



Consolidated Financial Statements
for the nine-month ended and as of December 31, 2018 (in English)

On February 13, 2019, 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, 2018	December 31, 2018
Current assets:		
Cash and cash equivalents	¥ 279,624	¥ 293,514
Short-term investments	43,613	30,974
Marketable securities (Note 2 and 7)	54	56
Net trade receivables (Note 1)	304,016	338,987
Inventories (Note 1 and 3)	207,532	239,132
Other current assets (Note 1 and 6)	65,097	67,564
Total current assets	899,936	970,227
Investments in affiliates (Note 2)	143,589	150,301
Other investments in securities (Note 2 and 7)	11,651	8,462
Net property, plant and equipment	545,641	582,233
Goodwill (Note 9)	157,858	164,056
Intangible assets (Note 9)	85,531	89,983
Other assets (Note 1, 6 and 7)	61,003	57,031
Total assets	¥ 1,905,209	¥ 2,022,293

See accompanying notes to consolidated financial statements.

LIABILITIES AND EQUITY	Yen (Millions)	
	March 31, 2018	December 31, 2018
Current liabilities:		
Short-term debt	¥ 124,573	¥ 212,052
Current installments of long-term debt (Note 7)	64,566	103,422
Trade payables	226,791	204,985
Accrued expenses	159,618	198,582
Other current liabilities (Note 6)	27,489	40,248
Total current liabilities	603,037	759,289
Long-term debt, excluding current installments (Note 7)	293,880	216,597
Retirement and severance benefits	125,137	119,333
Other noncurrent liabilities (Note 6)	51,923	57,499
Total noncurrent liabilities	470,940	393,429
Total liabilities	1,073,977	1,152,718
TDK stockholders' equity:		
Common stock		
Authorized 480,000,000 shares; issued 129,590,659 shares at March 31, 2018 and December 31, 2018 outstanding 126,245,079 shares at March 31, 2018 and 126,282,107 shares at December 31, 2018	32,641	32,641
Additional paid-in capital	8,738	5,938
Legal reserve	45,366	44,225
Retained earnings (Note 1)	874,563	917,140
Accumulated other comprehensive income (loss) (Note 1, 10 and 11)	(119,492)	(119,599)
Treasury stock at cost; 3,345,580 shares at March 31, 2018 and 3,308,552 shares at December 31, 2018	(17,182)	(16,994)
Total TDK stockholders' equity	824,634	863,351
Noncontrolling interests (Note 10 and 11)	6,598	6,224
Total equity	831,232	869,575
Total liabilities and equity	¥ 1,905,209	¥ 2,022,293

**2) Consolidated statements of income
and Consolidated statements of comprehensive income (Unaudited)**

For the Nine-month ended December 31, 2017 and 2018

Consolidated statements of income

	Yen (Millions)	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Net sales (Note 1 and 16)	¥ 964,697	¥ 1,072,743
Cost of sales (Note 1, 4 and 6)	698,552	756,145
Gross profit	266,145	316,598
Selling, general and administrative expenses (Note 1 and 4)	191,685	219,858
Other operating expense (income) (Note 1)	(3,211)	1,802
Operating income	77,671	94,938
Other income (deductions):		
Interest and dividend income	4,585	5,397
Interest expense	(3,339)	(3,206)
Foreign exchange gain (loss) (Note 6)	(453)	(2,996)
Other - net (Note 1, 4 and 6)	(738)	(5,342)
Total other income (deductions)	55	(6,147)
Income before income taxes	77,726	88,791
Income taxes (Note 1)	24,908	25,122
Net income	52,818	63,669
Less: Net income attributable to noncontrolling interests	549	184
Net income attributable to TDK	¥ 52,269	¥ 63,485

Amounts per share:

	Yen	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Net income attributable to TDK per share (Note 12):		
Basic	¥ 414.12	¥ 502.78
Diluted	413.06	501.54
Cash dividends paid during the period	¥ 120.00	¥ 150.00

