



Consolidated Financial Statements
for the nine-month ended and as of December 31, 2019 (in English)

On February 13, 2020, the Japanese version of this report was filed with the Director-General of the Kanto Local Finance Bureau of the Ministry of Finance pursuant to Japan's Financial Instruments and Exchange Act.

[This is an English translation prepared for the convenience of non-resident shareholders. Should there be any inconsistency between the translation and the official Japanese text, the latter shall prevail.]

[Cover]

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1) Consolidated balance sheets (Unaudited)

ASSETS	Yen (Millions)	
	March 31, 2019	December 31, 2019
Current assets:		
Cash and cash equivalents	¥ 289,175	¥ 353,450
Short-term investments	40,505	23,833
Marketable securities (Note 2 and 7)	57	56
Net trade receivables	308,154	364,415
Inventories (Note 3)	226,892	244,160
Other current assets (Note 6)	57,702	66,811
Total current assets	922,485	1,052,725
Investments in affiliates (Note 2)	139,522	17,185
Other investments in securities (Note 2 and 7)	15,784	16,439
Net property, plant and equipment (Note 9)	603,110	627,501
Right-of-use assets of operating leases (Note 1)	-	41,947
Goodwill (Note 10)	164,794	162,356
Intangible assets (Note 10)	88,693	82,866
Other assets (Note 6 and 7)	58,092	50,346
Total assets	¥ 1,992,480	¥ 2,051,365

See accompanying notes to consolidated financial statements.

LIABILITIES AND EQUITY	Yen (Millions)	
	March 31, 2019	December 31, 2019
Current liabilities:		
Short-term debt	¥ 221,310	¥ 240,404
Current installments of long-term debt (Note 7 and 9)	91,276	76,657
Current portion of operating lease obligations (Note 1)	-	7,219
Trade payables	189,892	231,732
Accrued expenses	192,800	195,629
Other current liabilities (Note 6)	19,042	27,949
Total current liabilities	714,320	¥ 779,590
Long-term debt, excluding current installments (Note 7 and 9)	207,682	140,485
Long-term operating lease obligations (Note 1)	-	30,327
Retirement and severance benefits	129,050	122,728
Other noncurrent liabilities	57,672	66,127
Total noncurrent liabilities	394,404	359,667
Total liabilities	1,108,724	1,139,257
TDK stockholders' equity:		
Common stock		
Authorized 480,000,000 shares;		
issued 129,590,659 shares at March 31, 2019 and December 31, 2019		
outstanding 126,288,818 shares at March 31, 2019 and		
126,310,829 shares at December 31, 2019	32,641	32,641
Additional paid-in capital	5,958	2,081
Legal reserve	44,436	45,254
Retained earnings	935,649	987,772
Accumulated other comprehensive income (loss) (Note 11 and 12)	(124,435)	(144,185)
Treasury stock at cost;		
3,301,841 shares at March 31, 2019 and 3,279,830 shares		
at December 31, 2019	(16,959)	(16,848)
Total TDK stockholders' equity	877,290	906,715
Noncontrolling interests (Note 11 and 12)	6,466	5,393
Total equity	883,756	912,108
Total liabilities and equity	¥ 1,992,480	¥ 2,051,365

2) Consolidated statements of income

and Consolidated statements of comprehensive income (loss) (Unaudited)

For the Nine-month ended December 31, 2018 and 2019

Consolidated statements of income

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Net sales (Note 16)	¥ 1,072,743	¥ 1,062,663
Cost of sales (Note 4 and 6)	756,145	736,835
Gross profit	316,598	325,828
Selling, general and administrative expenses (Note 4)	219,858	218,885
Other operating expense (income) (Note 17)	1,802	(2,297)
Operating income	94,938	109,240
Other income (deductions):		
Interest and dividend income	5,397	7,361
Interest expense	(3,206)	(2,679)
Foreign exchange gain (loss) (Note 6)	(2,996)	(2,315)
Other - net (Note 4 and 6)	(5,342)	(1,783)
Total other income (deductions)	(6,147)	584
Income before income taxes	88,791	109,824
Income taxes	25,122	35,310
Net income	63,669	74,514
Less: Net income attributable to noncontrolling interests	184	102
Net income attributable to TDK	¥ 63,485	¥ 74,412

Amounts per share:

	Yen	
Net income attributable to TDK per share (Note 13):		
Basic	¥ 502.78	¥ 589.16
Diluted	501.54	587.81
Cash dividends paid during the period	¥ 150.00	¥ 170.00

Consolidated statements of comprehensive income

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Net income	¥ 63,669	¥ 74,514
Other comprehensive income (loss), net of taxes		
Foreign currencies translation adjustments	(477)	(23,205)
Pension liability adjustments	3,284	3,309
Net unrealized gains (losses) on securities	(7)	(9)
Total other comprehensive income (loss) (Note 12):	2,800	(19,905)
Comprehensive income (Note 11)	66,469	54,609
Comprehensive income (loss) attributable to noncontrolling interests	18	(72)
Comprehensive income attributable to TDK	¥ 66,451	¥ 54,681

See accompanying notes to consolidated financial statements.

For the Three-month ended December 31, 2018 and 2019
Consolidated statements of income

	Yen (Millions)	
	Three-month ended December 31, 2018	Three-month ended December 31, 2019
Net sales (Note 16)	¥ 350,803	¥ 355,634
Cost of sales (Note 4 and 6)	244,028	241,947
Gross profit	106,775	113,687
Selling, general and administrative expenses (Note 4)	74,892	74,244
Other operating expense (income) (Note 17)	(875)	(954)
Operating income	32,758	40,397
Other income (deductions):		
Interest and dividend income	1,841	2,626
Interest expense	(1,022)	(681)
Foreign exchange gain (loss) (Note 6)	(1,413)	(1,612)
Other - net (Note 4 and 6)	(1,172)	446
Total other income (deductions)	(1,766)	779
Income before income taxes	30,992	41,176
Income taxes	8,584	11,700
Net income	22,408	29,476
Less: Net income attributable to noncontrolling interests	(1)	2
Net income attributable to TDK	¥ 22,409	¥ 29,474

Amounts per share:

	Yen	
Net income attributable to TDK (Note 13):		
Basic	¥ 177.45	¥ 233.35
Diluted	177.05	232.84
Cash dividends paid during the period	¥ 80.00	¥ 90.00

Consolidated statements of comprehensive income (loss)

	Yen (Millions)	
	Three-month ended December 31, 2018	Three-month ended December 31, 2019
Net income	¥ 22,408	¥ 29,476
Other comprehensive income (loss), net of taxes		
Foreign currencies translation adjustments	(24,814)	31,134
Pension liability adjustments	1,147	1,228
Net unrealized gains (losses) on securities	(6)	27
Total other comprehensive income (loss) (Note 12):	(23,673)	32,389
Comprehensive income (Note 11)	(1,265)	61,865
Comprehensive income (loss) attributable to noncontrolling interests	(40)	96
Comprehensive income (loss) attributable to TDK	¥ (1,225)	¥ 61,769

See accompanying notes to consolidated financial statements.

