</u>	<u>\$ 617</u>	<u>\$ 544</u>

We realized no income tax benefit from stock option exercises in each of the periods presented due to cumulative losses and valuation allowances. As of September 30, 2019, we had \$1.55 billion of total unrecognized stock-based compensation expense related to non-performance awards, which will be recognized over a weighted-average period of 2.9 years.

Note 14 – 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”) for a manufacturing facility constructed on behalf of the SUNY Foundation and which was substantially completed in April 2018. We use this facility, referred to as Gigafactory 2, primarily 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 the lease and a related research and development agreement, there continues to be, on behalf of the SUNY Foundation, installation of certain utilities and other improvements and acquisition of certain manufacturing equipment designated by us to be used in the manufacturing facility. Following the adoption of ASC 842, we no longer recognize the build-to-suit asset and related depreciation expense or the corresponding financing liability and related amortization for Gigafactory 2 in our consolidated financial statements.

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, 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 believe the capital expenditure requirement and the tax revenue target will be attainable even if our actual vehicle production was far lower than the volumes we are forecasting.

Legal Proceedings

Securities 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. 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 27, 2017, defendants filed a motion to dismiss the operative complaint. Rather than respond to the defendants’ motion, the plaintiffs filed an amended complaint. On March 17, 2017, defendants filed a motion to dismiss the amended complaint. On December 13, 2017, the Court heard oral argument on the motion. On March 28, 2018, the Court denied defendants’ motion to dismiss. Defendants filed a request for interlocutory appeal, but the Delaware Supreme Court denied that request without ruling on the merits but electing not to hear an appeal at this early stage of the case. Defendants filed their answer on May 18, 2018. Mediations were held on June 10 and October 3, 2019, following which the matter did not settle. Fact discovery is complete, and the parties are proceeding with expert discovery. The case is set for trial in March 2020.

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.

We believe that claims challenging the SolarCity acquisition are without merit and intend to defend against them vigorously. We are unable to estimate the possible loss or range of loss, if any, associated with these claims.

Securities Litigation Relating to Production of Model 3 Vehicles

On October 10, 2017, a purported stockholder class action was filed in the U.S. District Court for the Northern District of California against Tesla, two of its current officers, and a former officer. The complaint alleges violations of federal securities laws and seeks unspecified compensatory damages and other relief on behalf of a purported class of purchasers of Tesla securities from May 4, 2016 to October 6, 2017. The lawsuit claims that Tesla supposedly made materially false and misleading statements regarding the Company's preparedness to produce Model 3 vehicles. Plaintiffs filed an amended complaint on March 23, 2018, and defendants filed a motion to dismiss on May 25, 2018. The court granted defendants' motion to dismiss with leave to amend. Plaintiffs filed their amended complaint on September 28, 2018, and defendants filed a motion to dismiss the amended complaint on February 15, 2019. The hearing on the motion to dismiss was held on March 22, 2019, and on March 25, 2019, the Court ruled in favor of defendants and dismissed the complaint with prejudice. On April 8, 2019, plaintiffs filed a notice of appeal and on July 17, 2019 filed their opening brief. We filed our opposition on September 16, 2019. We continue to believe that the claims are without merit and intend to defend against this lawsuit vigorously. We are unable to estimate the possible loss or range of loss, if any, associated with this lawsuit.

On October 26, 2018, in a similar action, a purported stockholder class action was filed in the Superior Court of California in Santa Clara County against Tesla, Elon Musk and seven initial purchasers in an offering of debt securities by Tesla in August 2017. The complaint alleges misrepresentations made by Tesla regarding the number of Model 3 vehicles Tesla expected to produce by the end of 2017 in connection with such offering and seeks unspecified compensatory damages and other relief on behalf of a purported class of purchasers of Tesla securities in such offering. Tesla thereafter removed the case to federal court. On January 22, 2019, plaintiff abandoned its effort to proceed in state court, instead filing an amended complaint against Tesla, Elon Musk and seven initial purchasers in the debt offering before the same judge in the U.S. District Court for the Northern District of California who is hearing the above-referenced earlier filed federal case. On February 5, 2019, the Court stayed this new case pending a ruling on the motion to dismiss the complaint in such earlier filed federal case. After such earlier filed federal case was dismissed, defendants filed a motion on July 2, 2019 to dismiss this case as well. This case is now stayed pending a ruling from the appellate court on such earlier filed federal case with an agreement that if defendants prevail on appeal in such case, this case will be dismissed. We believe that the claims are without merit and intend to defend against this lawsuit vigorously. We are unable to estimate the possible loss or range of loss, if any, associated with this lawsuit.

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. 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. Our answer is due December 3, 2019. We believe the claims asserted in this lawsuit are without merit and intend to defend against them vigorously.

Securities 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 Elon 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 U.S. Court of Appeals for the Ninth Circuit. The Ninth Circuit has now ruled regarding lead counsel, and we anticipate that our motion to dismiss will be due sometime in November 2019. We believe that the claims have no merit and intend to defend against them vigorously. We are unable to estimate the potential loss, or range of loss, associated with these claims.

Between October 17, 2018 and November 9, 2018, five derivative lawsuits were filed in the Delaware Court of Chancery against Mr. Musk and the members of Tesla's board of directors as then constituted in relation to statements made and actions connected to a potential going private transaction. In addition to these cases, on October 25, 2018, another derivative lawsuit was filed in the U.S. District Court for the District of Delaware against Mr. Musk and the members of the Tesla board of directors as then constituted. The Courts in both the Delaware federal court and Delaware Court of Chancery actions have consolidated their respective actions and stayed each consolidated action pending resolution of the above-referenced consolidated purported stockholder class action. We believe that the claims have no merit and intend to defend against them vigorously. We are unable to estimate the potential loss, or range of loss, associated with these claims.

On March 7, 2019, various stockholders filed a derivative suit in the Delaware Court of Chancery, purportedly on behalf of the Company, naming Elon Musk and Tesla's board of directors, also related to Mr. Musk's August 7, 2018 Twitter post that is the basis of the above-referenced consolidated purported stockholder class action as well as Mr. Musk's February 19, 2019 Twitter post regarding Tesla's vehicle production. The suit asserts claims for breach of fiduciary duty and seeks declaratory and injunctive relief, unspecified damages, and other relief. Plaintiffs moved for expedited proceedings in connection with the declaratory and injunctive relief. Briefs were filed on March 13, 2019 and the hearing held on March 18, 2019. Defendants prevailed, with the Court denying plaintiffs' request for an expedited trial and granting defendants' request to stay this action pending the outcome of the above-referenced consolidated purported stockholder class action.

Settlement with SEC related to Potential Going Private Transaction

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 U.S. Securities and Exchange Commission (the "SEC") relating to Elon Musk's prior statement that he was considering taking Tesla private. Without admitting or denying any of the SEC's allegations, and with no restriction on Mr. Musk's ability to serve as an officer or director on the Board (other than as its Chair), among other things, we and Mr. Musk paid civil penalties of \$20 million each and agreed that an independent director will serve as Chair of the Board for at least three years, and we appointed such an independent Chair of the Board and two additional independent directors to the Board, and further enhanced our disclosure controls and other corporate governance-related matters. On April 26, 2019, the settlement was amended to modify certain of the previously-agreed disclosure procedures to clarify the application of such procedures, which was subsequently approved by the Court. All other terms of the prior settlement were reaffirmed without modification.

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.

In particular, the SEC has issued subpoenas to Tesla in connection with (a) Elon Musk's prior statement that he was considering taking Tesla private and (b) certain projections that we made for Model 3 production rates during 2017 and other public statements relating to Model 3 production. The DOJ has also asked us to voluntarily provide it with information about each of these matters and is investigating. Aside from the settlement, as amended, with the SEC relating to Mr. Musk's statement that he was considering taking Tesla private, there have not been any 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.

Indemnification and Guaranteed Returns

We are contractually obligated to compensate certain fund investors for any losses that they may suffer in certain limited circumstances resulting from reductions in U.S. Treasury grants or investment tax credits ("ITC"s). Generally, such obligations would arise as a result of reductions to the value of the underlying solar energy systems as assessed by the U.S. Treasury Department for purposes of claiming U.S. Treasury grants or as assessed by the IRS for purposes of claiming ITCs or U.S. Treasury grants. For each balance sheet date, we assess and recognize, when applicable, a distribution payable for the potential exposure from this obligation based on all the information available at that time, including any guidelines issued by the U.S. Treasury Department on solar energy system valuations for purposes of claiming U.S. Treasury grants and any audits undertaken by the IRS. 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.

The maximum potential future payments that we could have to make under this obligation would depend on the difference between the fair values of the solar energy systems sold or transferred to the funds as determined by us and the values that the U.S. Treasury Department would determine as fair value for the systems for purposes of claiming U.S. Treasury grants or the values the IRS would determine as the fair value for the systems for purposes of claiming ITCs or U.S. Treasury grants. We claim U.S. Treasury grants based on guidelines provided by the U.S. Treasury department and the statutory regulations from the IRS. We use fair values determined with the assistance of independent third-party appraisals commissioned by us as the basis for determining the ITCs that are passed-through to and claimed by the fund investors. Since we cannot determine future revisions to U.S. Treasury Department guidelines governing solar energy system values or how the IRS will evaluate system values used in claiming ITCs or U.S. Treasury grants, we are unable to reliably estimate the maximum potential future payments that it could have to make under this obligation as of each balance sheet 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.

Our lease pass-through financing funds have a one-time lease payment reset mechanism that occurs after the installation of all solar energy systems in a fund. As a result of this mechanism, we may be required to refund master lease prepayments previously received from investors. Any refunds of master lease prepayments would reduce the lease pass-through financing obligation.

Letters of Credit

As of September 30, 2019, we had \$216 million of unused letters of credit outstanding.

Note 15 – 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 or vehicles and the associated customer contracts to be sold or contributed to these VIEs, redeploying solar energy systems or vehicles 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):

	September 30, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	\$ 107	\$ 75
Restricted cash	81	131
Accounts receivable, net	44	19
Prepaid expenses and other current assets	10	10
Total current assets	242	235
Operating lease vehicles, net	862	155
Solar energy systems, net	5,083	5,117
Restricted cash, net of current portion	71	65
Other assets	81	56
Total assets	<u>\$ 6,339</u>	<u>\$ 5,628</u>
Liabilities		
Current liabilities		
Accrued liabilities and other	102	133
Deferred revenue	51	21
Customer deposits	8	—
Current portion of long-term debt and finance leases	603	663
Total current liabilities	764	817
Deferred revenue, net of current portion	233	178
Long-term debt and finance leases, net of current portion	1,428	1,238
Other long-term liabilities	29	26
Total liabilities	<u>\$ 2,454</u>	<u>\$ 2,259</u>

Note 16 – Related Party Transactions

Related party balances were comprised of the following (in millions):

	September 30, 2019	December 31, 2018
Convertible senior notes due to related parties	\$ 3	\$ 3

Our convertible senior notes are not re-measured at fair value (refer to Note 5, *Fair Value of Financial Instruments*). As of September 30, 2019 and December 31, 2018, the unpaid principal balance of convertible senior notes due to related parties is \$3 million.

In May 2019, our CEO purchased from us 102,880 shares of our common stock in a public offering at the public offering price for an aggregate \$5 million.

Note 17 – 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, and sales by our acquired subsidiaries to third party customers. The energy generation and storage segment includes the design, manufacture, installation, sales, and leasing of solar energy generation and energy storage products. Our CODM does not evaluate operating segments using asset or liability information. The following table presents revenues and gross margins by reportable segment (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Automotive segment				
Revenues	\$ 5,901	\$ 6,425	\$ 16,099	\$ 13,052
Gross profit	\$ 1,103	\$ 1,455	\$ 2,539	\$ 2,452
Energy generation and storage segment				
Revenues	\$ 402	\$ 399	\$ 1,095	\$ 1,183
Gross profit	\$ 88	\$ 69	\$ 139	\$ 147

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
United States	\$ 3,127	\$ 5,133	\$ 8,937	\$ 9,249
China	669	409	2,138	1,445
Netherlands	427	274	788	627
Norway	253	224	1,049	611
Other	1,827	784	4,282	2,303
Total	\$ 6,303	\$ 6,824	\$ 17,194	\$ 14,235

The revenues in certain geographic areas were impacted by the price adjustments we made to our vehicle offerings during the nine months ended September 30, 2019. Refer to Note 2, *Summary of Significant Accounting Policies*, for details.

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

	September 30, 2019	December 31, 2018
United States	\$ 15,545	\$ 16,741
International	813	860
Total	\$ 16,358	\$ 17,601

Note 18 – Restructuring and Other

During the nine months ended September 30, 2019, we carried out certain restructuring actions in order to reduce costs and improve efficiency. As a result we recognized \$50 million of costs primarily related to employee termination expenses and losses from closing certain stores impacting both segments. We recognized \$47 million in impairment related to IPR&D intangible asset as we abandoned further development efforts (refer to Note 4, *Goodwill and Intangible Assets* for details) and \$15 million for the related equipment within the energy generation and storage segment. We also incurred a loss of \$49 million for closing operations in certain facilities. On the statement of cash flows, the amounts were presented in the captions in which such amounts would have been recorded absent the impairment charges. The employee termination expenses were substantially paid by September 30, 2019, while the remaining amounts were non-cash.

During the second quarter of 2018, we carried out certain restructuring actions in order to reduce costs and improve efficiency. As a result, in the three months ended June 30, 2018, we recognized \$34 million of one-time employee termination expenses and estimated losses from sub-leasing a certain facility. Also included within restructuring and other activities was \$56 million of expenses (materially all of which were non-cash) from restructuring the energy generation and storage segment, which were comprised of disposals of certain tangible assets, the shortening of the useful life of a trade name intangible asset and a contract termination penalty. In addition, we concluded that a portion of IPR&D is not commercially feasible. Consequently, we recognized an impairment loss of \$13 million in the three months ended June 30, 2018. We recognized settlement and legal expenses of \$26 million in the three months ended September 30, 2018 for the settlement with the SEC relating to a take-private proposal for Tesla. These expenses were substantially paid by the end of 2018.

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 accompanying 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 and other services related to our products.

Automotive

We strive to produce the world's highest quality vehicles as quickly and as cost-effectively as possible with a priority on workplace health and safety. Our production vehicle fleet includes our Model S sedan and our Model X SUV, which are our highest-performance premium vehicles, and our Model 3, a lower-priced sedan designed for the mass market. We continue to enhance our vehicle offerings with our Autopilot and FSD features, internet connectivity and free over-the-air software updates to provide additional safety, convenience and performance features. In 2020, we plan to launch our next production vehicle—a compact SUV built on the Model 3 platform called Model Y—ahead of schedule by the summer, as well as commence the production of Tesla Semi with limited volumes. In addition, our future electric vehicle product pipeline includes a pickup truck and a new version of the Tesla Roadster.