Consolidated statements of comprehensive income

	Yen (Millions)	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Net income	¥ 52,818	¥ 63,669
Other comprehensive income (loss), net of taxes		
Foreign currencies translation adjustments	36,047	(477)
Pension liability adjustments	2,947	3,284
Net unrealized gains (losses) on securities	246	(7)
Total other comprehensive income (loss) (Note 11):	39,240	2,800
Comprehensive income (Note 10)	92,058	66,469
Comprehensive income attributable to noncontrolling interests	677	18
Comprehensive income attributable to TDK	¥ 91,381	¥ 66,451

See accompanying notes to consolidated financial statements.

For the Three-month ended December 31, 2017 and 2018
Consolidated statements of income

	Yen (Millions)	
	Three-month ended December 31, 2017	Three-month ended December 31, 2018
Net sales (Note 1 and 16)	¥ 341,126	¥ 350,803
Cost of sales (Note 1, 4 and 6)	243,053	244,028
Gross profit	98,073	106,775
Selling, general and administrative expenses (Note 1 and 4)	64,917	74,892
Other operating expense (income) (Note 1)	(301)	(875)
Operating income	33,457	32,758
Other income (deductions):		
Interest and dividend income	1,583	1,841
Interest expense	(1,163)	(1,022)
Foreign exchange gain (loss) (Note 6)	(166)	(1,413)
Other - net (Note 1, 4 and 6)	(239)	(1,172)
Total other income (deductions)	15	(1,766)
Income before income taxes	33,472	30,992
Income taxes (Note 1)	11,701	8,584
Net income	21,771	22,408
Less: Net income attributable to noncontrolling interests	191	(1)
Net income attributable to TDK	¥ 21,580	¥ 22,409

Amounts per share:

	Yen	
	Three-month ended December 31, 2017	Three-month ended December 31, 2018
Net income attributable to TDK per share (Note 12):		
Basic	¥ 170.96	¥ 177.45
Diluted	170.51	177.05
Cash dividends paid during the period	¥ 60.00	¥ 80.00

Consolidated statements of comprehensive income (loss)

	Yen (Millions)	
	Three-month ended December 31, 2017	Three-month ended December 31, 2018
Net income	¥ 21,771	¥ 22,408
Other comprehensive income (loss), net of taxes		
Foreign currencies translation adjustments	21,667	(24,814)
Pension liability adjustments	991	1,147
Net unrealized gains (losses) on securities	493	(6)
Total other comprehensive income (loss) (Note 11):	23,151	(23,673)
Comprehensive income (loss) (Note 10)	44,922	(1,265)
Comprehensive income attributable to noncontrolling interests (loss)	273	(40)
Comprehensive income attributable to TDK (loss)	¥ 44,649	¥ (1,225)

See accompanying notes to consolidated financial statements.

3) Consolidated statements of cash flows (Unaudited)