3) Consolidated statements of cash flows (Unaudited)

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Cash flows from operating activities:		
Net income	¥ 63,669	¥ 74,514
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	79,769	91,368
Impairment of long-lived assets	4,720	242
Gain on sale of business	(2,942)	(2,661)
Loss (gain) on securities, net	3,756	(445)
Deferred income taxes	4,590	8,530
Changes in assets and liabilities:		
Decrease (increase) in trade receivables	(35,698)	(62,385)
Decrease (increase) in inventories	(35,985)	(23,814)
Increase (decrease) in trade payables	4,943	48,907
Increase (decrease) in accrued expenses	4,453	8,564
Decrease (increase) in other assets and liabilities, net	904	195
Other - net	(1,810)	6,506
Net cash provided by operating activities	90,369	149,521
Cash flows from investing activities:		
Capital expenditures	(117,239)	(129,874)
Proceeds from sales of tangible and intangible assets	3,668	2,330
Proceeds from sale and maturity of short-term investments	75,387	61,682
Payment for purchase of short-term investments	(61,620)	(46,157)
Proceeds from sale and maturity of securities	204	1,185
Payment for purchase of securities	(785)	(1,412)
Proceeds from sale of business, net of cash transferred	7,530	-
Proceeds from sale of investments in affiliates	-	124,484
Other - net	(2,952)	(809)
Net cash provided by (used in) investing activities	(95,807)	11,429
Cash flows from financing activities:		
Proceeds from debt with maturities longer than three months	3,722	11,434
Repayment of debt with maturities longer than three months	(46,556)	(85,320)
Net increase (decrease) in debt with maturities of three months or less	86,608	10,970
Dividends paid	(18,928)	(21,448)
Acquisition of noncontrolling interests	(3,590)	(4,991)
Other - net	(58)	(15)
Net cash provided by (used in) financing activities	21,198	(89,370)
Effect of exchange rate changes on cash and cash equivalents	(1,870)	(7,305)
Net increase in cash and cash equivalents	13,890	64,275
Cash and cash equivalents at beginning of period	279,624	289,175
Cash and cash equivalents at end of period	¥ 293,514	¥ 353,450

See accompanying notes to consolidated financial statements.

4) Notes to Consolidated Financial Statements (Unaudited)

1. Summary of Significant Accounting Policies

(a) Basis of Presentation

TDK Corporation and most of its domestic subsidiaries maintain their books of account in conformity with the generally accepted accounting principles in Japan, and its foreign subsidiaries' books of accounts are mainly in conformity with those of the countries of their domicile.

The consolidated financial statements presented herein reflect certain adjustments, not recorded in the primary books of TDK Corporation and its subsidiaries, to present the financial position, results of operations and cash flows in conformity with U.S. generally accepted accounting principles ("U.S. GAAP").

(b) Consolidation Policy

The consolidated financial statements include the accounts of TDK Corporation, its subsidiaries and those variable interest entities where TDK is the primary beneficiary under U.S. GAAP. All significant intercompany balances and transactions have been eliminated in consolidation.

The investments in affiliates where TDK exercises significant influence over their operating and financial policies are accounted for using the equity method of accounting. All significant intercompany profits from transactions with these affiliates have been eliminated.

(c) Adoption of New Accounting Standards

Leases

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02 "Leases (Topic 842)".

This ASU requires lessees to recognize most leases on their consolidated balance sheets but recognize expenses on their consolidated statements of income in a manner similar to the previous standard. Additionally, this ASU expands qualitative and quantitative disclosures related to leases. TDK adopted this ASU from April 1, 2019. TDK applied the package of practical expedients that allows us not to reassess whether any existing contracts at or expired contracts prior to the adoption date are or contain leases, lease classification and whether any initial direct costs qualify for capitalization, to use hindsight in determining the lease term and in assessing impairment of the right-of-use assets, in addition to applying the short term lease exception. TDK also adopted the transition method which no restatement of comparative periods and no reassessment of land easements not previously accounted for as a lease that exist at or expired prior to the adoption date are required. The right-of-use assets of operating leases and operating lease obligations recognized at April 1, 2019 was ¥38,016 million and ¥35,690 million, respectively and are included in assets and liabilities in the accompanying consolidated balance sheets.

The adoption of this ASU did not have a material impact on TDK's results of operations.

Targeted Improvements to Accounting for Hedging Activities

In August 2017, FASB issued ASU 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities". This ASU amends existing standard to simplify the application of hedge accounting in certain situations and enables an entity to better portray the economic results of an entity's risk management activities in its financial statements. This ASU eliminates the requirement to separately measure and report hedge ineffectiveness, and requires an entity to present the earnings effect of the hedging instrument in the same line item of the consolidated statements of income in which the earnings effect of the hedged item is reported. TDK adopted this ASU from April 1, 2019. The adoption of this ASU did not have a material impact on TDK's results of operations and financial position.

(d) Subsequent Events

TDK has evaluated the subsequent events through February 12, 2020, the date on which the consolidated financial statements are available to be issued.

(e) Reclassifications

Certain reclassifications have been made to the prior year's consolidated financial statements and quarterly consolidated financial statements to conform to the presentation used for the nine-month and the three-month ended December 31, 2019.

2. Marketable Securities and Investments in Securities

Marketable securities and investments in securities as of March 31, 2019 and December 31, 2019 are as follows:

	Yen (Millions)	
	March 31, 2019	December 31, 2019
Marketable securities		
Debt securities	¥ 57	¥ 56
Total Marketable securities	57	56
Investments in affiliates	139,522	17,185
Other investments in securities:		
Debt securities	103	55
Equity securities with readily determinable fair values	6,409	6,197
Equity securities without readily determinable fair values	9,272	10,187
Total other investments in securities	15,784	16,439
Total	¥ 155,363	¥ 33,680

TDK sold 49% of the common shares of RF360 Holdings Singapore PTE.Ltd. for the nine-month ended December 31, 2019, which was recognized as Investments in affiliates in consolidated financial statements as of March 31, 2019. Please refer to Note 15 Sale of Business for more details.

Debt securities include available-for-sale securities. Information with respect to such securities as of March 31, 2019 and December 31, 2019 is as follows:

As of March 31, 2019	Yen (Millions)			
	Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
Marketable securities (Debt securities):				
Government bonds	¥ 57	¥ -	¥ 0	¥ 57
Investments (Debt securities):				
Commercial papers	2	101	-	103
Public-utility bonds	0	-	-	0
Total	¥ 59	¥ 101	¥ 0	¥ 160

As of December 31, 2019	Yen (Millions)			
	Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
Marketable securities (Debt securities):				
Government bonds	¥ 56	¥ 0	¥ -	¥ 56
Investments (Debt securities):				
Commercial papers	0	55	-	55
Public-utility bonds	0	-	-	0
Total	¥ 56	¥ 55	¥ -	¥ 111

The proceeds from sale and maturity of debt securities classified as available-for-sale securities was ¥7 million for the nine-month ended December 31, 2018. The proceeds from sale and maturity of debt securities classified as available-for-sale securities were ¥7 million and ¥4 million for the nine-month ended and three-month ended December 31, 2019, respectively. The gross realized gains on the sale of debt securities classified as available-for-sale securities were determined on average cost basis and were reflected in income (loss).

As of December 31, 2019, all of the debt securities classified as available-for-sale securities with unrealized losses were in a continuous unrealized loss position for less than 12 months.