Energy Generation and Storage

We have revamped our solar business through simplicity, standardization and accessibility by streamlining traditionally complex ordering, permitting, installation and back-end service processes, ultimately making our solar products even more compelling to customers. In addition to retrofit solar energy systems, we offer our Solar Roof product that combines solar energy generation with attractive, integrated styling. Our energy storage products consist of Powerwall, mostly for residential applications, and Powerpack and Megapack, for commercial, industrial and utility-scale applications.

Management Opportunities, Challenges and Risks

Automotive—Demand and Sales

While the markets for alternative fuel vehicles and self-driving technology are increasingly competitive, their growth also creates opportunities for our expansion. We expect to generate incremental global demand for our vehicles by constantly innovating and making them accessible to larger and previously untapped consumer and commercial markets. An important factor in our success will be our Autopilot and FSD technologies that currently enable the driver-assistance features in our vehicles, and in which we are making significant strides through our proprietary and powerful FSD computer and remotely updateable artificial intelligence software. We have begun to roll out our Smart Summon feature that enables vehicles to be remotely summoned over short distances in parking lots and driveways, and continue to develop for future release as part of our FSD package our vehicles' recognition of traffic lights and stop signs. Ultimately, while we are subject to regulatory constraints over which we have no control, our goal is a fully autonomously-driven future that improves safety and provides our customers with convenience and additional income through participation in an autonomous Tesla ride-hailing network. This network, which will also include our own fleet of vehicles, will also allow us to access a new customer base even as modes of transportation evolve.

We also believe that we have an advantage over our competitors in areas such as our battery and powertrain technology, including our leading motor efficiency and range; our dedication to safety engineering, as demonstrated by the top safety ratings achieved by each of our production vehicles; and our unique in-car entertainment features for Internet search, music services, passenger karaoke, and parked video streaming and gaming. We also recently introduced on a limited basis our first offering for lower-cost, Tesla-specific vehicle insurance, which we will expand to reduce the total cost of ownership of our vehicles. In the third quarter of 2019, Model 3 continued to be the best-selling premium vehicle in the United States and gain market share in Europe. Vehicles traded in to us by Model 3 customers continue to validate a wider addressable market for this vehicle than existing owners of premium vehicles, even as we also prepare to enter new segments with Model Y and a pickup truck. In particular, local production in the first phase of Gigafactory Shanghai will allow us to offer Model 3 in China at competitive local pricing, which we expect to drive further demand and opportunity in the world's largest market for mid-sized premium sedans.

On the other hand, we may be impacted by trade policies, political uncertainty and economic cycles involving geographic regions where we have significant operations, which are inherently unpredictable. Sales of vehicles in the automotive industry also tend to be cyclical in many markets, which may expose us to increased volatility. Specifically, it is uncertain as to how such macroeconomic factors will impact us as a company that has been experiencing growth and increasing market share in an industry that has globally been experiencing a recent decline in sales. In addition, the federal tax credit for the purchase of a qualified electric vehicle in the U.S. was reduced to \$1,875 for each Tesla vehicle delivered in the third or fourth quarter of 2019, and will finally be reduced to \$0 for each Tesla vehicle delivered thereafter. We believe that this sequential phase-out has likely pulled forward some vehicle demand into the periods preceding each reduction, and we may see similar pull-forwards through the remainder of 2019. In the long run, we do not expect a meaningful impact to our sales in the U.S., as we believe that each of our vehicle models offers a compelling proposition even without incentives.

Finally, we make certain adjustments to our product prices from time to time in the ordinary course of business. Such pricing changes may impact our vehicles' resale values, and in turn our operating results. For example, if we increase our estimates of the volume of vehicles that may potentially be returned to us under pre-existing resale value guarantees provided to customers and partners for certain financing programs, our gross profits may be reduced, as we saw during the first two quarters of 2019.

Automotive—Deliveries and Customer Infrastructure

In the third quarter of 2019, we achieved a new quarterly record for total vehicles delivered. While delivering vehicles at large scale across numerous markets presents logistical challenges, we continue to optimize our manufacturing and delivery patterns. Given our higher volumes and single-factory production at the Tesla Factory until we ramp production at Gigafactory Shanghai, however, we necessarily produce variants (including regional versions) of all of our vehicles in batches in accordance with the demand that we expect for them. If our specific demand expectations for these variants prove inaccurate, we may not be able to timely generate sales matched to the specific vehicles that we produce in the same timeframe, which may negatively impact our deliveries in a particular period.

We continue to expand and invest in our servicing and charging locations and capabilities to keep pace with our customer vehicle fleet and ensure a convenient and efficient customer experience. Despite our rapid growth, our service wait times and the financial impact of our service operations are improving. We also continue to deploy our V3 Supercharger technology, which should shorten individual charging sessions and increase customer throughput rates. However, if our customer vehicles, particularly in the rapidly growing Model 3 fleet, experience unexpected reliability issues, it could outpace and overburden our servicing capabilities and parts inventory.

Automotive—Production

The third quarter of 2019 also marked a new quarterly record for total vehicle production. In addition to growing vehicle production at our Tesla Factory, we are ahead of schedule at Gigafactory Shanghai, where we are producing full Model 3 vehicles on a trial basis with body, paint and general assembly lines and are working towards finalizing manufacturing licenses and other regulatory requirements. In addition to featuring a simplified and cost-effective manufacturing process, Gigafactory Shanghai allows us to access the efficiencies of local supply chains and logistics while avoiding certain local tariffs on U.S.-manufactured vehicles. We are transitioning additional manufacturing processes to Gigafactory Shanghai, which will have a capacity of 150,000 Model 3 vehicles per year when the first phase of production is ramped. Likewise, we continue to build production capability for Model Y at the Tesla Factory, and we have drawn on our past Model 3 production experience to make progress ahead of schedule at a projected cost per unit of capacity that is less than that for Model 3 at the Tesla Factory. However, the ramp and further expansion of Gigafactory Shanghai is subject to a number of uncertainties inherent in all new manufacturing operations, including final approvals under and ongoing compliance with regulatory requirements, potential supply chain constraints, and the pace of bringing production equipment and processes online with the capability to manufacture high-quality units at scale. Ultimately, achieving increased total vehicle production cost-effectively across all of our manufacturing operations will require that we timely address any bottlenecks that may arise as we ramp, establish and maintain sustained supplier capacity, and successfully utilize manufacturing processes at the maximum output rates that we have planned for them.

Energy Generation and Storage Demand, Production and Deployment

We are optimizing ways to reduce customer acquisition costs of our energy generation products by focusing on selling these products directly and efficiently. We have made the online buying experience for our energy products simpler and more accessible by standardizing the offerings for what has traditionally been a cumbersome customized process and offering highly competitive pricing, which should result in cost efficiencies and a larger market. While our retrofit solar system deployments decreased earlier in 2019 as we continue to implement and refine this strategy, deployments increased in the third quarter of 2019 and we expect further growth. In addition, we have launched the third major version of our Solar Roof product, with the first installations planned for the fourth quarter of 2019, and are working to ramp over the remainder of 2019 and into 2020.

We remain focused on growth for our energy storage products, and achieved a new quarterly deployment record in the third quarter of 2019. After reestablishing certain production at Gigafactory 1 for our energy storage products in 2019 to reduce backlog and shorten customer wait times, we are now focused on further manufacturing efficiencies and improvements in our installation processes as we ramp. We continue to see global opportunities for commercial and utility-scale projects, including with our introduction of the 3 MWh Tesla Megapack, as well as for residential customers impacted by unreliable access to the energy grid or scheduled blackouts.

Automotive Financing Options

We offer financing arrangements for our vehicles in certain markets in North America, Europe and Asia primarily through various financial institutions. We offer resale value guarantees or similar buy-back terms to certain customers who purchase vehicles and who finance their vehicles through one of our specified commercial banking partners. We also offer resale value guarantees in connection with automotive sales to certain leasing partners. Currently, both programs are available only in certain international markets. Resale value guarantees to customers available for exercise within the 12 months following September 30, 2019 totaled \$151 million in value.

Vehicle deliveries with the resale value guarantee do not impact our near-term cash flows and liquidity, since we receive the full amount of cash for the vehicle sales price at delivery. While we do not assume any credit risk related to the customer, if a customer exercises the option to return the vehicle to us, we are exposed to liquidity risk that the resale value of vehicles under these programs may be lower than our guarantee, or the volume of vehicles returned to us may be higher than our estimates or we may be unable to resell the used vehicles in a timely manner, all of which could adversely impact our cash flows. To date, we have only had an insignificant percentage of customers who exercised their resale value guarantees and returned their vehicles to us. However, resale prices may inherently fluctuate depending on various factors such as supply and demand of our used vehicles, economic cycles and the pricing of new vehicles, which we adjust from time to time in the ordinary course of business. While we modify our resale value guarantees following such pricing changes if we determine it to be warranted, we cannot do so retrospectively as to outstanding guarantees. Moreover, should market values of our vehicles or customer demand decrease, the accuracy of our estimated rates of return may be impacted materially.

We continuously seek to optimize our vehicle financing options. Currently, we offer leasing directly through our local subsidiaries for Model S, Model X and Model 3 in the U.S. and for Model S and Model X in Canada. We also offer leasing through leasing partners in certain jurisdictions. Leasing through our captive financing entities and our leasing partners exposes us to residual value risk. In addition, for leases offered directly from our captive financing entities, we assume customer credit risk. We plan to continue expanding our financing offerings, including our lease financing options and the financial sources to support them, and to support the overall financing needs of our customers. To the extent that we are unable to arrange such options for our customers on terms that are attractive, our sales, financial results and cash flows could be negatively impacted.

Energy Generation and Storage Financing Options

We offer our customers the choice to purchase and own solar energy systems, to lease such systems, or to purchase the energy that our solar energy systems produce through various contractual arrangements. These contractual arrangements include long-term leases and PPAs. In either arrangement, we install our solar energy system at our customer's premises and charge the customer a monthly payment, which alternatively may be prepaid at the customer's option. In the lease arrangement, the monthly payment is fixed. In the PPA arrangement, we charge the customer a rate based on the amount of electricity (measured in kilowatt-hour, or kWh) that the solar energy system actually produces. The leases and PPAs are typically for 20 years with a renewal option, and the specified monthly payments and energy rates may be subject to annual escalations. We also offer in certain regions solar energy systems on a subscription basis, whereby customers may obtain the use of such systems for a fixed monthly payment.

For customers who want to purchase and own solar energy systems, we also offer solar loans under which a third-party lender provides financing directly to a qualified customer to enable the customer to purchase and own a solar energy system installed by us (and for which we and the customer have entered into a solar energy system sale and installation agreement). We are not a party to the loan agreement between the customer and the third-party lender, and the third-party lender has no recourse against us with respect to the loan.

We also install energy storage systems for both residential and commercial-scale customers. Energy storage systems may be purchased on a cash basis, without financing, or as part of the purchase and financing of a solar energy system.

Gigafactory 1

We work together with our suppliers at Gigafactory 1 to integrate production of battery material, cells, modules, battery packs and drive units in one location for vehicles and energy storage products. We are also continuing to invest in Gigafactory 1 to achieve additional production output there. Panasonic has partnered with us on Gigafactory 1 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 these terms convey a finance lease, as defined in ASC 842, *Leases*, we consider their production equipment to be leased assets when production commences. This results in us recording the value of their production equipment within property, plant and equipment, net, on the consolidated balance sheets with a corresponding liability recorded to long-term debt and finance leases. For all suppliers and partners for which we plan to purchase the full output from their production equipment located at Gigafactory 1, we will apply similar accounting. During the three and nine months ended September 30, 2019, we recorded \$7 million and \$411 million on the consolidated balance sheet.

While we currently believe that Gigafactory 1 will allow us to reach our production targets, our ultimate ability to do so will require us to resolve the types of challenges that are typical of a large-scale manufacturing operation. For example, we have in the past experienced bottlenecks in the assembly of battery modules and cell output at Gigafactory 1, which impacted our production of Model 3. While we continue to resolve such issues at Gigafactory 1 as they arise, given the size and complexity of this undertaking, it is possible that future events could result in increased costs of expanding and operating Gigafactory 1 to meet our production targets or Gigafactory 1 taking longer to ramp further than we currently anticipate.

Gigafactory 2

We have an agreement with the SUNY Foundation related to the construction and use of a facility in Buffalo, New York, referred to as Gigafactory 2, 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. The terms of such agreement require us to comply with a number of covenants, including required hiring and cumulative investment targets, which we have met to date. Overall, we expect our significant operations at Gigafactory 2 and the surrounding Buffalo area to continue, in particular with our ramp and manufacture of Solar Roof, which we are planning to scale over the remainder of 2019 and into 2020. In addition, Panasonic manufactures PV cells and modules in a portion of Gigafactory 2.

Although we expect to meet all applicable covenants with the SUNY Foundation with respect to Tesla's progress at and plans for Buffalo, any failure to comply with these covenants could obligate us to pay significant amounts to the SUNY Foundation and result in termination of the agreement. Our expectations as to the costs and timelines of our investment and operations at Buffalo, including those associated with acquiring equipment and supporting our operations with respect to our production of Solar Roof there, may prove incorrect, which could subject us to significant expenses to achieve the desired benefits.

Gigafactory Shanghai

We have commenced production of full Model 3 vehicles on a trial basis at Gigafactory Shanghai, which we are constructing in order to increase the affordability of our vehicles for customers in China by reducing transportation and manufacturing costs and eliminating certain tariffs on vehicles imported from the U.S. Subject to a number of uncertainties inherent in all new manufacturing operations, including final approvals under and ongoing compliance with regulatory requirements, potential supply chain constraints, and the pace of bringing production equipment and processes online with the capability to manufacture high-quality units at scale, we expect Gigafactory Shanghai will have a capacity of 150,000 Model 3 vehicles per year when the first phase of production is ramped. Much of the investment in Gigafactory Shanghai has been and will continue to be provided through local debt financing, including a RMB 3.5 billion term facility that our subsidiary entered into in March 2019, supported by limited direct capital expenditures by us, at a lower cost per unit of production capacity than that of Model 3 production at the Tesla Factory.

Other Manufacturing

We continue to expand production capacity at our existing facilities. We also intend to further increase cost-competitiveness in our significant markets through local manufacturing, including of Model 3 and Model Y at a future Gigafactory in Europe for which we are in the late stages of site selection.

Trends in Cash Flow, Capital Expenditures and Operating Expenses

Capital expenditures in 2019 are projected to be slightly below \$1.5 billion, to continue to develop our main projects such as the global manufacturing expansion of Model 3, launch and ramp of Model Y, and launch of Tesla Semi, including additional vertical integration of our supply chain and production process, as well as the further expansion of our Supercharger and vehicle service and repair networks. Given the breadth of our various planned projects and our focus on cost efficiency, as we make progress on such projects we may find that our actual spend may be different than previously expected.