	Yen (Millions)	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Cash flows from operating activities:		
Net income	¥ 52,818	¥ 63,669
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	67,197	79,769
Impairment of long-lived assets	973	4,720
Loss (gain) on securities, net	(295)	3,756
Changes in assets and liabilities:		
Decrease (increase) in trade receivables	(74,430)	(35,698)
Decrease (increase) in inventories	(42,973)	(35,985)
Increase (decrease) in trade payables	50,669	4,943
Increase (decrease) in accrued expenses	(201)	4,453
Decrease (increase) in other assets and liabilities, net	(23,724)	904
Other - net	941	(162)
Net cash provided by operating activities	<u>30,975</u>	<u>90,369</u>
Cash flows from investing activities:		
Capital expenditures	(132,964)	(117,239)
Proceeds from sales of tangible and intangible assets	8,082	3,668
Proceeds from sale and maturity of short-term investments	143,768	75,387
Payment for purchase of short-term investments	(123,442)	(61,620)
Proceeds from sale and maturity of securities	24,117	204
Payment for purchase of securities	(947)	(785)
Proceeds from sale of business, net of cash transferred	18,047	7,530
Acquisition of subsidiaries, net of cash acquired	(138,847)	(1,502)
Other - net	(1,474)	(1,450)
Net cash used in investing activities	<u>(203,660)</u>	<u>(95,807)</u>
Cash flows from financing activities:		
Proceeds from debt with maturities longer than three months	146,924	3,722
Repayment of debt with maturities longer than three months	(43,384)	(46,556)
Net increase (decrease) in debt with maturities of three months or less	33,483	86,608
Dividends paid	(15,119)	(18,928)
Acquisition of noncontrolling interests	(8,796)	(3,590)
Other - net	(133)	(58)
Net cash provided by financing activities	<u>112,975</u>	<u>21,198</u>
Effect of exchange rate changes on cash and cash equivalents	8,732	(1,870)
Net increase (decrease) in cash and cash equivalents	(50,978)	13,890
Cash and cash equivalents at beginning of period	330,388	279,624
Cash and cash equivalents at end of period	<u>¥ 279,410</u>	<u>¥ 293,514</u>

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

Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09 "Revenue from Contracts with Customers".

This ASU requires an entity to recognize revenue when promised goods or services are transferred to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. TDK adopted this ASU from April 1, 2018 by applying the modified retrospective method to all contracts and recognized the cumulative-effect as an adjustment to the opening retained earnings.

By recognizing revenue from contracts with customers based on this standard, the timing of revenue recognition has changed for certain transactions compared to the revenue recognized based on the previous revenue recognition standard. As a result, compared to the results based on the previous revenue recognition standard, net sales, cost of sales, and income taxes increased by ¥710 million, ¥369 million, and ¥51 million, respectively, in statements of income for the nine-month ended December 31, 2018. On the other hand, they decreased by ¥551 million, ¥328 million, and ¥65 million, respectively, in statements of income for the three-month ended December 31, 2018. Furthermore, net trade receivables and deferred tax assets increased by ¥2,314 million and ¥53 million, respectively in the balance sheets as of December 31, 2018. On the other hand, inventories and other current assets decreased by ¥1,714 million and ¥133 million, respectively.

The cumulative-effects of the adoption of this ASU did not have a material impact on the opening retained earnings as of April 1, 2018 and TDK's results of operations and financial position. Further detail is presented in Note 16.

Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, FASB issued ASU 2016-01 “Recognition and Measurement of Financial Assets and Financial Liabilities”. This ASU requires that equity investments that do not result in consolidation and are not accounted for under the equity method be measured at fair value with changes in fair value recognized in net income. TDK adopted this ASU from April 1, 2018 by applying the modified retrospective method to recognize a cumulative-effect adjustment to the opening retained earnings.

As a result, TDK recognized a cumulative-effect of ¥3,083 million as an increase in the opening retained earnings as of April 1, 2018 related to equity investments classified as available-for-sale securities, which was previously recognized as net of tax unrealized gain in accumulated other comprehensive income.

Intra-Entity Transfers of Assets Other than Inventory

In October 2016, FASB issued ASU 2016-16 “Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other than Inventory”. This ASU eliminates the exception to defer the income tax consequence of intra-entity transfers of assets other than inventory until the assets are ultimately sold to an outside party and requires the recognition of tax consequence when those transfers occur. TDK adopted this ASU from April 1, 2018 by applying the modified retrospective method to recognize a cumulative-effect adjustment to the opening retained earnings.

As a result, TDK recognized a cumulative-effect adjustment of ¥6,374 million as a decrease of the opening retained earnings as of April 1, 2018.

Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost

In March 2017, FASB issued ASU 2017-07 “Recognition and Measurement of Financial Assets and Financial Liabilities”. This ASU requires an entity to disaggregate service cost component from other components of net benefit cost and report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in other income (deductions) separately from the service cost component. This ASU restricts only the service cost component to be eligible for capitalization (for example, as a cost of internally manufactured inventory). This ASU is applied retrospectively for the disaggregation of the service cost component and the other components of net benefit cost, and prospectively for the capitalization of the service cost component of net benefit cost. TDK adopted this ASU from April 1, 2018.

As a result, ¥1,438 million and ¥491 million from cost of sales, ¥1,519 million and ¥521 million from selling, general and administrative expenses and ¥606 million and ¥207 million from research and development expenses included in selling, general and administrative expenses were reclassified to other income (deductions) in the consolidated statement of income for the nine-month and the three-month ended December 31, 2017. Further detail is presented in Note 4. The adoption of this ASU, which restricts only the service cost component to be eligible for capitalization, did not have a material impact on TDK’s results of operations and financial position.

(d) Other operating expense (income)

Other operating expense (income) for the nine-month ended December 31, 2017 and 2018 are as follows:

	Yen (Millions)	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Gain on sale of business (Note 15)	¥ (4,184)	¥ (2,918)
Impairment of long-lived assets (Note 13)	973	4,720
Other operating expense (income) total	¥ (3,211)	¥ 1,802

Other operating expense (income) for the three-month ended December 30, 2017 and 2018 are as follows:

	Yen (Millions)	
	Three-month ended December 31, 2017	Three-month ended December 31, 2018
Gain on sale of business (Note 15)	¥ (1,249)	¥ (875)
Impairment of long-lived assets (Note 13)	948	-
Other operating expense (income) total	¥ (301)	¥ (875)

(e) Subsequent Events

TDK has evaluated the subsequent events through February 12, 2019, the date on which the consolidated financial statements are available to be issued.

(f) 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, 2018.

2. Marketable Securities and Investments in Securities

Marketable securities and investments in securities as of March 31, 2018 and December 31, 2018 are as follows:

	Yen (Millions)	
	March 31, 2018	December 31, 2018
Marketable securities		
Debt securities	¥ 54	¥ 56
Total Marketable securities	54	56
Investments in affiliates	143,589	150,301
Other investments in securities:		
Debt securities	109	104
Marketable equity securities	9,581	6,398
Nonmarketable equity securities	1,961	1,960
Total other investments in securities	11,651	8,462
Total	¥ 155,294	¥ 158,819

Debt securities include available-for-sale securities. Information with respect to such securities as of March 31, 2018 and December 31, 2018 is as follows:

As of March 31, 2018	Yen (Millions)			Fair Value
	Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	
Marketable securities:				
Government bonds	¥ 54	¥ -	¥ 0	¥ 54
Investments:				
Commercial papers	7	102	-	109
Public-utility bonds	0	-	-	0
Total	¥ 61	¥ 102	¥ 0	¥ 163

As of December 31, 2018	Yen (Millions)			Fair Value
	Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	
Marketable securities (Debt securities):				
Government bonds	¥ 57	¥ -	¥ 0	¥ 56
Investments (Debt securities):				
Commercial papers	2	102	-	104
Public-utility bonds	0	-	-	0
Total	¥ 59	¥ 102	¥ 0	¥ 160

The proceeds from sale and maturity of debt securities classified as available-for-sale securities were ¥22,185 million and ¥353 million for the nine-month ended and the three-month ended December 31, 2017, respectively. 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 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, 2018, 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 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 ¥721 million as of December 31, 2018. TDK did not record an impairment or other adjustments for the nine-month ended December 31, 2018.