TDK measures certain nonmarketable equity securities without a readily determinable fair value based on a practical expedient by estimating the fair value at cost minus impairment, and plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The book value of such investments amounted to ¥1,098 million as of December 31, 2019. TDK did not record an impairment or other adjustments for the nine-month ended December 31, 2019.

Net gains and losses recognized during the period on equity securities and unrealized gains and losses recognized during the period on equity securities for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Unrealized gains and losses recognized during the period on equity securities held as of December 31	¥ (3,858)	¥ 242
Net gains and losses recognized on equity securities sold during the period	102	195
Net gains and losses recognized during the period on equity securities	¥ (3,756)	¥ 437

Net gains and losses recognized during the period on equity securities and unrealized gains and losses recognized during the period on equity securities for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)	
	Three-month ended December 31, 2018	Three-month ended December 31, 2019
Unrealized gains and losses recognized during the period on equity securities held as of December 31	¥ (917)	¥ 559
Net gains and losses recognized on equity securities sold during the period	2	26
Net gains and losses recognized during the period on equity securities	¥ (915)	¥ 585

3. Inventories

Inventories as of March 31, 2019 and December 31, 2019, are summarized as follows:

	Yen (Millions)	
	March 31, 2019	December 31, 2019
Finished goods	¥ 86,507	¥ 97,847
Work in process	52,688	57,563
Raw materials	87,697	88,750
Total	¥ 226,892	¥ 244,160

4. Cost for Retirement and Severance Benefits

Net periodic benefit cost for TDK's employee retirement and severance defined benefit plans for the nine-month ended December 31, 2018 and December 31, 2019 consist of the following components:

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Service cost-benefits earned during the period	¥ 6,266	¥ 6,671
Interest cost on projected benefit obligation	2,605	2,265
Expected return on plan assets	(3,510)	(3,692)
Amortization of actuarial loss	3,948	3,975
Amortization of prior service cost (benefit)	(272)	(222)
Net periodic benefit cost	¥ 9,037	¥ 8,997

In net periodic benefit cost for TDK's employee retirement and severance defined benefit plans, service cost is included in cost of sales and sales and general administrative expense. Other elements except service cost are included in other - net of other income (deductions).

Net periodic benefit cost for TDK's employee retirement and severance defined benefit plans for the three-month ended December 31, 2018 and December 31, 2019 consist of the following components:

	Yen (Millions)	
	Three-month ended December 31, 2018	Three-month ended December 31, 2019
Service cost-benefits earned during the period	¥ 2,065	¥ 2,287
Interest cost on projected benefit obligation	862	760
Expected return on plan assets	(1,174)	(1,234)
Amortization of actuarial loss	1,310	1,273
Amortization of prior service cost (benefit)	(88)	(67)
Net periodic benefit cost	¥ 2,975	¥ 3,019

In net periodic benefit cost for TDK's employee retirement and severance defined benefit plans, service cost is included in cost of sales and sales and general administrative expense. Other elements except service cost are included in other - net of other income (deductions).

5. Contingent Liabilities

TDK provides guarantees to third parties on bank loans of its employees. The guarantees on behalf of the employees are made for their housing loans. For each guarantee issued, in the event the employee defaults on payment, TDK would be required to make payments under its guarantee.

The maximum amount of undiscounted payments TDK would have to make in the event of default as of March 31, 2019 and December 31, 2019, are as follows:

	Yen (Millions)	
	March 31, 2019	December 31, 2019
Guarantees to third parties on bank loans of employees	¥ 610	¥ 491

As of December 31, 2019, the liability recognized for the estimated fair value of TDK's obligation under the guarantee arrangement is not material.

Several claims against TDK are pending. In the opinion of TDK management, based on discussions with legal counsel, any additional liability not currently provided for will not materially affect the consolidated financial position or result of operations of TDK.

6. Derivative Financial Instruments and Hedging Activities

TDK operates internationally and is exposed to the risk of changes in foreign exchange rates and interest rates as well as changes in raw material prices. TDK assesses these risks by continuously monitoring changes in the exchange rates, interest rates and raw material prices and by evaluating hedging opportunities. Derivative financial instruments are utilized to reduce these risks. TDK does not hold or issue derivative financial instruments for trading purposes. TDK is exposed to credit related losses in the event of nonperformance by the counterparties to those derivative financial instruments, but does not expect any counterparties to fail to meet their obligations given their high credit ratings. The credit exposure of those financial instruments is represented by the fair values of contracts. The fair values of the contracts are calculated based on the quotes presented by financial institutions. TDK does not hold any derivative instruments which consisted credit-risk-related contingent features.

(1) Hedges of net investment in foreign operations

TDK uses forward foreign exchange contracts and borrowings denominated in the subsidiary's local currency to hedge the foreign currency exposure of the net investment in overseas subsidiaries. The gains and losses of these hedging instruments are recorded in foreign currency translation adjustments, which is a part of other comprehensive income (loss). There is no ineffective portion and amount excluded from effectiveness testing.

(2) Derivatives not designated as hedging instruments

TDK uses forward foreign exchange contracts, currency swap contracts and currency option contracts in order to offset foreign exchange gain (loss) mainly arising from foreign-currency denominated assets and liabilities and forecasted transactions. TDK uses interest rate swap in order to control the fluctuation risks of interest rates. Also, TDK uses commodity forward contracts in order to control the fluctuation risk of raw material prices. Although these contracts are not designated as hedges, which is required to apply hedge accountings, TDK considers that these are effective as hedges from an economic viewpoint. The fair values of these undesignated contracts are recognized as income or expenses as earned or incurred.

The effect of derivative financial instruments and other hedging instruments on the consolidated statements of income and consolidated statements of comprehensive income (loss) for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

(1) Hedges of net investment in foreign operations and other hedging instruments

Yen (Millions)		
Nine-month ended December 31, 2018		
	Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ (3,448)	¥ -
Borrowings in local currency	(2,856)	-
Total	¥ (6,304)	¥ -

Yen (Millions)		
Nine-month ended December 31, 2019		
	Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ (227)	¥ (2,563)
Borrowings in local currency	1,831	-
Total	¥ 1,604	¥ (2,563)

(2) Derivatives not designated as hedging instruments

Yen (Millions)			
		Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Forward foreign exchange contracts	Foreign exchange gain (loss)	¥ (4,423)	¥2,367
Currency swap contracts	Foreign exchange gain (loss)	591	(294)
Interest rate swap contracts	Other income (deductions)-Other-net	(64)	(124)
Currency option contracts	Foreign exchange gain (loss)	(135)	(81)
Commodity forward contracts	Cost of sales	208	34
Total		¥ (3,823)	¥ 1,902

The effect of derivative financial instruments on the consolidated statements of income and consolidated statements of comprehensive income (loss) for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

(1) Hedges of net investment in foreign operations and other hedging instruments

Yen (Millions)	
Three-month ended December 31, 2018	
Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ 1,562
Borrowings in local currency	1,542
Total	¥ 3,104

Yen (Millions)	
Three-month ended December 31, 2019	
Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ -
Borrowings in local currency	-
Total	¥ -