Likewise, we expect operating expenses as a percentage of revenue to continue to decrease in the future as we focus on increasing operational efficiency and process automation, as well as from increases in expected overall revenues from our expanding sales. In particular, our efforts to scale down and optimize our cost structure relative to the size of our business have already manifested in total operating expenses decreasing from \$3.4 billion to \$3.1 billion during the nine month periods ended September 30, 2018 and 2019, respectively, including restructuring and other charges. Meanwhile, our total revenues increased from \$14.2 billion to \$17.2 billion, respectively, during such periods.

In March 2018, our stockholders approved the 2018 CEO Performance Award, with vesting contingent on achieving market capitalization and operational milestones. Consequently, we may incur significant additional non-cash stock-based compensation expense over the term of the award as each operational milestone becomes probable of being met. In particular, we will have to record a cumulative catch-up expense at the time each operational milestone becomes probable, which may be material depending on the length of time elapsed from the grant date. See Note 13, *Equity Incentive Plans—2018 CEO Performance Award*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for further details regarding the stock-based compensation relating to the 2018 CEO Performance Award.

Critical Accounting Policies and Estimates

The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the U.S. (“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 will be affected.

For a description of our critical accounting policies and estimates, refer to 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

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Automotive sales	\$ 5,132	\$ 5,878	\$ (746)	-13%	\$ 13,809	\$ 11,558	\$ 2,251	19%
Automotive leasing	221	221	—	0%	644	634	10	2%
Total automotive revenues	5,353	6,099	(746)	-12%	14,453	12,192	2,261	19%
Services and other	548	326	222	68%	1,646	860	786	91%
Total automotive & services and other segment revenue	5,901	6,425	(524)	-8%	16,099	13,052	3,047	23%
Energy generation and storage segment revenue	402	399	3	1%	1,095	1,183	(88)	-7%
Total revenues	\$ 6,303	\$ 6,824	\$ (521)	-8%	\$ 17,194	\$ 14,235	\$ 2,959	21%

Automotive & Services and Other Segment

Automotive sales revenue includes revenues related to the sale of new Model S, Model X and Model 3 vehicles, including access to our Supercharger network, internet connectivity, Autopilot and FSD features and over-the-air software updates, as well as sales of regulatory credits to other automotive manufacturers. Our revenue from regulatory credits fluctuates by quarter depending on when a contract is executed with a buyer and when the credits are delivered. For example, our revenue from regulatory credit sales in the three months ended September 30, 2019 was \$134 million while it was \$216 million in the three months ended March 31, 2019.

Automotive leasing revenue includes the amortization of revenue for Model S, Model X and Model 3 vehicles under direct lease agreements as well as those sold with resale value guarantees accounted for as operating leases under lease accounting. We began offering leasing for Model 3 vehicles in the second quarter of 2019.

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

Automotive sales revenue decreased \$746 million, or 13%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018, primarily due to a decrease of 10,255 Model S and Model X cash deliveries, partially offset by an increase of 17,140 Model 3 cash deliveries from production scaling. The higher proportion of Model 3 leases, which was introduced in the second quarter of 2019, and Model 3 deliveries in our overall population of vehicle deliveries as compared to the prior period contributed to the overall decrease of automotive sales revenue despite our overall deliveries increase. Additionally, the deliveries in the three months ended September 30, 2019 were at lower average selling prices due to price adjustments we made to our vehicle offerings in the first half of 2019 and the introduction of lower end Model 3 trims in 2019. There was also a decrease of \$55 million in sales of regulatory credits to \$134 million in the three months ended September 30, 2019 compared to \$189 million in the same period in the prior year.

Automotive sales revenue increased \$2.25 billion, or 19%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018, primarily due to an increase of 114,749 Model 3 cash deliveries from production scaling, partially offset by a decrease of 22,924 Model S and Model X cash deliveries. The higher proportion of Model 3 leases, which was introduced in the second quarter of 2019, and Model 3 deliveries in our overall population of vehicle deliveries as compared to the prior period contributed to a smaller increase in automotive sales revenue than our overall deliveries increase. The deliveries in the nine months ended September 30, 2019 were at lower average selling prices due to price adjustments we made to our vehicle offerings in the first half of 2019 and the introduction of lower end Model 3 trims in 2019. Additionally, there was an increase of \$137 million in sales of regulatory credits to \$461 million in the nine months ended September 30, 2019 compared to \$324 million in the same period in the prior year. Due to the price adjustments mentioned above, we estimated that there is a greater likelihood that customers will exercise their buyback options that were provided prior to such adjustments. As a result, along with the estimated variable consideration related to normal future product returns for vehicles sold under the buyback options program, we adjusted our sales return reserve on vehicles previously sold under our buyback options program resulting in a reduction of automotive sales revenues of \$555 million. Refer to Note 2, *Summary of Significant Accounting Policies*, to the consolidated statements included elsewhere in the Quarterly Report on Form 10-Q.

Automotive leasing revenue remained relatively consistent in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. There was an increase in cumulative vehicles under our direct vehicle leasing program, partially due to the introduction of Model 3 leasing in the second quarter of 2019, and an increase in the number of vehicles under leasing programs where our counterparty has elected to retained ownership of the vehicle during or at the end of the guarantee or lease period when compared to the three months ended September 30, 2018. When our counterparty retains ownership under our resale value guarantee leasing programs, any remaining balances within deferred revenue and resale value guarantee are settled to automotive leasing revenue. For customers who retain ownership under our direct vehicle leasing program, we recognize the contractual lease payoffs as automotive leasing revenue. These increases were offset by a decrease in cumulative vehicles under our resale value guarantee leasing programs which are accounted for as operating leases.

Automotive leasing revenue increased \$10 million, or 2%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The increase was primarily due to an increase in cumulative vehicles under our direct vehicle leasing program and an increase in the number of vehicles under our resale value guarantee leasing programs where our counterparty has retained ownership of the vehicle during or at the end of the guarantee period when compared to the nine months ended September 30, 2018. When our counterparty retains ownership under our resale value guarantee leasing programs, any remaining balances within deferred revenue and resale value guarantee are settled to automotive leasing revenue. These increases were partially offset by a decrease in cumulative vehicles under our resale value guarantee financing programs which are accounted for as operating leases.

Services and other revenue increased \$222 million, or 68%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Services and other revenue increased \$786 million, or 91%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The increases in the three and nine months ended September, 2019 compared to the same periods in the prior year were primarily due to increases in used vehicle sales from increased volumes of trade-in vehicles, partially offset by lower average selling prices for traded-in Tesla vehicles due to price adjustments we made to our vehicle offerings during the first half of 2019. Additionally, there were increases in non-warranty maintenance services revenue as our fleet continues to grow.

Energy Generation and Storage Segment

Energy generation and storage revenue includes sales of solar energy systems and energy storage products, leasing revenue from solar energy systems under operating leases and PPAs and the sale of solar energy systems incentives.

Energy generation and storage revenue increased by \$3 million, or 1%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. The increase was primarily due to increases in deployments of Powerpack and Powerwall, partially offset by decreases in deployments of cash and loan solar projects.

Energy generation and storage revenue decreased by \$88 million, or 7%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decrease was primarily due to a decrease in deployments of cash and loan solar projects and a decrease in revenue recognized for commercial projects, most predominantly \$73 million for the South Australia battery project in the prior period. These decreases were partially offset by increases in deployments of Powerpack and Powerwall.

Cost of Revenues and Gross Margin

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Cost of revenues								
Automotive sales	\$ 4,014	\$ 4,406	\$ (392)	-9%	\$ 11,124	\$ 9,027	\$ 2,097	23%
Automotive leasing	117	119	(2)	-2%	340	361	(21)	-6%
Total automotive cost of revenues	4,131	4,525	(394)	-9%	11,464	9,388	2,076	22%
Services and other	667	445	222	50%	2,096	1,212	884	73%
Total automotive & services and other segment cost of revenues	4,798	4,970	(172)	-3%	13,560	10,600	2,960	28%
Energy generation and storage segment	314	330	(16)	-5%	956	1,036	(80)	-8%
Total cost of revenues	\$ 5,112	\$ 5,300	\$ (188)	-4%	\$ 14,516	\$ 11,636	\$ 2,880	25%
Gross profit total automotive	\$ 1,222	\$ 1,574			\$ 2,989	\$ 2,804		
Gross margin total automotive	23%	26%			21%	23%		
Gross profit total automotive & services and other segment	\$ 1,103	\$ 1,455			\$ 2,539	\$ 2,452		
Gross margin total automotive & services and other segment	19%	23%			16%	19%		
Gross profit energy generation and storage segment	\$ 88	\$ 69			\$ 139	\$ 147		
Gross margin energy generation and storage segment	22%	17%			13%	12%		
Total gross profit	\$ 1,191	\$ 1,524			\$ 2,678	\$ 2,599		
Total gross margin	19%	22%			16%	18%		

Automotive & Services and Other Segment

Cost of automotive sales revenue includes direct parts, material and labor costs, manufacturing overhead, including depreciation costs of tooling and machinery, shipping and logistics 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 primarily includes the amortization of operating lease vehicles over the lease term, as well as warranty expenses recognized as incurred. 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 to acquire and certify used vehicles, and costs for retail merchandise. Cost of services and other revenue also includes direct parts, materials and labor costs, manufacturing overhead associated with sales by our acquired subsidiaries to third party customers.

Cost of automotive sales revenue decreased \$392 million, or 9%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018, primarily due to a decrease of 10,255 Model S and Model X cash deliveries, lower average Model 3 costs per unit compared to the prior period primarily due to improvement of manufacturing efficiencies, and reductions of materials costs, including commercial negotiations with suppliers in the three months ended September 30, 2019. The decrease was partially offset by an increase of 17,140 Model 3 cash deliveries and higher average Model S and Model X costs per unit compared to the prior period from discontinuation of lower end trims in 2019.

Cost of automotive sales revenue increased \$2.10 billion, or 23%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018, primarily due to an increase of 114,749 Model 3 cash deliveries and higher average Model S and Model X costs per unit compared to the prior period from discontinuation of lower end trims in 2019. These increases were partially offset by a decrease of 22,924 Model S and Model X cash deliveries and lower average Model 3 costs per unit compared to the prior period primarily due to temporary under-utilization of manufacturing capacity at lower production volumes in the first half of 2018 and other cost efficiencies. Additionally, due to price adjustments we made to our vehicle offerings in the first half of 2019, we estimated that there is a greater likelihood that customers will exercise their buyback options that were provided prior to such adjustments. If customers elect to exercise the buyback options, we expect to be able to subsequently resell the returned vehicles, which resulted in a reduction of automotive cost of sales of \$451 million for the nine months ended September 30, 2019. Refer to Note 2, *Summary of Significant Accounting Policies*, to the consolidated statements included elsewhere in the Quarterly Report on Form 10-Q.

Cost of automotive leasing revenue remained relatively consistent in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. There was a decrease in cumulative vehicles under our resale value guarantee financing programs which are accounted for as operating leases. The decrease was partially offset by an increase in cumulative vehicles under our direct vehicle leasing program and an increase in the number of vehicles under leasing programs where our counterparty has retained ownership of the vehicle during or at the end of the guarantee or lease period when compared to the prior period. When our counterparty retains ownership under our leasing programs, the net book value of the leased vehicle of the lease vehicle is expensed to cost of automotive leasing revenue.

Cost of automotive leasing revenue decreased \$21 million, or 6%, in the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018. The decrease was primarily due to a decrease in cumulative vehicles under our resale value guarantee financing programs which are accounted for as operating leases. The decrease was partially offset by an increase in cumulative vehicles under our direct vehicle leasing program and an increase in the number of vehicles under our resale value guarantee leasing programs where our counterparty has retained ownership of the vehicle during or at the end of the guarantee period when compared to the prior period. When our counterparty retains ownership under our resale value guarantee leasing programs, the net book value of the leased vehicle of the lease vehicle is expensed to cost of automotive leasing revenue.

Cost of services and other revenue increased \$222 million, or 50%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Cost of services and other revenue increased \$884 million, or 73%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The increases in the three and nine months ended September 30, 2019 compared to the same periods in the prior year were primarily due to the costs of used vehicle sales from the increased volumes of trade-in vehicles. Additionally, there were increases in the costs of our new service centers, additional service personnel in existing and new service centers, Mobile Service capabilities, parts distribution centers and investment in new body shops to provide maintenance services to our rapidly growing fleet of vehicles.

Gross margin for total automotive decreased from 26% to 23% in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. The decrease was primarily related to lower Model S and Model X margins from lower average selling prices due to price adjustments we made to our vehicle offerings in the first half of 2019. The decrease was partially offset by a slight improvement of Model 3 margins as we achieved additional manufacturing efficiencies in the production of Model 3 year-over-year while average selling price decreased from introduction of lower end trims, and a higher proportion of Model 3 as a percentage of our total automotive sales compared to the prior period. Reductions of materials costs, including commercial negotiations with suppliers in the three months ended September 30, 2019, also had an offsetting impact to the gross margin decrease.

Gross margin for total automotive decreased from 23% to 21% in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decrease was primarily related to lower Model S and Model X margins from lower average selling prices due to price adjustments we made to our vehicle offerings in the first half of 2019. Additionally, the price adjustments also resulted in a reduction in gross automotive sales profit of \$104 million from the adjustment of our sales return reserve on vehicles previously sold under our buyback options program. The decrease was partially offset by improvement of Model 3 margins compared to the prior period as we achieved additional manufacturing efficiencies in the production of Model 3 and a higher proportion of Model 3 as a percentage of our total automotive sales compared to the prior period.

Gross margin for total automotive & services and other segment decreased from 23% to 19% in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Gross margin for total automotive & services and other segment decreased from 19% to 16% in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decreases of gross margin in the three and nine months ended September 30, 2019 compared to the same periods in the prior year were primarily due to the automotive gross margin impacts discussed above.

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. In addition, where arrangements are accounted for as operating leases, 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 by \$16 million, or 5%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. The decrease was primarily due to a decrease in cost of revenue for cash and loan solar projects from lower deployments. Additionally, there were higher costs in the three months ended September 30, 2018 for our solar energy system lease arrangements due to impairment charges. The decrease was partially offset by increases in cost of revenue for Powerpack and Powerwall from increased deployments, and higher costs from temporary manufacturing under-utilization of our Solar Roof ramp.

Cost of energy generation and storage revenue decreased by \$80 million, or 8%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decrease was primarily due to a decrease in cost of revenue for commercial energy storage projects, most predominantly \$73 million for the South Australia battery project in the prior period, and a decrease in cost of revenue for cash and loan solar projects from lower deployments. These decreases were partially offset by increases in cost of revenue for Powerpack and Powerwall from increased deployments, and higher costs from temporary manufacturing under-utilization of our Solar Roof ramp.

Gross margin for energy generation and storage increased from 17% to 22% in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Energy storage gross margins improved in the three months ended September 30, 2019 compared to the prior period as a result of lower materials costs. Additionally, solar energy system lease arrangement gross margin also increased in the three months ended September 30, 2019 compared to the prior period, as there were higher costs in the three months ended September 30, 2018 for our solar energy system lease arrangements due to impairment charges. These increases were partially offset by lower margins in our cash and loan solar energy system business driven by higher fixed costs per project as a result of lower deployments in the three months ended September 30, 2019 and higher costs from temporary manufacturing under-utilization of our Solar Roof ramp.