(2) Derivatives not designated as hedging instruments

		Yen (Millions)	
		Three-month ended December 31, 2018	Three-month ended December 31, 2019
Forward foreign exchange contracts	Foreign exchange gain (loss)	¥(1,117)	¥ 1,127
Currency swap contracts	Foreign exchange gain (loss)	(690)	437
Interest rate swap contracts	Other income (deductions)-Other-net	(76)	-
Currency option contracts	Foreign exchange gain (loss)	29	(29)
Commodity forward contracts	Cost of sales	77	3
Total		¥(1,777)	¥1,538

Notional amounts and fair value of derivative financial instruments as of March 31, 2019 and December 31, 2019 are as follows:

Yen (Millions)					
March 31, 2019					
Derivatives designated as hedging instruments and other:					
	Notional amounts	Asset derivatives		Liability derivatives	
		Fair value	Consolidated balance sheets location	Fair value	Consolidated balance sheets location
Forward foreign exchange contracts	¥ 135,102	¥ 977	Other current assets	¥ 522	Other current liabilities
Borrowings in local currency	66,594	-	-	-	-
Derivatives not designated as hedging instruments:					
	Notional amounts	Asset derivatives		Liability derivatives	
		Fair value	Consolidated balance sheets location	Fair value	Consolidated balance sheets location
Forward foreign exchange contracts	¥ 57,800	¥ 225	Other current assets	¥ 698	Other current liabilities
Currency swap contracts	19,701	30 1,322	Other current assets Other assets	29 -	Other current liabilities -
Interest rate swap contracts	33,297	124	Other current assets	-	-
Commodity forward contracts	252	150	Other current assets	-	-

Yen (Millions)					
December 31, 2019					
Derivatives not designated as hedging instruments:					
	Notional amounts	Asset derivatives		Liability derivatives	
		Fair value	Consolidated balance sheets location	Fair value	Consolidated balance sheets location
Forward foreign exchange contracts	¥ 108,308	¥ 753	Other current assets	¥ 127	Other current liabilities
Currency swap contracts	13,103	1,051	Other current assets	-	-

7. Fair Value of Financial Instruments

The following methods and assumptions were used to estimate the fair value of financial instruments in cases for which it is practicable:

(a) Cash and cash equivalents, Short-term investments, Trade receivables, Other current assets, Short-term debt, Trade payables, Accrued expenses and Other current liabilities

Except for derivative financial instruments, the carrying amount approximates fair value because of the short maturity of these instruments.

(b) Marketable securities, Other investments in securities and Other assets

The fair values of marketable securities and investments in securities are primarily estimated based on quoted market prices for these instruments. The fair value of TDK's long-term loans receivable included in other assets are estimated based on the amount of future cash flows associated with the instrument discounted using the borrower's current borrowing rate in the market for similar borrowing of comparable maturity, or based on the quoted market prices for the same or similar issues. The long-term loans receivable are classified as Level 2, one of the three levels of fair value hierarchy that is discussed in Note 8 of the Notes to Consolidated Financial Statements.

(c) Long-term debt

The fair value of TDK's long-term debt is estimated based on the amount of future cash flows associated with the instrument discounted using current borrowing rate in the market for similar debt of comparable maturity, or based on the quoted market prices for the same or similar issues. The long-term debt is classified as Level 2, one of the three levels of fair value hierarchy that is discussed in Note 8 of the Notes to Consolidated Financial Statements.

The carrying amounts and estimated fair values of TDK's financial instruments as of March 31, 2019 and December 31, 2019, are summarized as follows:

As of March 31, 2019	Yen (Millions)	
	Carrying amount	Estimated fair value
Assets:		
Marketable securities	¥ 57	¥ 57
Other investments in securities and other assets	31,051	31,051
Liability:		
Long-term debt, including current portion (excluding lease obligation)	(293,274)	(293,017)
<hr/>		
As of December 31, 2019	Yen (Millions)	
	Carrying amount	Estimated fair value
Assets:		
Marketable securities	¥ 56	¥ 56
Other investments in securities and other assets	31,410	31,410
Liability:		
Long-term debt, including current portion (excluding lease obligation)	(211,140)	(211,188)

Derivative financial instruments are presented in Note 6 of the Notes to Consolidated Financial Statements.

Limitations

Fair value estimates are made at a specific point in time, based on relevant market information and information about the financial instruments. These estimates are subjective in nature and involve uncertainties and matters of significant judgment and therefore cannot be determined with precision. Changes in assumptions could significantly affect the estimates.

8. Fair Value Measurements

FASB Accounting Standards Codification (“ASC”) 820 “Fair Value Measurements and Disclosures” defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or most advantageous market for the asset or liability. FASB ASC 820 establishes a three level fair value hierarchy for material inputs used in measuring fair value as follows:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that TDK has the ability to access at the measurement date

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3: Unobservable inputs for the asset or liability

Assets and liabilities that are measured at fair value on a recurring basis

Assets and liabilities that are measured at fair value on a recurring basis as of March 31, 2019 and December 31, 2019 are as follows:

As of March 31, 2019	Yen (Millions)			
	Level 1	Level 2	Level 3	Total
Assets:				
Marketable securities (debt securities):				
Government bonds	¥ 57	¥ -	¥ -	¥ 57
Derivative contracts:				
Forward foreign exchange contracts	-	1,202	-	1,202
Currency swap contracts	-	1,352	-	1,352
Interest rate swap contracts	-	124	-	124
Commodity forward contracts	-	150	-	150
Investments (Debt securities):				
Commercial papers	-	103	-	103
Public-utility bonds	0	-	-	0
Investments (Equity securities):				
Manufacturing companies	2,991	-	8,716	11,707
Other	2,272	-	-	2,272
Investments (Mutual funds)	1,146	-	-	1,146
Rabbi trust investments	6,192	-	-	6,192
Total	¥ 12,658	¥ 2,931	¥ 8,716	¥ 24,305
Liabilities:				
Derivative contracts:				
Forward foreign exchange contracts	¥ -	¥ 1,220	¥ -	¥ 1,220
Currency swap contracts	-	29	-	29
Total	¥ -	¥ 1,249	¥ -	¥ 1,249

As of December 31, 2019	Yen (Millions)			
	Level 1	Level 2	Level 3	Total
Assets:				
Marketable securities (Debt securities):				
Government bonds	¥ 56	¥ -	¥ -	¥ 56
Derivative contracts:				
Forward foreign exchange contracts	-	753	-	753
Currency swap contracts	-	1,051	-	1,051
Investments (Debt securities):				
Commercial papers	-	55	-	55
Public-utility bonds	0	-	-	0
Investments (Equity securities):				
Stock	4,926	-	9,089	14,015
Mutual funds	1,271	-	-	1,271
Rabbi trust investments	6,366	-	-	6,366
Total	¥ 12,619	¥ 1,859	¥ 9,089	¥ 23,567
Liabilities:				
Derivative contracts:				
Forward foreign exchange contracts	¥ -	¥ 127	¥ -	¥ 127
Total	¥ -	¥ 127	¥ -	¥ 127

Level 1 marketable securities and investments are valued using unadjusted quoted prices in active markets in which transactions occur with sufficient frequency and volume. Rabbi trusts investments included in other assets in which a part of the employees' salary is deposited and valued using unadjusted quoted prices in active markets.

Level 2 derivative contracts include forward foreign exchange contracts, currency swap contracts, interest rate swap contracts and commodity forward contracts that are valued based on quotes obtained from counterparties and are verified using observable market inputs, such as foreign currency exchange rates and raw material prices. Investments consist of commercial papers and the fair values thereof are based on third-party assessments using observable market data.

Fair values of Level 3 investments are based on discounted cash flow method.

The changes in the carrying amount of assets measured at fair value on a recurring basis that was classified as level 3 for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Opening Balance	¥ -	¥ 8,716
Purchase	-	791
Reclassification*	1,186	-
Net income (loss) (Realized or unrealized):		
Other Comprehensive Income(loss)	53	(418)
Ending Balance	¥ 1,239	¥ 9,089

*Certain investments (equity securities without readily determinable fair values) were measured at fair value on a recurring basis and classified as Level_3.

The changes in the carrying amount of assets measured at fair value on a recurring basis that was classified as level 3 for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)	
	Three-month ended December 31, 2018	Three-month ended December 31, 2019
Opening Balance	¥ 1,268	¥ 8,806
Net income (loss) (Realized or unrealized):		
Other Comprehensive Income(loss)	(29)	283
Ending Balance	¥ 1,239	¥ 9,089

Assets and liabilities that are measured at fair value on a nonrecurring basis

Assets and liabilities that are measured at fair value on a nonrecurring basis for the nine-month ended December 31, 2018 are as follows.

	Yen (Millions)			
	Nine-month ended December 31, 2018			
	Total gains (losses)	Level 1	Level 2	Level 3
Assets:				
Long-lived assets (Property, plant and equipment)	¥ (4,711)	-	-	¥ 135
Long-lived assets (Intangible assets)	(9)	-	-	-

For the nine-month ended December 31, 2018, the book value of long-lived assets (property, plant and equipment) of ¥4,846 million was written down to its fair value of ¥135 million. Also the book value of long-lived assets (Intangible assets) of ¥9 million was fully written down due to impairment. The fair value of these long-lived assets was determined based on the discounted future cash flows expected from the use of each of the assets or real estate appraisal amount by external real estate appraiser etc. These fair values are classified as Level 3 because they were determined using unobservable inputs.

As a result of the above, impairment loss of ¥4,720 million caused by other-than-temporary declines in fair values during the nine-month ended December 31, 2018 was included in the consolidated statements of income.

9. Lease

Right-of-use assets of finance leases are included in net property, plant and equipment of the consolidated balance sheet and the amount is ¥4,001 million as of December 31, 2019.

Finance lease obligations are included in current installments of long-term debt and long-term debt, excluding current installments of the consolidated balance sheet and the amounts are ¥608 million and ¥5,394 million, respectively, as of December 31, 2019.

10. Goodwill and Other Intangible Assets

The components of acquired intangible assets excluding goodwill as of March 31, 2019 and December 31, 2019 are as follows:

As of March 31, 2019	Yen (Millions)		Net Amount
	Gross Carrying Amount	Accumulated Amortization	
Amortizable intangible assets:			
Patent	¥ 26,578	¥ 9,088	¥ 17,490
Customer relationships	24,243	19,852	4,391
Software	41,391	17,893	23,498
Unpatented technologies	56,642	26,024	30,618
Other	12,198	3,541	8,657
Total	¥ 161,052	¥ 76,398	¥ 84,654
Nonamortizable intangible assets:			
Trademark	¥ 3,452		¥ 3,452
In-process research and development	355		355
Other	232		232
Total	¥ 4,039		¥ 4,039
As of December 31, 2019	Yen (Millions)		Net Amount
	Gross Carrying Amount	Accumulated Amortization	
Amortizable intangible assets:			
Patent	¥ 27,840	¥ 11,499	¥ 16,341
Customer relationships	24,241	20,519	3,722
Software	44,030	20,051	23,979
Unpatented technologies	56,124	29,300	26,824
Other	11,844	3,877	7,967
Total	¥ 164,079	¥ 85,246	¥ 78,833
Nonamortizable intangible assets:			
Trademark	¥ 3,452		¥ 3,452
In-process research and development	349		349
Other	232		232
Total	¥ 4,033		¥ 4,033

Intangible assets subject to amortization are amortized using the straight-line method over their estimated useful lives to their estimated residual value of zero. Aggregate amortization expense for the nine-month ended December 31, 2019 was ¥10,354 million.

There are no significant changes in the carrying amount of goodwill for the nine-month ended December 31, 2019.

11. Equity

The changes in the carrying amount of stockholders' equity, noncontrolling interests and total equity for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)		
	Stockholders' equity	Noncontrolling Interests	Total equity
March 31, 2018	¥ 824,634	¥ 6,598	¥ 831,232
Cumulative-effect from adoption of ASU 2014-09	181	-	181
Cumulative-effect from adoption of ASU 2016-01	-	-	-
Cumulative-effect from adoption of ASU 2016-16	(6,374)	-	(6,374)
Equity transaction of consolidated subsidiaries and other	(2,602)	(371)	(2,973)
Comprehensive income:			
Net income	63,485	184	63,669
Other comprehensive income (loss), net of taxes:			
Foreign currency translation adjustments	(312)	(165)	(477)
Pension liability adjustments	3,285	(1)	3,284
Net unrealized gains (losses) on securities	(7)	-	(7)
Total other comprehensive income (loss)	2,966	(166)	2,800
Comprehensive income	66,451	18	66,469
Dividends	(18,939)	(21)	(18,960)
December 31, 2018	¥ 863,351	¥ 6,224	¥ 869,575

	Yen (Millions)		
	Stockholders' equity	Noncontrolling Interests	Total equity
March 31, 2019	¥ 877,290	¥ 6,466	¥ 883,756
Equity transaction of consolidated subsidiaries and other	(3,785)	(896)	(4,681)
Comprehensive income:			
Net income	74,412	102	74,514
Other comprehensive income (loss), net of taxes:			
Foreign currency translation adjustments	(23,031)	(174)	(23,205)
Pension liability adjustments	3,309	0	3,309
Net unrealized gains (losses) on securities	(9)	-	(9)
Total other comprehensive income (loss)	(19,731)	(174)	(19,905)
Comprehensive income (loss)	54,681	(72)	54,609
Dividends	(21,471)	(105)	(21,576)
December 31, 2019	¥ 906,715	¥ 5,393	¥ 912,108

Net income attributable to TDK and transfers (to) from noncontrolling interests for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)	
	Nine-month ended December 31,	
	2018	2019
Net income attributable to TDK	¥ 63,485	¥ 74,412
Decrease in TDK's additional paid-in capital for purchase of Amperex Technology Ltd.'s common shares from third parties	(2,787)	(4,075)
Decrease in TDK's additional paid-in capital for purchase of Guangdong TDK Rising Rare Earth High Technology Material Co.,Ltd.'s common shares from third parties	(27)	-
Increase (decrease) in TDK's additional paid-in capital for purchase of SolidGear Corporation's common shares from third parties	3	(4)
Net transfers (to) from noncontrolling interests	(2,811)	(4,079)
Changes arising from net income attributable to TDK and transfers (to) from noncontrolling interests	¥ 60,674	¥ 70,333