Gross margin for energy generation and storage remained relatively consistent at 13% in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. Energy storage gross margins improved in the nine months ended September 30, 2019 compared to the prior period as a result of lower materials costs, partially offset by lower gross margins in our cash and loan solar energy system business driven by higher fixed costs per project as a result of lower deployments and higher costs from temporary manufacturing under-utilization of our Solar Roof ramp.

Research and Development Expense

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Research and development	\$ 334	\$ 351	\$ (17)	-5%	\$ 998	\$ 1,104	\$ (106)	-10%
As a percentage of revenues	5%	5%			6%	8%		

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 as a percentage of revenue remained relatively consistent in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. R&D expenses as a percentage of revenue decreased in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decrease was primarily from our focus on increasing operational efficiency and process automation, our efforts to scale down and optimize our cost structure relative to the size of our business, as well as from an increase in overall revenues from our expanding sales.

R&D expenses decreased \$17 million, or 5%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. The decrease was primarily due to an \$18 million decrease in employee and labor related expenses from cost efficiency initiatives.

R&D expenses decreased \$106 million, or 10%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decrease was primarily due to a \$71 million decrease in employee and labor related expenses from cost efficiency initiatives and a \$26 million decrease in facilities, freight, and depreciation expenses.

Selling, General and Administrative Expense

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Selling, general and administrative	\$ 596	\$ 730	\$ (134)	-18%	\$ 1,947	\$ 2,167	\$ (220)	-10%
As a percentage of revenues	9%	11%			11%	15%		

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 as a percentage of revenue decreased in the three and nine months ended September 30, 2019 as compared to the same periods ended September 30, 2018. The decrease was primarily from our focus on increasing operational efficiency and process automation, our efforts to scale down and optimize our cost structure relative to the size of our business. The decrease in the nine months ended September 30, 2019 percentage as compared to the prior period was also due to an increase in overall revenues from our expanding sales.

SG&A expenses decreased \$134 million, or 18%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. The decrease was primarily due to a \$103 million decrease in employee and labor related expenses from decreased headcount and cost efficiency initiatives, and a \$25 million decrease in marketing expenses.

SG&A expenses decreased \$220 million, or 10%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The decrease was primarily due to a \$248 million decrease in employee and labor related expenses from decreased headcount and cost efficiency initiatives, partially offset by a \$40 million increase in stock-based compensation expense related to the 2018 CEO Performance Award and stock awards granted for new hires and refresher employee stock grants.

Restructuring and other

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Restructuring and other	\$ —	\$ 27	\$ (27)	-100%	\$ 161	\$ 130	\$ 31	24%
As a percentage of revenues	0%	0%			1%	1%		

Restructuring and other expenses decreased \$27 million in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. We recognized settlement and legal expenses of \$26 million in the three months ended September 30, 2018 for the settlement with the SEC relating to a take-private proposal for Tesla. These expenses were substantially paid by the end of 2018. There were no restructuring actions during the three months ended September 30, 2019.

Restructuring and other expenses increased \$31 million, or 24%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. During the nine months ended September 30, 2019, we carried out certain restructuring actions in order to reduce costs and improve efficiency. As a result, we recognized \$50 million of costs primarily related to employee termination expenses and losses from closing certain stores impacting both segments. We recognized \$47 million in impairment related to IPR&D intangible asset as we abandoned further development efforts (refer to Note 4, Goodwill and Intangible Assets for details) and \$15 million for the related equipment within the energy generation and storage segment. We also incurred a loss of \$49 million for closing operations in certain facilities. On the statement of cash flows, the amounts were presented in the captions in which such amounts would have been recorded absent the impairment charges. The employee termination expenses were substantially paid by September 30, 2019, while the remaining amounts were non-cash. The restructuring actions during nine months ended September 30, 2019 will result in an estimated cost savings of approximately \$62 million for the remainder of 2019.

In addition to the take-private proposal charge in the third quarter of 2018 as discussed above, we carried out certain restructuring actions in order to reduce costs and improve efficiency in the second quarter of 2018. As a result, in the three months ended June 30, 2018, we recognized \$34 million of one-time employee termination expenses and estimated losses from sub-leasing a certain facility. Also included within restructuring and other activities was \$56 million of expenses (materially all of which were non-cash) from restructuring the energy generation and storage segment, which were comprised of disposals of certain tangible assets, the shortening of the useful life of a trade name intangible asset and a contract termination penalty. In addition, we concluded that a portion of IPR&D is not commercially feasible. Consequently, we recognized an impairment loss of \$13 million in the three months ended June 30, 2018.

Interest Expense

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Interest expense	\$ (185)	\$ (175)	\$ (10)	6%	\$ (515)	\$ (488)	\$ (27)	6%
As a percentage of revenues	3%	3%			3%	3%		

Interest expense increased by \$10 million, or 6%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Interest expense increased by \$27 million, or 6%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The increases were primarily due to an increase in the average carrying balances of interest bearing debt in the three and nine months ended September 30, 2019 as compared to the same periods in the prior year.

Other Income (Expense), Net

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Other income, net	\$ 85	\$ 23	\$ 62	270%	\$ 70	\$ 36	\$ 34	94%
As a percentage of revenues	1%	0%			0%	0%		

Other income (expense), 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 (expense), net, increased by \$62 million, or 270%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Other income (expense), net, increased by \$34 million, or 94%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. These changes were primarily due to favorable fluctuations in foreign currency exchange rates, partially offset by losses from interest rate swaps related to our debt facilities when compared to the prior period.

Provision for Income Taxes

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Provision for income taxes	\$ 26	\$ 17	\$ 9	53%	\$ 68	\$ 36	\$ 32	89%
Effective tax rate	15%	6%			-8%	-3%		

Our provision for income taxes increased by \$9 million, or 53%, in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. Our provision for income taxes increased by \$32 million, or 89%, in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The increases were primarily due to the increases in taxable profits in certain foreign jurisdictions year-over-year.

Net Income (Loss) Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

(Dollars in millions)	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2019	2018	\$	%	2019	2018	\$	%
Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	\$ 7	\$ (57)	\$ 64	Not meaningful	\$ 60	\$ (157)	\$ 217	Not meaningful

Our net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests was related to financing fund arrangements.

Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests changed unfavorably by \$64 million in the three months ended September 30, 2019 as compared to the three months ended September 30, 2018. The change was primarily due to lower activities in our financing fund arrangements.

Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests changed unfavorably by \$217 million in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. The change was primarily due to lower activities in our financing fund arrangements and a charge related to buyout of noncontrolling interests.

Liquidity and Capital Resources

As of September 30, 2019, we had \$5.34 billion of cash and cash equivalents. Balances held in foreign currencies had a U.S. dollar equivalent of \$616 million and consisted primarily of Chinese yuan, euros and Canadian dollars. Our sources of cash are predominantly from our deliveries of vehicles, sales and installations of our energy storage products and solar energy systems, proceeds from debt facilities, proceeds from financing funds and proceeds from equity offerings.

Our sources of liquidity and cash flows enable us to fund ongoing operations, research and development projects for new products, and development of our main projects such as the global manufacturing expansion of Model 3, launch and ramp of Model Y, and launch of Tesla Semi, including additional vertical integration of our supply chain and production process, as well as the further expansion of our Supercharger and vehicle service and repair networks. We currently expect total 2019 capital expenditures to be slightly below \$1.5 billion.

In 2019 and beyond, we will continue to apply our increasing experience and learnings from past and current product ramps to attain a level of capital efficiency per dollar of spend that is significantly greater than historical levels. For example, based on our experience with ramping Model 3 at the Tesla Factory, we have achieved capital spend per unit of Model 3 manufacturing capacity for the first phase of Gigafactory Shanghai that is less than that of the ramp of our line in Fremont and we expect the same for the production ramp of Model Y at the Tesla Factory, particularly given the expected substantial commonality of components between Model Y and Model 3. Considering the pipeline of new products planned at this point, and all other infrastructure growth and investments in Gigafactory 1, Gigafactory 2, Gigafactory Shanghai and future planned manufacturing facilities, we currently estimate that capital expenditures will be between \$2.0 to \$2.5 billion annually for the next two fiscal years. However, given the breadth of our various planned projects, and our focus on cost efficiency, our cost structure is difficult to predict with accuracy long-term and as we make progress on such projects we may find that our actual spend may be different than previously expected. Moreover, we expect that the cash we generate from our core operations will generally be sufficient to cover our future capital expenditures and to pay down our near-term debt obligations, although we may choose to seek alternative financing sources. For example, much of the investment in Gigafactory Shanghai has been and will continue to be funded through indebtedness arranged through local financial institutions in China, including a RMB 3.5 billion term facility that our subsidiary entered into in March 2019. Moreover, given the length of the transit time between the Tesla Factory and China during which our vehicles, particularly Model S and Model X, are counted as finished goods inventory, our subsidiary entered into a revolving facility of up to RMB 5.0 billion in September 2019 to finance such vehicles in-transit. As always, we continually evaluate our capital expenditure needs and may decide it is best to raise additional capital to fund the rapid growth of our business.

We have an agreement with the SUNY Foundation to spend or incur \$5.0 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. We anticipate meeting our applicable obligations to the SUNY Foundation through our operations at this facility and other operations within the State of New York, and we do not believe that we face a significant risk of default.

We expect that our current sources of liquidity together with our projection of cash flows from operating activities will provide us with adequate liquidity over at least the next 12 months. A large portion of our future expenditures is to fund our growth, and we can adjust our capital and operating expenditures by operating segment, including future expansion of our product offerings and our Supercharger and vehicle service and repair networks. We may need or want to raise additional funds in the future, and these funds may not be available to us when we need or want them, or at all. If we cannot raise additional funds when we need or want them, our operations and prospects could be negatively affected.

In addition, we had \$1.99 billion of unused committed amounts under our credit facilities and financing funds as of September 30, 2019, some of which 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, our interests in financing funds or various other assets; and contributing or selling qualified solar energy systems and the associated customer contracts or qualified leased vehicles and our interests in those leases into the financing funds). Upon the draw-down of any unused committed amounts, there are no restrictions on the use of such funds for general corporate purposes. For details regarding our indebtedness and financing funds, refer to Note 11, *Long-Term Debt Obligations*, and Note 15, *Variable Interest Entity Arrangements*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Summary of Cash Flows

(Dollars in millions)	Nine Months Ended September 30,			
	2019		2018	
Net cash provided by operating activities	\$	980	\$	863
Net cash used in investing activities	\$	(1,033)	\$	(1,972)
Net cash provided by financing activities	\$	1,608	\$	686

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, especially inventory, which includes vehicles in transit. Our operating cash inflows include cash from vehicle sales, lease payments directly from customers, customer deposits, 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, employee compensation, operating lease payments and interest payments on our financings.

Net cash from operating activities changed favorably by \$117 million to net cash provided by operating activities of \$980 million during the nine months ended September 30, 2019 from net cash provided by operating activities of \$863 million during the nine months ended September 30, 2018. This favorable change was primarily due to the increase in net income, excluding non-cash expenses and gains, of \$744 million, partially offset by the increase in net operating assets and liabilities of \$439 million and \$188 million of the repayment of our 0.25% Convertible Senior Notes due in 2019 which was classified as an operating activity, as this represented an interest payment on the discounted convertible notes. The increase in net operating assets and liabilities was mainly driven by a smaller increase in accounts payable and accrued liabilities in the nine months ended September 30, 2019 as compared to the same period in the prior year, as we were ramping for Model 3 production in 2018. This was partially offset by a smaller increase in inventory and accounts receivable in the nine months ended September 30, 2019 as compared to the same period in the prior year.

Cash Flows from Investing Activities

Cash flows from investing activities and their variability across each period related primarily to capital expenditures, which were \$915 million during the nine months ended September 30, 2019, mainly for Gigafactory Shanghai and Model 3 production, and \$1.78 billion during the nine months ended September 30, 2018, mainly for Model 3 production. Design, acquisition and installation of solar energy systems amounted to \$68 million and \$189 million for the nine months ended September 30, 2019 and 2018, respectively. Additionally, we also paid \$45 million, net of the cash acquired, for business acquisitions in the nine months ended September 30, 2019.

In 2014, we began construction of Gigafactory 1. We used \$131 million and \$593 million of cash towards Gigafactory 1 construction during the nine months ended September 30, 2019 and 2018, respectively.

Cash Flows from Financing Activities

Cash flows provided by financing activities during the nine months ended September 30, 2019 consisted primarily of \$1.82 billion from the issuance of the 2024 Notes, net of transaction costs, and \$847 million from the issuance of common stock, net of underwriting discounts and offering costs, in registered public offerings, \$494 million of net borrowings under our Warehouse Agreements, \$287 million of net borrowings under the Credit Agreement, and \$174 million from the issuance of warrants in connection with the offering of the 2024 Notes. These cash inflows were partially offset by a \$732 million portion of the repayment of our 0.25% Convertible Senior Notes due in 2019 that was classified as financing activity, a purchase of convertible note hedges of \$476 million in connection with the offering of the 2024 Notes, repayments of \$345 million of the automotive asset-backed notes and collateralized lease repayments of \$302 million. See Note 11, *Long-Term Debt Obligations*, and 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 regarding our debt obligations and collateralized borrowings, respectively.

Cash flows from financing activities during the nine months ended September 30, 2018 consisted primarily of \$546 million from the issuance of automobile lease-backed notes, \$484 million of net borrowings under the Credit Agreement, and \$185 million net proceeds from investments by fund investors. Additionally, there were collateralized lease repayments of \$343 million and repayments of automobile lease-backed notes of \$129 million.

Contractual Obligations

Contractual obligations did not materially change during the nine months ended September 30, 2019 except for debt activity and lease activity, as discussed in more detail in Note 11, *Long-Term Debt Obligations* and Note 12, *Leases*, and the aggregate impact of certain supplier arrangements we entered into during the quarter ended September 30, 2019. The following table sets forth the aggregate impact from these supplier arrangements on our purchase obligations as of September 30, 2019 (in millions):

Three months ending December 31, 2019	\$	274
2020		771
2021		282
2022		35
Total	\$	<u>1,362</u>

Off-Balance Sheet Arrangements

During the periods presented, we did not have relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which were established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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.

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 and operating expenses denominated in currencies other than the U.S. dollar primarily the euro, Japanese yen, Canadian dollar, Chinese yuan and Norwegian krone. In general, we are a net receiver of currencies other than the U.S. dollar for our foreign subsidiaries. Accordingly, changes in exchange rates and, in particular, a strengthening of the U.S. dollar have in the past, and may in the future, negatively affect our revenue and other operating results as expressed in U.S. dollars.