12. Other Comprehensive Income (Loss)

The changes in the carrying amount of accumulated other comprehensive income (loss) for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

	Yen (Millions)			
	Foreign currency translation adjustments	Pension liability adjustments	Net unrealized gains (losses) on securities	Total
March 31, 2018	¥ (53,448)	¥ (69,292)	¥ 3,248	¥ (119,492)
Cumulative-effect from adoption of ASU 2016-01	-	-	(3,083)	(3,083)
Equity transaction of consolidated subsidiaries and other	10	-	-	10
Other comprehensive income (loss) before reclassifications	326	-	(7)	319
Amounts reclassified from accumulated other comprehensive income (loss)	(803)	3,284	-	2,481
Other comprehensive income (loss)	(477)	3,284	(7)	2,800
Other comprehensive income (loss) attributable to noncontrolling interests	(165)	(1)	-	(166)
December 31, 2018	¥ (53,750)	¥ (66,007)	¥ 158	¥ (119,599)

	Yen (Millions)			
	Foreign currency translation adjustments	Pension liability adjustments	Net unrealized gains (losses) on securities	Total
March 31, 2019	¥ (48,905)	¥ (75,640)	¥ 110	¥ (124,435)
Equity transaction of consolidated subsidiaries and other	(19)	-	-	(19)
Other comprehensive income (loss) before reclassifications	(28,177)	33	(2)	(28,146)
Amounts reclassified from accumulated other comprehensive income (loss)	4,972	3,276	(7)	8,241
Other comprehensive income (loss)	(23,205)	3,309	(9)	(19,905)
Other comprehensive income (loss) attributable to noncontrolling interests	(174)	0	-	(174)
December 31, 2019	¥ (71,955)	¥ (72,331)	¥ 101	¥ (144,185)

The reclassifications out of accumulated other comprehensive income (loss) for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

For the nine-month ended December 31,	Yen (Millions)		Affected line items in consolidated statements of income
	Amount reclassified from accumulated other comprehensive income (loss) *1		
	2018	2019	
Foreign currency translation:			
	¥ 27	¥ -	Selling and general administrative expense
	776	(5,745)	Other - net of other income (deductions)
	-	773	Tax (expense) or benefit
	803	(4,972)	Net of tax
Pension liability adjustments:			
	(3,684)	(3,756)	Other - net of other income (deductions)*2
	400	480	Tax (expense) or benefit
	(3,284)	(3,276)	Net of tax
Net unrealized gains (losses) on securities:			
	-	7	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	-	7	Net of tax
Total amount reclassified, net of tax	¥ (2,481)	¥ (8,241)	

*1 Amounts in parentheses indicate losses in consolidated statements of income.

*2 This accumulated other comprehensive income (loss) component is included in the computation of net periodic benefit cost for TDK's employee retirement and severance defined benefit plans that is presented in Note 4.

The reclassifications out of accumulated other comprehensive income (loss) for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

For the three-month ended December 31,	Yen (Millions)		Affected line items in consolidated statements of income
	Amount reclassified from accumulated other comprehensive income (loss) *1		
	2018	2019	
Foreign currency translation:			
	¥ (209)	¥ (1)	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	(209)	(1)	Net of tax
Pension liability adjustments:			
	(1,225)	(1,206)	Other - net of other income (deductions)*2
	78	120	Tax (expense) or benefit
	(1,147)	(1,086)	Net of tax
Net unrealized gains (losses) on securities:			
	-	4	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	-	4	Net of tax
Total amount reclassified, net of tax	¥ (1,356)	¥ (1,083)	

*1 Amounts in parentheses indicate losses in consolidated statements of income.

*2 This accumulated other comprehensive income (loss) component is included in the computation of net periodic benefit cost for TDK's employee retirement and severance defined benefit plans that is presented in Note 4.

Tax effects allocated to each component of other comprehensive income (loss) and reclassification adjustments for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

For the nine-month ended December 31, 2018	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ (2,359)	¥ 2,685	¥ 326
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	(803)	-	(803)
Net foreign currency translation adjustments	(3,162)	2,685	(477)
Pension liability adjustments:			
Amount arising during the period	-	-	-
Reclassification adjustments for amortization	3,684	(400)	3,284
Net pension liability adjustments	3,684	(400)	3,284
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	(7)	-	(7)
Reclassification adjustment	-	-	-
Net unrealized gains (losses)	(7)	-	(7)
Other comprehensive income (loss)	¥ 515	¥ 2,285	¥ 2,800

For the nine-month ended December 31, 2019	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ (28,467)	¥ 290	¥ (28,177)
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	5,745	(773)	4,972
Net foreign currency translation adjustments	(22,722)	(483)	(23,205)
Pension liability adjustments:			
Amount arising during the period	26	7	33
Reclassification adjustments for amortization	3,756	(480)	3,276
Net pension liability adjustments	3,782	(473)	3,309
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	(2)	-	(2)
Reclassification adjustment	(7)	-	(7)
Net unrealized gains (losses)	(9)	-	(9)
Other comprehensive income (loss)	¥ (18,949)	¥ (956)	¥ (19,905)

Tax effects allocated to each component of other comprehensive income (loss) and reclassification adjustments for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

For the three-month ended December 31, 2018	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ (25,296)	¥ 273	¥ (25,023)
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	209	-	209
Net foreign currency translation adjustments	(25,087)	273	(24,814)
Pension liability adjustments:			
Amount arising during the period	-	-	-
Reclassification adjustments for amortization	1,225	(78)	1,147
Net pension liability adjustments	1,225	(78)	1,147
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	(6)	-	(6)
Reclassification adjustment	-	-	-
Net unrealized gains (losses)	(6)	-	(6)
Other comprehensive income (loss)	¥ (23,868)	¥ 195	¥ (23,673)

For the three-month ended December 31, 2019	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ 32,275	¥ (1,142)	¥ (31,133)
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	1	-	1
Net foreign currency translation adjustments	32,276	(1,142)	31,134
Pension liability adjustments:			
Amount arising during the period	142	-	142
Reclassification adjustments for amortization	1,206	(120)	1,086
Net pension liability adjustments	1,348	(120)	1,228
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	31	-	31
Reclassification adjustment	(4)	-	(4)
Net unrealized gains (losses)	27	-	27
Other comprehensive income (loss)	¥ 33,651	¥ (1,262)	¥ 32,389

13. Net Income Attributable to TDK per Share

A reconciliation of the numerators and denominators of the basic and diluted net income attributable to TDK per share calculations is as follows:

	Yen (Millions)			
	Nine-month ended December 31, 2018		Nine-month ended December 31, 2019	
	Basic	Basic	Basic	Diluted
Net income attributable to TDK	¥ 63,485	¥ 63,485	¥ 74,412	¥ 74,412
Number of shares (Thousands)				
Weighted average common shares outstanding	126,267	126,267	126,302	126,302
Incremental shares arising from the exercise of stock option	-	313	-	289
Weighted average common shares outstanding – Total	126,267	126,580	126,302	126,591
Yen				
Per common share:				
Net income attributable to TDK	¥ 502.78	¥ 501.54	¥ 589.16	¥ 587.81
Yen (Millions)				
	Three-month ended December 31, 2018		Three-month ended December 31, 2019	
	Basic	Basic	Basic	Diluted
Net income attributable to TDK	¥ 22,409	¥ 22,409	¥ 29,474	¥ 29,474
Number of shares (Thousands)				
Weighted average common shares outstanding	126,281	126,281	126,310	126,310
Incremental shares arising from the exercise of stock option	-	287	-	273
Weighted average common shares outstanding – Total	126,281	126,568	126,310	126,583
Yen				
Per common share:				
Net income attributable to TDK	¥ 177.45	¥ 177.05	¥ 233.35	¥ 232.84

The stock options issued by TDK Corporation that are vested when a certain performance condition is achieved were excluded from the diluted per share calculation of net income attributable to TDK for the three-month ended December 31, 2018 and December 31, 2019 as it was not probable that the performance condition would be achieved as of December 31, 2018 and December 31, 2019.

14. Impairment of Long-Lived Assets

For the nine-month ended December 31, 2018, impairment losses of ¥4,720 million were recorded. For the nine-month ended December 31, 2019, impairment losses of ¥242 million were recorded. These are the result of a reduction of the carrying value to the fair value because the carrying value of the long-lived assets were determined to be irrevocable due to reduction in profitability derived from lower demand.

The impairment losses are included in other operating expense (income) in the consolidated statements of income.

For the nine-month ended December 31, 2018, the impairment loss includes ¥9 million for the Passive Components segment and ¥4,711 million for the Magnetic Application Products segment. For the nine-month ended December 31, 2019, the impairment loss includes ¥8 million for the Passive Components segment, ¥227 million for the Magnetic Application Products segment and ¥7 million for the Other.

15. Sale of Business

On February 3, 2017, TDK transferred its high-frequency devices business to RF360 Holdings Singapore PTE. Ltd. (“RF360”) and its subsidiaries, and subsequently sold 51% of the common shares of RF360 held by TDK Electronics AG, a wholly owned subsidiary of TDK, to Qualcomm Global Trading PTE. Ltd. (“QGT”), which is a 100% indirect ownership subsidiary of Qualcomm Incorporated (“Qualcomm”) based on the business alliance agreement involving establishment of a joint venture concluded with Qualcomm on January 13, 2016. Contingent consideration to be recognized over several years is included in the total consideration amount, of which realized or realizable portion is recognized in other operating expense (income) of consolidated statement of income for the nine-month ended December 31, 2019. An option to put and call the remaining common shares of RF360 (49%) after 30 months after the closing date was granted to TDK and QGT, respectively. TDK exercised the option on August 30, 2019 and sold 49% of the common shares on September 16, 2019. The sales price was U.S.\$1.15 billion as stated in the option and the sales did not have a material impact on the consolidated statements of income for the nine-month and the three-month ended December 31, 2019.

16. Revenue

TDK disaggregates revenue by industry segment, product and geographic segment based on contracts with customers. The following table presents disaggregation of revenue. In accordance with the redefinition of product portfolio in this period, certain products of Inductive Devices were reclassified into Other Passive Components. The prior year's sales are also reclassified to conform to the new classification.

Detailed information of geographic segment is presented in Note 18.

Yen (millions)						
Nine-month ended December 31, 2018						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 12,538	¥ 21,742	¥ 33,808	¥ 43,213	¥ 19,764	¥ 131,065
Inductive Devices	14,936	12,784	34,129	40,801	13,067	115,717
Other Passive Components	8,606	6,619	22,075	35,905	11,537	84,742
Passive Components	36,080	41,145	90,012	119,919	44,368	331,524
Sensor Application Products	11,260	6,131	16,503	20,232	5,052	59,178
Magnetic Application Products	14,272	7,809	6,605	70,849	112,741	212,276
Energy Application Products	16,277	22,684	10,006	350,807	25,946	425,720
Other	8,202	5,647	1,421	26,481	2,294	44,045
Net Sales Total	¥ 86,091	¥ 83,416	¥ 124,547	¥ 588,288	¥ 190,401	¥ 1,072,743
Nine-month ended December 31, 2019						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 13,660	¥ 20,176	¥ 28,088	¥ 35,461	¥ 18,823	¥ 116,208
Inductive Devices	14,742	11,174	29,495	37,551	11,652	104,614
Other Passive Components	7,900	6,767	18,745	32,544	11,711	77,667
Passive Components	36,302	38,117	76,328	105,556	42,186	298,489
Sensor Application Products	10,359	6,116	14,126	20,863	7,763	59,227
Magnetic Application Products	13,854	5,522	5,405	33,651	109,421	167,853
Energy Application Products	13,882	19,721	10,831	399,392	35,528	479,354
Other	7,403	3,085	2,196	41,524	3,532	57,740
Net Sales Total	¥ 81,800	¥ 72,561	¥ 108,886	¥ 600,986	¥ 198,430	¥ 1,062,663

Yen (millions)						
Three-month ended December 31, 2018						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 4,496	¥ 6,894	¥ 10,257	¥ 14,262	¥ 6,812	¥ 42,721
Inductive Devices	5,071	4,255	10,817	12,958	4,200	37,301
Other Passive Components	2,846	2,322	6,826	10,937	3,749	26,680
Passive Components	12,413	13,471	27,900	38,157	14,761	106,702
Sensor Application Products	4,043	2,028	5,155	6,722	1,753	19,701
Magnetic Application Products	4,709	1,702	1,934	19,956	38,109	66,410
Energy Application Products	5,993	8,041	3,426	117,213	10,699	145,372
Other	2,717	1,296	364	7,677	564	12,618
Net Sales Total	¥ 29,875	¥ 26,538	¥ 38,779	¥ 189,725	¥ 65,886	¥ 350,803
Three-month ended December 31, 2019						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 4,473	¥ 6,287	¥ 8,776	¥ 11,633	¥ 6,117	¥ 37,286
Inductive Devices	4,863	3,738	9,323	12,982	3,897	34,803
Other Passive Components	2,597	2,177	5,938	11,564	3,984	26,260
Passive Components	11,933	12,202	24,037	36,179	13,998	98,349
Sensor Application Products	3,733	1,837	4,544	7,717	2,477	20,308
Magnetic Application Products	5,134	1,436	2,123	11,451	37,715	57,859
Energy Application Products	4,740	5,924	3,739	139,548	7,226	161,177
Other	2,595	1,288	729	11,897	1,432	17,941
Net Sales Total	¥ 28,135	¥ 22,687	¥ 35,172	¥ 206,792	¥ 62,848	¥ 355,634

TDK sells passive components, sensor application products, magnetic application products and energy application products to global ICT related companies, manufacturers of automobile and automotive components, manufacturers of home electrical appliances and industrial equipment. For those product sales, TDK recognizes revenue when products are transferred to the customers as the customers will gain control over the products and performance obligation is satisfied accordingly.

Transaction price that TDK receives in exchange for products transferred may include variable consideration such as sales discounts, customer privileges, and rebates based on sales volume. Variable consideration is included in the transaction price when uncertainty over the variable consideration is resolved to the extent that a significant reversal in the amount of revenue is not expected. Variable consideration is estimated based on past trend or other elements which are already known as of the transaction date, and is updated on a regular basis.