We have also experienced, and will continue to experience, fluctuations in our net income (loss) 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). For the nine months ended September 30, 2019, we recognized a net foreign currency gain of \$102 million in other income (expense), net, with our largest re-measurement exposures from the U.S. dollar, euro and Canadian dollar as our subsidiaries are denominated in various local currencies. For the nine months ended September 30, 2018, we recognized a net foreign currency gain of \$7 million in other income (expense), net, with our largest re-measurement exposures from Japanese yen, euro and Canadian dollar.

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 income (loss) before income taxes. These changes would have resulted in an adverse impact of \$327 million at September 30, 2019 and \$176 million at December 31, 2018.

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 our interest rates would have increased our interest expense for the nine months ended September 30, 2019 and 2018 by \$7 million and \$6 million, 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 September 30, 2019, 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 Securities and Exchange Commission 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 were no changes in our internal control over financial reporting, as identified in connection with the evaluation required by Rule 13a-15(d) and Rule 15d-15(d) of the Exchange Act, that occurred during the three months ended September 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a description of our material pending legal proceedings, please see Note 14, *Commitments and Contingencies*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

In addition, the following matter is being disclosed pursuant to Item 103 of Regulation S-K because it relates to environmental regulations and aggregate civil penalties could potentially exceed \$100,000.

The Bay Area Air Quality Management District (the “BAAQMD”) has issued notices of violation to us relating to air permitting for the Tesla Factory, but has not initiated formal proceedings. We dispute certain of these allegations and are working to resolve them with the BAAQMD. Further, we assert that there has been no related adverse community or environmental impact. While we cannot predict the outcome of this matter, including the final amount of any penalties, it is not 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 Business and Industry

We have experienced in the past, and may experience in the future, delays or other complications in the design, manufacture, launch, production, delivery and servicing ramp of new vehicles and energy products, as well as product features, which could harm our brand, business, prospects, financial condition and operating results.

We have previously experienced launch, manufacturing, production and delivery ramp delays or other complications in connection with new vehicle models such as Model S, Model X and Model 3, new vehicle features such as the all-wheel drive dual motor drivetrain on Model S and the second version of our Autopilot hardware, and a significant increase in automation introduced in the manufacture of Model 3. For example, we encountered unanticipated challenges, such as certain supply chain constraints, that led to initial delays in producing Model X. Similarly, we experienced certain challenges in the production of Model 3 that led to delays in its ramp. Moreover, in the areas of Model 3 production where we had challenges ramping fully automated processes, such as portions of the battery module assembly line, material flow system and the general assembly line, we reduced the levels of automation and introduced semi-automated or manual processes, and we also had to address an isolated supplier limitation in the manufacture of Model 3. If issues like these arise or recur, if our remediation measures and process changes do not continue to be successful, if we experience issues with transitioning to full automation in certain production lines or to other planned manufacturing improvements, or if we experience issues or delays in ramping Model 3 production in the first phase of our Gigafactory Shanghai in China, we could experience issues in sustaining the Model 3 ramp or delays in increasing Model 3 production further. Also, if we encounter difficulties in scaling our delivery or servicing capabilities for Model 3 or future vehicles and products to high volumes in the U.S. or internationally, our financial condition and operating results could suffer. In addition, because our vehicle models may share certain parts, suppliers or production facilities with each other, the volume or efficiency of production with respect to one model may impact the production of other models or lead to bottlenecks that impact the production of all models.

We may also experience similar future delays or other complications in bringing to market and ramping production of new vehicles, such as Model Y, Tesla Semi, our planned pickup truck and new Tesla Roadster, our energy storage products and Solar Roof, as well as future features and services such as new Autopilot or FSD features and the autonomous Tesla ride-hailing network. Any significant additional delay or other complication in the production of and delivery capabilities for our current products or the development, manufacture, launch, production and delivery and servicing capability ramp of our future products, features and services, including complications associated with expanding our production capacity, supply chain and delivery systems or obtaining or maintaining regulatory approvals, could materially damage our brand, business, prospects, financial condition and operating results.

We have experienced in the past, and may experience in the future, delays in realizing our projected timelines and cost and volume targets for the production and ramp of Model 3, which could harm our business, prospects, financial condition and operating results.

Our future business depends in large part on our ability to execute on our plans to manufacture, market and sell the Model 3 vehicle, which we are offering at a lower price point and for which we achieved a stabilized production rate relatively recently and are producing at significantly higher volumes than the Model S or Model X vehicles. Moreover, we have commenced production of full Model 3 vehicles on a trial basis at Gigafactory Shanghai, where we plan in its first phase to manufacture certain trims of Model 3 for the local market in China while progressively increasing levels of localization through local sourcing and manufacturing in its initial phase. However, the ramp of Model 3 production at Gigafactory Shanghai is subject to a number of uncertainties inherent in all new manufacturing operations, including final approvals under and ongoing compliance with regulatory requirements, potential supply chain constraints, and the pace of bringing production equipment and processes online with the capability to manufacture high-quality units at scale.

We have limited experience to date in manufacturing vehicles at the high volumes that we recently achieved and to which we anticipate ramping further for Model 3, and to be successful, we will need to complete the implementation and ramp of efficient and cost-effective manufacturing capabilities, processes and supply chains necessary to support such volumes, particularly at Gigafactory Shanghai. We are employing a higher degree of automation in the manufacturing processes for Model 3 than we have previously employed and to continue to implement additional automation. In some cases, we have temporarily reduced the levels of automation and introduced semi-automated or manual processes, at additional labor cost, and we also had to address an isolated supplier limitation. Additional bottlenecks may also arise as we ramp production at the Tesla Factory and at Gigafactory Shanghai, and it will be important that we address them promptly and in a cost-effective manner. Moreover, our Model 3 production plan has required to date significant cumulative investments of cash and management resources, and we are deploying certain additional resources as we further progress our ramp.

Our production plan for Model 3 is based on many key assumptions, including:

- that we will be able to sustain and further expand our high-volume production of Model 3 at the Tesla Factory without exceeding our projected costs and on our projected timeline;
- that we will be able to scale production in the first phase of Gigafactory Shanghai to support our international ramp for Model 3 in accordance with our projected timelines, costs and increased capital efficiency;
- that we will be able to continue to expand output at Gigafactory 1 in a timely manner to produce high volumes of quality lithium-ion cells to be integrated into battery modules and finished battery packs and drive unit components for Model 3, including in part to support production in China as the level of local sourcing and manufacturing there progressively increases, all at costs that allow us to sell Model 3 at our target gross margins;
- that the equipment and processes which we have selected for Model 3 production will be able to accurately manufacture high volumes of the different variants of Model 3 within specified design tolerances, with high quality and at the maximum output rates that we have planned for them;
- that we will be able to maintain suppliers for the necessary components on terms and conditions that are acceptable to us and that we will be able to obtain high-quality components on a timely basis and in the necessary quantities to support high-volume production; and
- that we will be able to attract, recruit, hire, train and retain skilled employees to operate our planned high-volume production facilities to support Model 3, including at the Tesla Factory, Gigafactory 1 and Gigafactory Shanghai.

If one or more of the foregoing assumptions turns out to be incorrect, our ability to meet our Model 3 projections on time and at volumes and prices that are profitable, the demand for and deliveries of Model 3, as well as our business, prospects, operating results and financial condition, may be materially and adversely impacted.

We may be unable to meet our growing vehicle production, sales and delivery plans and servicing needs, any of which could harm our business and prospects.

Our plans call for sustaining and further ramping from our significant increases in vehicle production and deliveries. Our ability to achieve these plans will depend upon a number of factors, including our ability to utilize installed manufacturing capacity to achieve the planned production yields, further install and increase capacity in accordance with our planned timelines and costs, maintain our desired quality levels and optimize design and production changes, as well as our suppliers' ability to support our needs. In addition, we have used and may use in the future a number of new manufacturing technologies, techniques and processes for our vehicles, which we must successfully introduce and scale for high-volume production. For example, we have introduced highly automated production lines, aluminum spot welding systems and high-speed blow forming of certain difficult to stamp vehicle parts. We have also introduced unique design features in our vehicles with different manufacturing challenges, such as large display screens, dual motor drivetrain, hardware for our Autopilot and FSD features and falcon-wing doors. We have limited experience developing, manufacturing, selling and servicing, and allocating our available resources among, multiple products simultaneously. If we are unable to realize our plans, our brand, business, prospects, financial condition and operating results could be materially damaged.

Concurrent with our increasing vehicle production levels, our success will depend on our ability to continue to significantly increase sales and deliveries of our vehicles. Although we have a plan for selling and delivering increased volumes of vehicles, we have limited experience in marketing, selling and delivering vehicles at the higher volumes that we have achieved. Furthermore, we continue to evaluate and evolve our retail operations and product offerings in order to maximize our reach and optimize our costs, vehicle line-up and model differentiation, and the purchasing experience. However, there is no guarantee that each step in our evolving strategy will be perceived as intended by prospective customers accustomed to more traditional sales models. We may also face difficulties meeting our sales and delivery goals in both existing markets as well as new markets into which we expand, such as in Europe and China where we saw challenges in initially ramping our logistical channels as we delivered Model 3 there for the first time in the first quarter of 2019. In particular, we are targeting with Model 3 a mass demographic with a broad range of potential customers, in which we have limited experience projecting demand and pricing our products. Given the higher volumes to which we have ramped and our single-factory production at the Tesla Factory until we ramp production at Gigafactory Shanghai, we produce variants (including regional versions) of all of our vehicles in batches in accordance with the demand that we expect for them. If our specific demand expectations for these variants prove inaccurate, we may not be able to timely generate sales matched to the specific vehicles that we produce in the same timeframe, which may negatively impact our deliveries in a particular period.

Moreover, because we do not have independent dealer networks, we are responsible for delivering all of our vehicles to our customers and meeting their vehicle servicing needs. While we have substantially implemented and improved many aspects of our delivery and service operations, we still have relatively limited experience with such deliveries and servicing at high volumes, particularly in international markets. To accommodate these volumes, we have deployed a number of delivery models, such as deliveries to customers' homes and workplaces, some of which have not been previously tested at scale and in different geographies. Moreover, significant transit time may be required to transport vehicles such as Model 3 in volume into new markets for the first time. To the extent that such factors lead to delays in our deliveries, our results may be negatively impacted. Finally, because of our unique expertise with our vehicles, we recommend that our vehicles be serviced by our service centers, Mobile Service technicians or certain authorized professionals that we have specifically trained and equipped. If we experience delays in adding such servicing capacity or experience unforeseen issues with the reliability of Model 3, which we recently commenced producing at volume, it could overburden our servicing capabilities and parts inventory. If we are unable to ramp up to meet our sales, delivery and servicing targets globally, or our projections on which such targets are based are inaccurate, this could result in negative publicity and damage to our brand and have a material adverse effect on our business, prospects, financial condition and operating results.

Our future growth and success is dependent upon consumers' willingness to adopt electric vehicles and specifically our vehicles, especially in the mass market demographic which we are targeting with vehicles such as Model 3.

Our growth is highly dependent upon the adoption by consumers of alternative fuel vehicles in general and electric vehicles in particular. Although we have successfully grown demand for our vehicles thus far, there is no guarantee of such future demand, or that our vehicles will not compete with one another in the market. Moreover, the mass market demographic that we have entered initially with Model 3 is larger, but more competitive, than the demographic for Model S and Model X, and additional electric vehicles are entering the market.

If the market for electric vehicles in general and Tesla vehicles in particular does not develop as we expect, or develops more slowly than we expect, or if demand for our vehicles decreases in our markets, our business, prospects, financial condition and operating results could be harmed. We have only recently experienced high-volume production of vehicles, are still at an earlier stage and have limited resources relative to our competitors, and the market for alternative fuel vehicles is rapidly evolving. As a result, the market for our vehicles could be 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;
- 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;
- government regulations and economic incentives;
- access to charging facilities; and
- concerns about our future viability.

We are dependent on our suppliers, the majority of which are single-source suppliers, and the inability of these suppliers to deliver necessary components of our products according to our schedule and at prices, quality levels and volumes acceptable to us, or our inability to efficiently manage these components, could have a material adverse effect on our financial condition and operating results.

Our products contain numerous purchased parts that we source globally from hundreds of direct suppliers. We attempt to mitigate our supply chain risk by entering into long-term agreements where it is practical and beneficial to do so, including agreements we entered into with Panasonic to be our manufacturing partner and supplier. Because the majority of our suppliers are currently single-source suppliers, we also minimize our risk when we can qualify and obtain components from multiple sources, such as with respect to PV panels for our retrofit solar installations, which we purchase from a variety of suppliers. However, any significant increases in our production may require us to procure additional components in a short amount of time, and in the past we have also replaced certain suppliers because of their failure to provide components that met our quality control standards. While we believe that we will be able to secure additional or alternate sources of supply for most of our components in a relatively short time frame, there is no assurance that we will be able to do so or develop our own replacements for certain highly customized components of our products. If we encounter unexpected difficulties with key suppliers such as Panasonic and if we are unable to fill these needs from other suppliers, we could experience production delays and potential loss of access to important technology and parts for producing, servicing and supporting our products.

This limited, and in many cases single-source, supply chain exposes us to multiple potential sources of delivery failure or component shortages for the production of our products, such as those which we experienced in 2012 and 2016 in connection with our slower-than-planned Model S and Model X ramps. Furthermore, unexpected changes in business conditions, materials pricing, labor issues, wars, governmental changes, tariffs, natural disasters such as the March 2011 earthquakes in Japan and other factors beyond our and our suppliers' control, could also affect our suppliers' ability to deliver components to us on a timely basis. The loss of any single- or limited-source supplier or the disruption in the supply of components from these suppliers could lead to product design changes and delays in product deliveries to our customers, which could hurt our relationships with our customers and result in negative publicity, damage to our brand and a material and adverse effect on our business, prospects, financial condition and operating results.

Changes in our supply chain have also resulted in the past, and may result in the future, in increased cost. We have also experienced cost increases from certain of our suppliers in order to meet our quality targets and development timelines as well as due to our design changes, and we may experience similar cost increases in the future. Certain suppliers have sought to renegotiate the terms of supply arrangements. Additionally, we are negotiating with existing suppliers for cost reductions, seeking new and less expensive suppliers for certain parts, and attempting to redesign certain parts to make them less expensive to produce. If we are unsuccessful in our efforts to control and reduce supplier costs, our operating results will suffer.

In particular, because we are producing Model 3 and expect to produce Model Y at significantly higher volumes than any of our other products to date, the negative impact of any delays or other constraints with respect to our suppliers for these vehicles could be substantially greater than any supply chain-related issues experienced with respect to our other products. We need our Model 3 suppliers, and will also need our Model Y suppliers, to sustainably ramp in accordance with our planned volumes and schedules for each vehicle. There is no assurance that these suppliers will ultimately be able to sustainably and timely meet our cost, quality and volume needs. For example, we may experience issues or delays increasing the level of localization in China through local sourcing and manufacturing at our Gigafactory Shanghai. Furthermore, as the scale of our vehicle production increases, we will need to accurately forecast, purchase, warehouse and transport to our manufacturing facilities components at much higher volumes. If we are unable to accurately match the timing and quantities of component purchases to our actual needs, including for our different model variants, or successfully implement automation, inventory management and other systems to accommodate the increased complexity in our supply chain, we may incur unexpected production disruption, storage, transportation and write-off costs, which could have a material adverse effect on our financial condition and operating results.

Future problems or delays in expanding Gigafactory 1 or ramping operations there could negatively affect the production and profitability of our products, such as Model 3 and our energy storage products.

To lower the cost of cell production and produce cells in high volume, we have vertically integrated the production of lithium-ion cells and finished battery packs for Model 3 and energy storage products at Gigafactory 1. Gigafactory 1 began producing lithium-ion cells in 2017, and we have no other direct experience in the production of lithium-ion cells. Given the size and complexity of this undertaking, it is possible that future events could result in issues or delays in further ramping our products and expanding production output at Gigafactory 1. Moreover, our production output at Gigafactory 1 will initially also support vehicle production at Gigafactory Shanghai. In order to achieve our volume and gross margin targets for Model 3 and our energy storage products, we must continue to sustain and ramp significant cell production at Gigafactory 1, which, among other things, requires Panasonic to successfully operate and further ramp its cell production lines at significant volumes. Although Panasonic has a long track record of producing high-quality cells at significant volume at its factories in Japan, it has relatively limited experience with cell production at Gigafactory 1. In addition, we produce several components for Model 3, such as battery modules incorporating the lithium-ion cells produced by Panasonic, and drive units, at Gigafactory 1. Some of the manufacturing lines for such components took longer than anticipated to ramp to their full capacity. While we have largely overcome this bottleneck after deploying multiple semi-automated lines and improving our original lines, additional bottlenecks may arise as we continue to increase the production rate and introduce new lines. If we are unable to maintain Gigafactory 1 production, ramp output additionally over time as needed, and do so cost-effectively, or if we or Panasonic are unable to attract, hire and retain a substantial number of highly skilled personnel, our ability to supply battery packs or other components for Model 3 and our other products could be negatively impacted, which could negatively affect our brand and harm our business, prospects, financial condition and operating results.

Any issues or delays in meeting our projected timelines, costs and production capacity for or funding the ramp of Gigafactory Shanghai, or any difficulties in generating and maintaining local demand for vehicles manufactured there, could adversely impact our business, prospects, operating results and financial condition.

As part of our continuing work to increase Model 3 production on a sustained basis and make Model 3 affordable in the markets where we plan to offer it, we have constructed the first phase of Gigafactory Shanghai, where we have commenced production of full Model 3 vehicles on a trial basis and are working towards finalizing manufacturing licenses and other regulatory requirements. Following commencement of production, we expect in this first phase to progressively increase levels of localization through local sourcing and manufacturing and ramp to a capacity of 150,000 Model 3 vehicles per year. The ramp and further expansion of Gigafactory Shanghai is subject to a number of uncertainties inherent in all new manufacturing operations, including final approvals under and ongoing compliance with regulatory requirements, finalization and maintenance of operational licenses, potential 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. We have limited experience to date with operating manufacturing facilities abroad, and only recently began to sell Model 3 in China. If we experience any issues or delays in meeting our projected timelines, costs, capital efficiency and production capacity for Gigafactory Shanghai, or in securing and complying with the terms of local debt financing that we intend will largely fund it, or in generating and maintaining demand locally for the vehicles we manufacture at Gigafactory Shanghai, our business, prospects, operating results and financial condition could be adversely impacted.

If our vehicles or other products that we sell or install fail to perform as expected, our ability to develop, market and sell our products and services could be harmed.

If our vehicles or our energy products contain defects in design and manufacture 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 could be harmed. For example, the operation of our vehicles is highly dependent on software, which is inherently complex and may contain latent defects and errors or be subject to external attacks. Issues experienced by vehicle customers have included those related to the software for the 17 inch display screen, the panoramic roof and the 12-volt battery in the Model S and the seats and doors in the Model X. 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 be to the satisfaction of our customers. While we have performed extensive internal testing on the products we manufacture, we currently have a limited frame of reference by which to evaluate detailed long-term quality, reliability, durability and performance characteristics of our battery packs, powertrains, vehicles and energy storage products. 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.

Any product defects, delays or legal restrictions on product features, or other failure of our products to perform as expected, could harm our reputation and result in delivery delays, product recalls, product liability claims, and significant warranty and other expenses, and could have a material adverse impact on our business, financial condition, operating results and prospects.

If we fail to scale our business operations and otherwise manage future growth and adapt to new conditions effectively as we rapidly grow our company, including internationally, we may not be able to produce, market, sell and service our products successfully.

Any failure to manage our growth effectively could materially and adversely affect our business, prospects, operating results and financial condition. We expect to continue to expand our operations significantly, including the worldwide sales, delivery and servicing of a significantly higher number of vehicles than our current vehicle fleet. Furthermore, we are developing and growing our energy storage product and solar business worldwide, including in countries where we have limited or no previous operating experience. Our future operating results depend to a large extent on our ability to manage our expansion and growth successfully and to correctly forecast demand for our products in different markets. We may not be successful in undertaking this global expansion if we are unable to control expenses and avoid cost overruns and other unexpected operating costs, establish sufficient worldwide service and Supercharger facilities in a timely manner, adapt our products and conduct our operations to meet local requirements, implement required local infrastructure, systems and processes, and find and hire a significant number of additional manufacturing, engineering, service, electrical installation, construction and administrative personnel.

In particular, we are expanding our manufacturing capabilities outside of the U.S., where we have limited experience operating a factory or managing related regulatory, financing and other challenges. For example, local manufacturing is critical to our expansion and sales in China, which is the largest market for electric vehicles in the world. Our vehicle sales in China have been negatively impacted by certain tariffs on automobiles manufactured in the U.S., such as our vehicles, and our costs for producing our vehicles in the U.S. have also been affected by import duties on certain components sourced from China. If we are not able to establish, or experience delays in establishing, manufacturing activities in China and other jurisdictions to minimize the impact of such unfavorable tariffs, duties or costs, or ramp our production capabilities at Gigafactory 1 or other facilities to support such vehicle manufacturing activities, our ability to compete in such jurisdictions, and our operating results, business and prospects, will be harmed.

If we are unable to achieve our targeted manufacturing costs for our products, our financial condition and operating results will suffer.

While we are continuing to and expect in the future to realize cost reductions by both us and our suppliers, there is no guarantee we will be able to achieve sufficient cost savings to reach our gross margin and profitability goals for our product offerings, or our other financial targets. We incur significant costs related to procuring the materials required to manufacture our products, assembling products and compensating our personnel. If our efforts to continue to decrease manufacturing costs are not successful, we may incur substantial costs or cost overruns in utilizing and increasing the production capability of our manufacturing facilities, such as for Model 3 both in the U.S. and internationally. Many of the factors that impact our manufacturing costs are beyond our control, such as potential increases in the costs of our materials and components, such as lithium, nickel and other components of our battery cells or aluminum used to produce vehicle body panels. If we are unable to continue to control and reduce our manufacturing costs, our operating results, business and prospects will be harmed.

We face risks associated with our global operations and expansion, including unfavorable and uncertain regulatory, political, economic, tax and labor conditions, and with establishing ourselves in new markets, all of which could harm our business.

We currently have a global footprint, with domestic and international operations and subsidiaries in various countries and jurisdictions, and we continue to expand and optimize our vehicle service and charging capabilities internationally. Accordingly, we are subject to a variety of legal, political and regulatory requirements and social and economic conditions over which we have little control. For example, we may be impacted by trade policies, political uncertainty and economic cycles involving geographic regions where we have significant operations, which are inherently unpredictable. Sales of vehicles in the automotive industry also tend to be cyclical in many markets, which may expose us to increased volatility as we expand and adjust our operations and retail strategies. Specifically, it is uncertain as to how such macroeconomic factors will impact us as a company that has been experiencing growth and increasing market share in an industry that has globally been experiencing a recent decline in sales.

We are subject to a number of risks associated in particular with international business activities that may increase our costs, impact our ability to sell our products and require significant management attention. These risks include conforming our products to various international regulatory and safety requirements as well as charging and other electric infrastructures, organizing local operating entities, difficulty in establishing, staffing and managing foreign operations, challenges in attracting customers, foreign government taxes, regulations and permit requirements, our ability to enforce our contractual rights, trade restrictions, customs regulations, tariffs and price or exchange controls, and preferences of foreign nations for domestically manufactured products. For example, in China, which is a key market for us, certain products such as automobiles manufactured in the U.S. may be subject to tariffs imposed by the government. Such tariffs could apply for an undetermined length of time, be further increased in the future and/or lead consumers to postpone or choose another vehicle brand subject to lower tariffs or no tariffs. Moreover, recently increased import duties on certain components used in our products that are sourced from China may increase our costs and negatively impact our operating results.

Increases in costs, disruption of supply or shortage of materials, in particular for lithium-ion cells, could harm our business.

We may experience increases in the cost or a sustained interruption in the supply or shortage of materials. Any such increase, supply interruption or shortage could materially and negatively impact our business, prospects, financial condition and operating results. We use various materials in our business including aluminum, steel, lithium, nickel, copper and cobalt, as well as lithium-ion cells from suppliers. The prices for these materials fluctuate, and their available supply may be unstable, depending on market conditions and global demand for these materials, including as a result of increased production of electric vehicles and energy storage products by our competitors, and could adversely affect our business and operating results. For instance, we are exposed to multiple risks relating to lithium-ion cells. These risks include:

- an increase in the cost, or decrease in the available supply, of materials used in the cells;
- disruption in the supply of cells due to quality issues or recalls by battery cell manufacturers or any issues that may arise with respect to cells manufactured at our own facilities; and
- fluctuations in the value of any foreign currencies in which battery cell and related raw material purchases are or may be denominated, such as the Japanese yen, against the U.S. dollar.

Our business is dependent on the continued supply of battery cells for the battery packs used in our vehicles and energy storage products. While we believe several sources of the battery cells are available for such battery packs, and expect to eventually rely substantially on battery cells manufactured at our own facilities, we have to date fully qualified only a very limited number of suppliers for the cells used in such battery packs and have very limited flexibility in changing cell suppliers. Any disruption in the supply of battery cells from such suppliers could disrupt production of our vehicles and of the battery packs we produce for energy products until such time as a different supplier is fully qualified. Furthermore, fluctuations or shortages in petroleum and other economic conditions may cause us to experience significant increases in freight charges and material costs. Substantial increases in the prices for our materials or prices charged to us, such as those charged by battery cell suppliers, would increase our operating costs, and could reduce our margins if we cannot recoup the increased costs through increased vehicle prices. Any attempts to increase product prices in response to increased material costs could result in cancellations of orders and reservations and therefore materially and adversely affect our brand, image, business, prospects and operating results.

We may become subject to product liability claims, which could harm our financial condition and liquidity if we are not able to successfully defend or insure against such claims.

Although we design our vehicles to be the safest vehicles on the road, product liability claims, even those without merit, could harm our business, prospects, operating results and financial condition. The automobile industry in particular experiences significant product liability claims and we face inherent risk of exposure to 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 cars have been involved and we expect in the future will be involved in crashes resulting in death or personal injury, and such crashes where Autopilot or FSD features are engaged are the subject of significant public attention. We have experienced and we expect to continue to face claims arising from or related to misuse or claimed failures of new technologies that we are pioneering, including Autopilot and FSD features in our vehicles. Moreover, as our solar energy systems and energy storage products generate and store electricity, they have the potential to cause injury to people or property. A successful product liability claim against us could require us to pay a substantial monetary award. Our risks in this area are particularly pronounced given the relatively limited number of vehicles and energy storage products delivered to date and limited field experience of our products. Moreover, a product liability claim could generate substantial negative publicity about our products and business and could have a material adverse effect on our brand, business, prospects and operating results. 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, not by insurance.

The markets in which we operate are highly competitive, and we may not be successful in competing in these industries. We currently face competition from new and established domestic and international competitors and expect to face competition from others in the future, including competition from companies with new technology.

The worldwide automotive market, particularly for alternative fuel vehicles, is highly competitive today and we expect it will become even more so in the future. There is no assurance that our vehicles will be successful in the respective markets in which they compete. 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 alternative fuel vehicle market, including hybrid, plug-in hybrid and fully electric vehicles, as well as the market for self-driving technology and applications. In some cases, such competitors have announced an intention to produce electric vehicles exclusively at some point in the future. Most of our current and potential competitors have significantly greater financial, technical, manufacturing, marketing, vehicle sales resources and networks than we do and may be able to devote greater resources to the design, development, manufacturing, distribution, promotion, sale and support of their products. In particular, some competitors have also announced plans to compete with us in important and large markets for electric vehicles, such as China and in Europe. Increased competition could result in lower vehicle unit sales, price reductions, revenue shortfalls, loss of customers and loss of market share, which could harm our business, prospects, financial condition and operating results. In addition, our Model 3 vehicle faces competition from existing and future automobile manufacturers in the extremely competitive entry-level premium sedan market, including Audi, BMW, Lexus and Mercedes.

The solar and energy storage industries are highly competitive. We face competition from other manufacturers, developers and installers of solar and energy storage systems, as well as from large utilities. Decreases in the retail 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 under our existing long-term leases and PPAs. Moreover, solar product component and lithium-ion battery prices have declined and are continuing to decline, which may adversely impact our ability to cost-effectively manufacture such components ourselves.

If we are unable to establish and maintain confidence in our long-term business prospects among consumers, analysts and within our industries, then our financial condition, operating results, business prospects and stock price may suffer materially.

Consumers may be less likely to purchase our products if they are not convinced that our business will succeed or that our service and support and other operations will continue in the long term. Similarly, suppliers and other third parties will be less likely to invest time and resources in developing business relationships with us if they are not convinced that our business will succeed. Accordingly, in order to build and maintain our business, we must maintain confidence among customers, suppliers, analysts, ratings agencies and other parties in our long-term financial viability and business prospects. Maintaining such confidence may be particularly complicated by certain factors, such as our limited operating history, customer unfamiliarity with our products, any delays 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 any other negative publicity related to us. Many of these factors are largely outside our control, and any negative perceptions about our long-term business prospects, even if exaggerated or unfounded, such as speculation regarding the sufficiency or stability of our management team, could harm our business and make it more difficult to raise additional funds if needed.

Our plan to generate ongoing growth and demand, including by expanding and optimizing our vehicle service and charging operations and infrastructure, will require significant cash investments and management resources and may not meet expectations with respect to additional sales, installations or servicing of our products or availability of public charging solutions.