For products sales based on each contract, TDK recognized the consideration received from customers for which the performance obligation to transfer goods or services has not been satisfied as advance receipt. Amounts of advance received as of March 31, 2019 and December 31, 2019 were ¥910 million and ¥1,176 million, respectively, and included in other current liabilities in the balance sheets. Out of the advance received as of March 31, 2019,

¥774 million was recognized as revenue in the statements for the nine-month ended December 31, 2019, and ¥46 million was recognized as revenue in the statements for the three-month ended December 31, 2019. The amounts of revenue recognized from performance obligations for the nine-month and the three-month ended December 31, 2019 that had been satisfied in previous periods were not material.

There are no unsatisfied or partially unsatisfied performance obligations as of December 31, 2019. Furthermore, there is no balance of contract assets as of December 31, 2019.

17. Other operating expense (income)

Other operating expense (income) for the nine-month ended December 31, 2018 and 2019 are as follows:

	Yen (Millions)	
	Nine-month ended December 31, 2018	Nine-month ended December 31, 2019
Gain on sale of business (Note 15)	¥ (2,918)	¥ (2,539)
Impairment of long-lived assets (Note14)	4,720	242
Other operating expense (income) total	¥ 1,802	¥ (2,297)

Other operating expense (income) for the three-month ended December 31, 2018 and 2019 are as follows:

	Yen (Millions)	
	Three-month ended December 31, 2018	Three-month ended December 31, 2019
Gain on sale of business (Note 15)	¥ (875)	¥ (954)
Impairment of long-lived assets (Note14)	-	-
Other operating expense (income) total	¥ (875)	¥ (954)

18. Segment Information

Business Segment Information

Operating segments are components of TDK for which discrete financial information is available and whose operating results are regularly reviewed by management to make decisions about resources to be allocated to the segment and assess its performance.

Multiple operating segments that have similarities, including type and nature of products, production process, market and so on, are aggregated into the Passive Components segment, the Sensor Application Products segment, the Magnetic Application Products segment and the Energy Application Products segment. Operating segments which are not reportable segments are included in Other.

Principal businesses of each segment are as follows:

Segment	Principal businesses
Passive Components	Ceramic Capacitors, Aluminum Electrolytic Capacitors, Film Capacitors, Inductive Devices (Coils/Ferrite Cores/Transformers), High-Frequency Devices, Piezoelectric Material Products, Circuit Protection Components
Sensor Application Products	Temperature and Pressure Sensors, Magnetic Sensors, MEMS Sensors
Magnetic Application Products	HDD Heads, HDD Suspension Assemblies, Magnets
Energy Application Products	Energy Devices (Rechargeable Batteries), Power Supplies
Other	Mechatronics (Production Equipment), Others

Intersegment transactions in operating segments are based on arm's-length prices.

The business segment information for the nine-month ended December 31, 2018 and December 31, 2019 are as follows:

Net sales

	Yen (Millions)	
	Nine-month ended December 31,	
	2018	2019
Passive Components:		
External customers	¥ 331,524	¥ 298,489
Intersegment	2,577	2,140
	<u>334,101</u>	<u>300,629</u>
Sensor Application Products:		
External customers	59,178	59,227
Intersegment	78	137
	<u>59,256</u>	<u>59,364</u>
Magnetic Application Products:		
External customers	212,276	167,853
Intersegment	609	4,074
	<u>212,885</u>	<u>171,927</u>
Energy Application Products:		
External customers	425,720	479,354
Intersegment	9	1
	<u>425,729</u>	<u>479,355</u>
Other:		
External customers	44,045	57,740
Intersegment	23,172	19,992
	<u>67,217</u>	<u>77,732</u>
Intersegment eliminations	(26,445)	(26,344)
Total	<u>¥ 1,072,743</u>	<u>¥ 1,062,663</u>

Segment profit (loss)

	Yen (Millions)	
	Nine-month ended December 31,	
	2018	2019
Passive Components	¥ 45,110	¥ 32,382
Sensor Application Products	(14,972)	(18,038)
Magnetic Application Products	12,234	11,930
Energy Application Products	78,983	109,485
Other	(3,968)	(2,773)
Sub total	<u>117,387</u>	<u>132,986</u>
Corporate and eliminations	(22,449)	(23,746)
Operating income	<u>94,938</u>	<u>109,240</u>
Other income (deductions), net	(6,147)	584
Income before income taxes	<u>¥ 88,791</u>	<u>¥ 109,824</u>

The business segment information for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

Net sales

	Yen (Millions)	
	Three-month ended December 31,	
	2018	2019
Passive Components:		
External customers	¥ 106,702	¥ 98,349
Intersegment	885	684
	<u>107,587</u>	<u>99,033</u>
Sensor Application Products:		
External customers	19,701	20,308
Intersegment	38	79
	<u>19,739</u>	<u>20,387</u>
Magnetic Application Products:		
External customers	66,410	57,859
Intersegment	572	716
	<u>66,982</u>	<u>58,575</u>
Energy Application Products:		
External customers	145,372	161,177
Intersegment	2	1
	<u>145,374</u>	<u>161,178</u>
Other:		
External customers	12,618	17,941
Intersegment	8,535	6,139
	<u>21,153</u>	<u>24,080</u>
Intersegment eliminations	(10,032)	(7,619)
Total	<u>¥ 350,803</u>	<u>¥ 355,634</u>

Segment profit (loss)

	Yen (Millions)	
	Three-month ended December 31,	
	2018	2019
Passive Components	¥ 14,709	¥ 10,623
Sensor Application Products	(5,468)	(5,489)
Magnetic Application Products	7,827	5,182
Energy Application Products	24,635	40,535
Other	(1,212)	(2,454)
Sub total	<u>40,491</u>	<u>48,397</u>
Corporate and eliminations	(7,733)	(8,000)
Operating income	<u>32,758</u>	<u>40,397</u>
Other income (deductions), net	(1,766)	779
Income before income taxes	<u>¥ 30,992</u>	<u>¥ 41,176</u>

Segment profit (loss) consists of net sales less cost of sales, selling, general and administrative expenses and other operating expense (income) except for those attribute to Corporate.

Corporate mainly includes expenses associated with head office functions that are not allocated to operating segments.

Geographic Segment Information

The geographic segment information for the six-month ended December 31, 2018 and December 31, 2019 are as follows:

Net sales

	Yen (Millions)	
	Six-month ended December 31,	
	2018	2019
Japan	¥ 86,091	¥ 81,800
Americas	83,416	72,561
Europe	124,547	108,886
China	588,288	600,986
Asia and others	190,401	198,430
Total	<u>¥ 1,072,743</u>	<u>¥ 1,062,663</u>

The geographic segment information for the three-month ended December 31, 2018 and December 31, 2019 are as follows:

Net sales

	Yen (Millions)	
	Three-month ended December 31,	
	2018	2019
Japan	¥ 29,875	¥ 28,135
Americas	26,538	22,687
Europe	38,779	35,172
China	189,725	206,792
Asia and others	65,886	62,848
Total	<u>¥ 350,803</u>	<u>¥ 355,634</u>

Net sales are based on the location of the customers.

Major countries in each geographic area:

- (1) Americas United States of America
- (2) Europe Germany
- (3) Asia and others Philippines, Thailand, Vietnam, Korea