We plan to generate ongoing growth and demand, including by globally expanding and optimizing our vehicle service and charging operations and infrastructure. These plans require significant cash investments and management resources and may not meet our expectations with respect to additional sales or installations of our products. This ongoing global expansion, which includes planned entry into markets in which we have limited or no experience selling, delivering, installing and/or servicing our products at scale, and which may pose legal, regulatory, labor, cultural and political challenges that we have not previously encountered, may not have the desired effect of increasing sales and installations and expanding our brand presence to the degree we are anticipating. Furthermore, the increasing number of Tesla vehicles will require us to continue to increase significantly the number of our Supercharger stations and connectors in locations throughout the world. If we fail to do so in a timely manner, our customers could become dissatisfied, which could adversely affect sales of our vehicles. We will also need to ensure we are in compliance with any regulatory requirements applicable to the sale, installation and service of our products, the sale of electricity generated through our solar energy systems and operation of Superchargers in those jurisdictions, which could take considerable time and expense. If we experience any delays or cannot meet customer expectations in expanding our customer infrastructure network, or our expansion plans are not successful in continuing to grow demand, this could lead to a decrease or stagnation in sales or installations of our products and could negatively impact our business, prospects, financial condition and operating results.

Our vehicles and energy storage products use lithium-ion battery cells that store large amounts of energy, and any incidents in which such energy is released unexpectedly could negatively impact our operations.

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 the battery pack 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, which could subject us to lawsuits, product recalls or redesign efforts, all of which would be time consuming and expensive. In addition, we store and recycle a significant number of lithium-ion cells at our facilities and are producing high volumes of cells and battery modules and packs at Gigafactory 1. Any mishandling of battery cells may cause disruption to the operation of our 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. Such disruptions or issues could negatively affect our brand and harm our business, prospects, financial condition and operating results.

If we fail to effectively grow and manage the residual, financing and credit risks related to our vehicle financing programs, our business may suffer.

We offer financing arrangements for our vehicles in North America, Europe and Asia primarily through various financial institutions. We also currently offer leasing directly through our local subsidiaries for Model S, Model X and Model 3 in the U.S. and for Model S and Model X in Canada. Under a lease held directly by us, 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. The profitability of any 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. For example, we made certain adjustments to our vehicle prices during 2019 to reflect anticipated changes to our cost structure from periodically optimizing our retail strategy, and as a limited accommodation to customers in consideration of a reduction in the electric vehicle federal tax credit. Such pricing changes may impact the residual values of our vehicles. The leasing program also relies on our ability to secure adequate financing and/or business partners to fund and grow this program, and screen for and manage customer credit risk. We expect the availability of leasing and other financing options will be important for our vehicle customers. If we are unable to adequately fund our leasing program with internal funds, or partners or other external financing sources, and compelling alternative financing programs are not available for our customers, we may be unable to grow our sales. Furthermore, if our leasing business grows substantially, our business may suffer if we cannot effectively manage the greater levels of residual and credit risks resulting from growth. Finally, if we do not successfully monitor and comply with applicable national, state and/or local financial regulations and consumer protection laws governing lease transactions, we may become subject to enforcement actions or penalties, either of which may harm our business.

Moreover, we have provided resale value guarantees to 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, as with residual values for leased vehicles, are subject to similar 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 operating results, profitability and/or liquidity could be negatively impacted.

The unavailability, reduction or elimination of, or unfavorable determinations with respect to, government and economic incentives in the U.S. and abroad supporting the development and adoption of electric vehicles, energy storage products or solar energy could have some impact on demand for our products and services.

We and our customers currently benefit from certain government and economic incentives supporting the development and adoption of electric vehicles. In the U.S. and abroad, such incentives include, among other things, tax credits or rebates that encourage the purchase of electric vehicles. In Norway, for example, the purchase of electric vehicles is not currently subject to import taxes, the 25% value added tax, or the carbon dioxide and weight-based purchase taxes that apply to the purchase of gas-powered vehicles. Notably, the quantum of incentive programs promoting electric vehicles is a tiny fraction of the amount of subsidies that are provided to gas-powered vehicles through the oil and gas industries. Nevertheless, even the limited benefits from such programs could be reduced, eliminated or exhausted. For example, under current regulations, a \$7,500 federal tax credit that was available in the U.S. for the purchase of our vehicles is being reduced in phases during, and will sunset at the end of, 2019. We believe that this sequential phase-out has likely pulled forward some vehicle demand into the periods preceding each reduction, and we may see similar pull-forwards through the remainder of 2019. Moreover, in July 2018, a previously available incentive for purchases of Model 3 in Ontario, Canada was cancelled and Tesla buyers in Germany lost access to electric vehicle incentives for a short period of time beginning late 2017. In April 2017 and January 2016, respectively, previously available incentives in Hong Kong and Denmark that favored the purchase of electric vehicles expired, negatively impacting sales. Effective March 2016, California implemented regulations phasing out a \$2,500 cash rebate on qualified electric vehicles for high-income consumers. Such 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 on a particular date 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 a 30% ITC for the installation of solar power facilities and energy storage systems that are charged from a co-sited solar power facility. The ITC is currently scheduled to decline in phases, ultimately to 10% for commercial and utility systems and to 0% for customer-owned residential systems by January 2022. Likewise, in jurisdictions where net energy 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. Several jurisdictions have reduced, altered or eliminated the benefit available under net energy metering, or have proposed to do so. Such reductions in or termination of governmental incentives could adversely impact our results by making our products less competitive for potential 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.

Moreover, we and our fund investors claim the ITC and certain state incentives in amounts based on the fair market value of our solar and energy storage systems. Although we obtain independent appraisals to support the claimed fair market values, the relevant governmental authorities have audited such values and in certain cases have determined that they 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.

Any failure by us to comply with the terms of our agreement with the Research Foundation for the State University of New York relating to our Gigafactory 2, could result in negative consequences for our business.

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 Gigafactory 2 in Buffalo, 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, directly employ specified minimum numbers of Tesla personnel in the State of New York and spend or incur \$5.0 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. While we expect significant operations at Gigafactory 2 and the surrounding Buffalo area to continue, including with our ramp and manufacture of Solar Roof, if we fail in any year over the course of the term of the agreement to meet these obligations, we would be obligated to pay a “program payment” of \$41.2 million to the SUNY Foundation for such year. Any inability on our part to comply with the requirements of this agreement may result in the payment of significant amounts to the SUNY Foundation, the termination of our lease at Gigafactory 2, and/or the need to adjust certain of our operations, in particular our production ramp of Solar Roof. Any of the foregoing events could have a material adverse effect on our business, prospects, financial condition and operating results.

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

The loss of the services of any of our key employees could disrupt our operations, delay the development and introduction of our vehicles and services, and negatively impact our business, prospects and operating results. In particular, we are highly dependent on the services of Elon Musk, 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 depends upon our ability to attract and retain executive officers and other key technology, sales, marketing, engineering, manufacturing and support personnel, especially to support our high-volume manufacture of vehicles and expansion plans, and any failure or delay in doing so could adversely impact our business, prospects, financial condition and operating results.

Key talent may leave 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 California, Nevada and other regions where we have operations, there is increasing competition for individuals with skillsets needed for our business, including specialized knowledge of electric vehicles, software engineering, manufacturing engineering, and other skills such as electrical and building construction expertise. This competition affects our ability to retain and hire key employees. Moreover, we have in the past conducted reductions in force in order to optimize our organizational structure and reduce costs, and certain senior personnel have also departed for various reasons. Our continued success depends upon our continued ability to hire new employees in a timely manner, especially to support our expansion plans, and to retain current employees or replace departed senior employees with qualified and experienced individuals, which is typically a time-consuming process. Additionally, we 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. Difficulties in retaining or recruiting employees could have an adverse effect on our performance and results.

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. Neither of our most recently-adopted equity incentive plan and employee stock purchase plan, unlike the prior plan that it replaces, contains an “evergreen” provision that permit our board of directors to increase on an annual basis the number of equity-based awards that may be granted to, and shares of our common stock that may be purchased by, our personnel thereunder. Therefore, we will have to periodically seek and obtain approval from our stockholders for future increases to the number of awards that may be granted and shares that may be purchased under such plans. If we are unable to obtain the requisite stockholder approvals to obtain future increases to the number of awards that may be granted and shares that may be purchased under such plans, and compensate our personnel in accordance with our compensation philosophy, our ability to retain and hire qualified personnel would be negatively impacted.

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

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

We are continuously expanding and improving our information technology systems and use security measures designed to protect our systems against breaches and cyber-attacks. If these efforts are not successful, our business and operations could be disrupted and our operating results and reputation could be harmed.

We are continuously expanding and improving our information technology systems, including implementing new internally developed systems and deploying such systems globally, to assist us in the management of our business. In particular, our volume production of multiple vehicles necessitates continued development, maintenance and improvement of our information technology systems in the U.S. and abroad, including at Gigafactory Shanghai, such as systems for product data management, procurement, inventory management, production planning and execution, sales, service and logistics, dealer management, financial, tax and regulatory compliance systems. We also maintain information technology measures designed to protect us against intellectual property theft, data breaches and other cyber-attacks. The implementation, maintenance, segregation and improvement of these systems require significant management time, support and cost. Moreover, there are inherent risks associated with developing, improving and expanding our core systems as well as implementing new systems and updating current systems, including the disruption of our data management, procurement, manufacturing execution, finance, supply chain and sales and service processes. These risks may affect our ability to manage our data and inventory, procure parts or supplies or manufacture, sell, deliver and service vehicles, or achieve and maintain compliance with, or realize available benefits under, tax laws and other applicable regulations.

We cannot be sure that these systems or their required functionality will be effectively implemented, maintained or expanded as planned. 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 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 and harm our business.

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. We have designed, implemented and tested security measures intended to prevent unauthorized access to our information technology networks, our products and their systems. However, hackers 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 via our security vulnerability reporting policy, and we aim to remedy any reported and verified vulnerability. Accordingly, we have received reports of potential vulnerabilities in the past and have attempted to remedy them. However, there can be no assurance that vulnerabilities will not be exploited in the future 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 proceedings. 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," could negatively affect our brand and harm our business, prospects, financial condition and operating results. We have been the subject of such reports in the past.

We are subject to various environmental and safety laws and regulations that could impose substantial costs upon us and negatively impact our ability to operate our manufacturing facilities.

As a manufacturing company, including with respect to facilities such as the Tesla Factory, Gigafactory 1, Gigafactory 2 and Gigafactory Shanghai, we are and will be subject to complex environmental, manufacturing, health and safety laws and regulations at numerous jurisdictional levels in the U.S., China and other locations abroad, including laws relating to the use, handling, storage, recycling, disposal and human exposure to hazardous materials. The costs of compliance, including remediating contamination if any is found on our properties and any changes to our operations mandated by new or amended laws, may be significant. We may also face unexpected delays in obtaining permits and approvals required by such laws in connection with our manufacturing facilities, which would hinder our operation of these facilities. Such costs and delays may adversely impact our business prospects and operating results. Furthermore, any violations of these laws may result in substantial fines and penalties, remediation costs, third party damages, or a suspension or cessation of our operations.

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 ("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. The NLRB has not yet adopted the recommendation and we expect to appeal certain aspects of the recommended decision. 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 parts suppliers and trucking and freight companies, and work stoppages or strikes organized by such unions could have a material adverse impact on our business, financial condition or operating results. If a work stoppage occurs, it could delay the manufacture and sale of our products and have a material adverse effect on our business, prospects, operating results or financial condition.

Our products and services are subject to substantial regulations, which are evolving, and unfavorable changes or failure by us to comply with these regulations could substantially harm our business and operating results.

Motor vehicles are subject to substantial regulation under international, federal, state and local laws. We incur significant costs in complying with these regulations and may be required to incur additional costs to comply with any changes to such regulations, and any failures to comply could result in significant expenses, delays or fines. We are subject to laws and regulations applicable to the supply, manufacture, import, sale and service of automobiles internationally. For example, in countries outside of the U.S., we are required to meet standards relating to vehicle safety, fuel economy and emissions, among other things, 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.

Additionally, we offer in our vehicles Autopilot and FSD features that today assist drivers with certain tedious and potentially dangerous aspects of road travel, but which currently require drivers to remain engaged. We are continuing to develop our FSD technology with the goal of achieving full self-driving capability in the future. There is a variety of international, federal and state regulations that may apply to self-driving vehicles, which include many existing vehicle standards that were not originally intended to apply to vehicles that may not have a 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 self-driving features and availability, any of which could adversely affect our business.

Moreover, as a manufacturer and installer of solar generation and energy storage systems and a supplier of electricity generated and stored by the solar energy and energy storage systems we install for customers, we are impacted by federal, state and local regulations and policies concerning electricity pricing, the interconnection of electricity generation and storage equipment with the electric grid, and the sale of electricity generated by third-party owned systems. For example, existing or proposed regulations and policies would permit utilities to limit the amount of electricity generated by our customers with their solar energy systems, charge fees and penalties to our customers relating to the purchase of energy other than from the grid, adjust electricity rate designs such that the price of our solar products may not be competitive with that of electricity from the grid, restrict us and our customers from transacting under our PPAs or qualifying for government incentives and benefits that apply to solar power, and limit or eliminate net energy metering. If such regulations and policies are adopted, or if other regulations and policies that adversely impact the interconnection or use of our solar and energy storage systems are introduced, they could deter potential customers from purchasing our solar and energy storage products, threaten the economics of our existing contracts and cause us to cease solar and energy storage system sales and operations in the relevant jurisdictions, which could harm our business, prospects, financial condition and results of operations.

Failure to comply with various privacy and consumer protection laws to which we are subject could harm the Company.

Our privacy policy is posted on our website, and any failure by us or our vendor or other business partners to comply with it or with federal, state or international privacy, data protection or security laws or regulations could result in regulatory or litigation-related actions against us, legal liability, fines, damages and other costs. Substantial expenses and operational changes may be required in connection with maintaining compliance with such laws, and in particular certain emerging privacy laws are still subject to a high degree of uncertainty as to their interpretation and application. For example, in May 2018, the General Data Protection Regulation (the “GDPR”) began to fully apply to the processing of personal information collected from individuals located in the European Union. The GDPR has created new compliance obligations and has significantly increased fines for noncompliance. Similarly, beginning in January 2020, the California Consumer Privacy Act will impose certain legal obligations on our use and processing of personal information related to California residents. Although we take steps 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 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 could have negative consequences for our business and future prospects, including possible fines, penalties and damages, reduced customer demand for our vehicles and harm to our reputation and brand.

We may choose to or be compelled to undertake product recalls or take other similar actions, which could adversely affect our brand image and financial performance.

Any product recall with respect to our products may result in adverse publicity, damage our brand and adversely affect our business, prospects, operating results and financial condition. For example, certain vehicle recalls that we initiated have resulted from various causes, including a component that could prevent the parking brake from releasing once engaged, a concern with the firmware in the restraints control module in certain right-hand-drive vehicles, industry-wide issues with airbags from a particular supplier, Model X seat components that could cause unintended seat movement during a collision, and concerns of corrosion in Model S power steering assist motor bolts. Furthermore, testing of our products by government regulators or industry groups may require us to initiate product recalls or may result in negative public perceptions about the safety of our products. In the future, we may at various times, voluntarily or involuntarily, initiate a recall if any of our products or our electric vehicle powertrain components that we have provided to other vehicle OEMs, including any systems or parts sourced from our suppliers, prove to be defective or noncompliant with applicable laws and regulations, such as 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 involve significant expense and could adversely affect our brand image in our target markets, as well as our business, prospects, financial condition and results of operations.

Our current and future warranty reserves may be insufficient to cover future warranty claims which could adversely affect our financial performance.

Subject to separate limited warranties for the supplemental restraint system, battery and drive unit, we provide four-year or 50,000-mile limited warranties for the purchasers of new Model 3, Model S and Model X vehicles and either a four-year or 50,000-mile limited warranty or a two-year or 100,000-mile maximum odometer limited warranty for the purchasers of used Model S or Model X vehicles certified and sold by us. The limited warranty for the battery and drive unit for new Model S and Model X vehicles covers the drive unit for eight years, as well as the battery for a period of eight years (or for certain older vehicles, 125,000 miles if reached sooner than eight years), although the battery's charging capacity is not covered under any of our warranties or Extended Service plans; the limited warranty for used Model S and Model X vehicles does not extend or otherwise alter the terms of the original battery and drive unit limited warranty for such used vehicles specified in their original New Vehicle Limited Warranty. For the battery and drive unit on our current new Model 3 vehicles, we offer an eight-year or 100,000-mile limited warranty for our Standard Range, Standard Range Plus or mid-range battery and an eight-year or 120,000-mile limited warranty for our long-range battery, with minimum 70% retention of battery capacity over the warranty period. In addition, customers of new Model S and Model X vehicles have the opportunity to purchase an Extended Service plan for the period after the end of the limited warranty for their new vehicles to cover additional services for up to an additional four years or 50,000 miles.

For energy storage products, we provide limited warranties against defects and guarantee minimum energy retention levels. For example, we currently guarantee that each current-generation Powerwall product will maintain at least 70% or 80% (depending on the region of installation) of its stated energy capacity at 10 years, and that each Powerpack and Megapack product will retain specified minimum energy capacities in each of its first 10 to 15 years of use. We also offer extended warranties, availability guarantees and capacity guarantees for periods of up to 20 years for Powerpack and Megapack at an additional cost at the time of purchase, as well as workmanship warranties to customers who elect to have us install their systems. For our Solar Roof, we offer a 25-year warranty for power, weatherization and the solar tiles.

Finally, customers who lease solar energy system leases or buy energy from us under PPAs are covered by warranties equal to the length of the agreement term, which is typically 20 years. Systems purchased for cash are covered by a workmanship warranty of up to 20 years. In addition, we pass through to our customers the inverter and panel manufacturers' warranties, which generally range from 10 to 25 years. Finally, we offer a performance guarantee with our leased solar energy systems that compensates a customer on an annual basis if their system does not meet the electricity production guarantees set forth in their PPA or lease. Under these performance guarantees, we bear the risk of production shortfalls resulting from an inverter or panel failure. These risks are exacerbated in the event the panel or inverter manufacturers cease operations or fail to honor their warranties.

If our warranty reserves are inadequate to cover future warranty claims on our products, our business, prospects, financial condition and operating results could be materially and adversely affected. Warranty reserves include our management's best estimate of the projected costs to repair or to replace items under warranty. These estimates 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 and Solar Roof that we have recently introduced 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, 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 could adversely affect our financial condition and operating results.

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 quarterly financial results. If any of this occurs, the trading price of our stock could fall substantially, either suddenly or over time.

Servicing our indebtedness requires a significant amount of cash, and there is no guarantee that we will have sufficient cash flow from our business to pay our substantial indebtedness.

As of September 30, 2019, we and our subsidiaries had outstanding \$12.48 billion in aggregate principal amount of indebtedness (see Note 11 *Long-Term Debt Obligations*, to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q). Our substantial 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.

Pursuant to their terms, holders of our 1.25% Convertible Senior Notes due 2021, 2.375% Convertible Senior Notes due 2022 and 2.00% Convertible Senior Notes due 2024 (together, the “Tesla Convertible Notes”) may convert their respective Tesla Convertible Notes at their option prior to the scheduled maturities of the respective Tesla Convertible Notes under certain circumstances. Upon conversion of the applicable Tesla Convertible Notes, we will be obligated to deliver cash and/or shares in respect of the principal amounts thereof and the conversion value in excess of such principal amounts on such Tesla Convertible Notes. Moreover, our subsidiary’s 1.625% Convertible Senior Notes due 2019 and Zero-Coupon Convertible Senior Notes due 2020 (together, the “Subsidiary Convertible Notes”) are convertible into shares of our common stock at conversion prices ranging from \$300.00 to \$759.36 per share. Finally, holders of the Tesla Convertible Notes and the Subsidiary Convertible Notes will have the right to require us to repurchase their notes upon the occurrence of a fundamental change at a purchase price equal to 100% of the principal amount of the notes, plus accrued and unpaid interest, if any, to, but not including, the fundamental change purchase date.

Our ability to make scheduled payments of the principal and interest on our indebtedness when due or to make payments upon conversion or repurchase demands with respect to our convertible 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 any of these activities or engage in these activities on desirable terms or at all, which could result in a default on our existing or future indebtedness and have a material adverse effect on our business, results of operations and financial condition.

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 secured 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.

We may need or want to raise additional funds and these funds may not be available to us when we need them. If we cannot raise additional funds when we need or want them, our operations and prospects could be negatively affected.

The design, manufacture, sale, installation and/or servicing of automobiles, energy storage products and solar products is a capital intensive business, and the specific timing of cash inflows and outflows may fluctuate substantially from period to period. Until we are consistently generating positive free cash flows, 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 vehicles, energy storage products and/or solar 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 need sufficient capital to fund our ongoing operations, ramp vehicle production, continue research and development projects for new products, continue to develop our main projects such as the global manufacturing expansion of Model 3, launch and ramp of Model Y, and launch of Tesla Semi, including additional vertical integration of our supply chain and production process, as well as the further expansion of our Supercharger and vehicle service and repair networks. 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.

Additionally, we use capital from third-party investors to enable our customers' access to our solar energy systems with little or no upfront cost. The availability of this financing depends upon many factors, including the confidence of the investors in the solar energy industry, the quality and mix of our customer contracts, any regulatory changes impacting the economics of our existing customer contracts, changes in law (including tax law), risks or government incentives associated with these financings, and our ability to compete with other renewable energy companies for the limited number of potential investors. Moreover, while interest rates remain at low levels, they have risen in recent periods. If the rate of return required by investors rises as a result of a rise in interest rates, it will reduce the present value of the customer payment streams underlying, and therefore the total value of, our financing structures, increasing our cost of capital. If we are unable to establish new financing funds on favorable terms for third-party ownership arrangements, we may be unable to finance the installation of our solar energy systems for our lease or PPA customers' systems, or our cost of capital could increase and our liquidity may be negatively impacted, which would have an adverse effect on our business, financial condition and results of operations.

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 14, *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 DOJ, 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 the Board, 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.

If we update or discontinue the use of our manufacturing equipment more quickly than expected, we may have to shorten the useful lives of any equipment to be retired as a result of any such update, and the resulting acceleration in our depreciation could negatively affect our financial results.

We have invested and expect to continue to invest significantly in what we believe is state of the art tooling, machinery and other manufacturing equipment for our various product lines, and we depreciate the cost of such equipment over their expected useful lives. However, manufacturing technology may evolve rapidly, and we may decide to update our manufacturing process with cutting-edge equipment more quickly than expected. Moreover, we are continually implementing learnings as our engineering and manufacturing expertise and efficiency increase, which 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, our learnings may cause us to 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 could be negatively impacted.

We are exposed to fluctuations in currency exchange rates, which could negatively affect our financial results.

We transact business globally in multiple currencies and have foreign currency risks related to our revenue, costs of revenue and operating expenses denominated in currencies other than the U.S. dollar, primarily the euro, Japanese yen, Canadian dollar, Chinese yuan 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 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 could be adversely affected.

We may face regulatory limitations on our ability to sell vehicles directly which could materially and adversely affect our ability to sell our electric vehicles.

We sell our vehicles directly to consumers using means that we believe will maximize our reach, currently including through our website and our own stores. While we intend to continue to leverage our most effective sales strategies, we may not be able to sell our vehicles through our own stores in each state in the U.S., as some states have laws that may be interpreted to impose limitations on this direct-to-consumer sales model. In some states, we have also opened galleries to educate and inform customers about our products, but such locations do not actually transact in the sale of vehicles. The application of these state laws to our operations continues to be difficult to predict. Laws in some states have limited our ability to obtain dealer licenses from state motor vehicle regulators and may continue to do so.

In addition, decisions by regulators permitting us to sell vehicles 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 designed to prevent our distribution model. 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. We have also filed a lawsuit in federal court in Michigan challenging the constitutionality of the state's prohibition on direct sales as applied to our business.

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 could have a negative and material impact our business, prospects, financial condition and results of operations.

We may need to defend ourselves against intellectual property infringement claims, which may be time-consuming and could cause us to incur substantial costs.

Others, including our competitors, 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. 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 could significantly increase our operating expenses. In addition, if we are determined to 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 were required to take one or more such actions, our business, prospects, operating results and financial condition could be materially adversely affected. In addition, any litigation or claims, whether or not valid, could result in substantial costs, negative publicity and diversion of resources and management attention.

Tesla is a highly-visible public company whose products, business, results of operations, statements and actions are often scrutinized by critics whose influence could negatively impact the perception of our brand and the market value of our common stock.

Tesla is a highly-visible public company whose products, business, results of operations, statements and actions are well-publicized. Such attention includes frequent criticism of us by a range of third-parties. Our continued success depends on our ability to focus on executing on our mission and business plan while maintaining the trust of our current and potential customers, employees, stockholders and business partners. Any negatively perceived actions of ours could influence the perception of our brand or our leadership by our customers, suppliers or investors, which could adversely impact our business prospects, operating results and the market value of our common stock.

Our facilities or operations could be damaged or adversely affected as a result of disasters.

Our corporate headquarters, the Tesla Factory and Gigafactory 1 are located in seismically active regions in Northern California and Nevada, and our Gigafactory Shanghai is located in a flood-prone area. If major disasters such as earthquakes, floods or other events occur, or our information system or communications network 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. We may incur expenses relating to such damages, which could have a material adverse impact on our business, operating results and financial condition.

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 an intra-day trading high of \$379.49 per share and a low of \$176.99 per share over the last 52 weeks. 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 and may continue to 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 and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. Moreover, stockholder litigation like this has been filed against us in the past. While we are continuing to 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.

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, which may include projections regarding sales and production, as well as anticipated future revenues, gross margins, profitability and cash flows. 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 is not accurate or varies from actual results due to our inability to meet our assumptions 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 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 Tesla Convertible Notes or the Subsidiary Convertible Notes would dilute the ownership interests of existing stockholders to the extent we deliver shares upon conversion of any of such notes. Our Subsidiary Convertible Notes have been historically, and the other Tesla Convertible Notes may become in the future, convertible at the option of their holders prior to their scheduled terms under certain circumstances. If holders elect to convert their convertible notes, we could be required to deliver to them a significant number of shares of our common stock. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the convertible notes may encourage short selling by market participants because the conversion of such notes could be used to satisfy short positions, or anticipated conversion of such notes into shares of our common stock could depress the price of our common stock.

Moreover, in connection with each issuance of the Tesla Convertible Notes, we entered into convertible note hedge transactions, which are expected to reduce the potential dilution and/or offset potential cash payments we are required to make in excess of the principal amount upon conversion of the applicable Tesla Convertible Notes. We also entered into warrant transactions with the hedge counterparties, which could separately have a dilutive effect on our common stock to the extent that the market price per share of our common stock exceeds the applicable strike price of the warrants on the applicable expiration dates. In addition, the hedge counterparties or their affiliates may enter into various transactions with respect to their hedge positions, which could also cause or prevent an increase or a decrease in the market price of our common stock or the convertible notes.

Elon Musk has pledged shares of our common stock to secure certain bank borrowings. If Mr. Musk were forced to sell these shares in order to satisfy his 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 notes could impair a takeover attempt.

Our certificate of incorporation and bylaws afford certain rights and powers to our board of directors that could contribute to 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 notes 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

On September 16, 2019, we issued an aggregate of 67,526 shares of restricted common stock to 13 former shareholders of an acquired subsidiary, pursuant to the related acquisition agreement. Such shares were issued pursuant to exemptions from registration provided by Regulation S promulgated under and/or Section 4(a)(2) of the Securities Act of 1933, in reliance on representations made by such former shareholders and our related investigation.

ITEM 3. DEFAULT 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	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.1†	Amendment No. 6 to Amended and Restated Loan and Security Agreement, dated as of August 16, 2019, by and among Tesla 2014 Warehouse SPV LLC, Deutsche Bank Trust Company Americas, New York Branch, as Administrative Agent, and the Lenders and Group Agents from time to time party thereto.	—	—	—	—	X
10.2†	Amendment No. 1 to Loan and Security Agreement, dated as of August 16, 2019, by and among LML 2018 Warehouse SPV, LLC, Deutsche Bank Trust Company Americas, as Paying Agent, Deutsche Bank AG, New York branch, as Administrative Agent, and the Lenders and Group Agents from time to time party thereto.	—	—	—	—	X
10.3†	Facility Agreement, dated as of September 26, 2019, by and between China Merchants Bank Co., Ltd., Beijing Branch and Tesla Automobile (Beijing) Co., Ltd.	—	—	—	—	X
10.4†	Statement Letter to China Merchants Bank Co., Ltd., Beijing Branch from Tesla Automobile (Beijing) Co., Ltd., dated as of September 26, 2019.	—	—	—	—	X
10.5†	2019 Pricing Agreement (2170 Cells) with respect to 2014 Gigafactory Agreements, executed September 20, 2019, by and among Tesla, Inc., Tesla Motors Netherlands B.V., Panasonic Corporation and Panasonic Corporation of North America, on behalf of its division Panasonic Energy of North America.	—	—	—	—	X
10.6†	2019 Pricing Agreement (Japan Cells) with respect to 2011 Supply Agreement, executed September 20, 2019, by and among Tesla, Inc., Tesla Motors Netherlands B.V., Panasonic Corporation and SANYO Electric Co., Ltd.	—	—	—	—	X
10.7†	Lease Amendment, executed September 20, 2019, by and among Tesla, Inc. and Panasonic Corporation of North America, on behalf of its division Panasonic Energy of North America, with respect to the Amended and Restated Factory Lease, executed as of March 26, 2019.	—	—	—	—	X
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)					

† Portions of this exhibit have been redacted in compliance with Regulation S-K Item 601(b)(10).
 * Furnished herewith.

SIGNATURES

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

Tesla, Inc.

Date: October 28, 2019

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