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 are as follows:

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

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 are as follows:

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

3. Inventories

Inventories as of March 31, 2018 and December 31, 2018, are summarized as follows:

	Yen (Millions)	
	March 31, 2018	December 31, 2018
Finished goods	¥ 77,486	¥ 98,100
Work in process	51,159	55,495
Raw materials	78,887	85,537
Total	¥ 207,532	¥ 239,132

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, 2017 and December 31, 2018 consist of the following components:

	Yen (Millions)	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Service cost-benefits earned during the period	¥ 6,157	¥ 6,266
Interest cost on projected benefit obligation	2,806	2,605
Expected return on plan assets	(3,100)	(3,510)
Amortization of actuarial loss	4,299	3,948
Amortization of prior service cost (benefit)	(1,048)	(272)
Net periodic benefit cost	¥ 9,114	¥ 9,037

In net periodic benefit cost for TDK's employee retirement and severance defined benefit plans, ¥6,157 million and ¥6,266 million of service cost is included in cost of sales and sales and general administrative expense for the nine-month ended December 31, 2017

and December 31, 2018, respectively. Other elements except service cost are included in other - net of other income (deductions) and those losses were ¥2,957 million and ¥2,771 million for the nine-month ended December 31, 2017 and December 31, 2018, respectively.

Net periodic benefit cost for TDK's employee retirement and severance defined benefit plans for the three-month ended December 31, 2017 and December 31, 2018 consist of the following components:

	Yen (Millions)	
	Three-month ended December 31, 2017	Three-month ended December 31, 2018
Service cost-benefits earned during the period	¥ 2,071	¥ 2,065
Interest cost on projected benefit obligation	948	862
Expected return on plan assets	(1,037)	(1,174)
Amortization of actuarial loss	1,452	1,310
Amortization of prior service cost (benefit)	(351)	(88)
Net periodic benefit cost	¥ 3,083	¥ 2,975

In net periodic benefit cost for TDK's employee retirement and severance defined benefit plans, ¥2,071 million and ¥2,065 million of service cost is included in cost of sales and sales and general administrative expense for the three-month ended December 31, 2017 and December 31, 2018, respectively. Other elements except service cost are included in other - net of other income (deductions) and those losses were ¥1,012 million and ¥910 million for the three-month ended December 31, 2017 and December 31, 2018, respectively.

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, 2018 and December 31, 2018, are as follows:

	Yen (Millions)	
	March 31, 2018	December 31, 2018
Guarantees to third parties on bank loans of employees	¥ 769	¥ 635

As of December 31, 2018, 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 are no gains (losses) reclassified from other comprehensive income (loss) to earnings. Also, there is no ineffective portion and amount excluded from effectiveness testing.

(2) Derivatives not designated as hedging instruments

TDK uses forward foreign exchange contracts, nondeliverable forward contracts (NDF), 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 on the consolidated statements of income and consolidated statements of comprehensive income (loss) for the nine-month ended December 31, 2017 and December 31, 2018 are as follows:

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

	Yen (Millions)	
	Gains (losses) recognized in other comprehensive income on derivative (effective portion)	
	Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Forward foreign exchange contracts	¥ (1,126)	¥ (3,448)
Borrowings in local currency	258	(2,856)
Total	¥ (868)	¥ (6,304)

(2) Derivatives not designated as hedging instruments

		Yen (Millions)	
		Nine-month ended December 31, 2017	Nine-month ended December 31, 2018
Forward foreign exchange contracts	Foreign exchange gain (loss)	¥ 4,296	¥ (4,423)
Nondeliverable forward contracts (NDF)	Foreign exchange gain (loss)	(655)	-
Currency swap contracts	Foreign exchange gain (loss)	26	591
Interest rate swap contracts	Other income (deductions)-Other-net	101	(64)
Currency option contracts	Foreign exchange gain (loss)	(54)	(135)
Commodity forward contracts	Cost of sales	36	208
Total		¥ 3,723	¥ (3,823)

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, 2017 and December 31, 2018 are as follows:

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

	Yen (Millions)	
	Gains (losses) recognized in other comprehensive income on derivative (effective portion)	
	Three-month ended December 31, 2017	Three-month ended December 31, 2018
Forward foreign exchange contracts	¥ (185)	¥ (1,562)
Borrowings in local currency	(162)	(1,542)
Total	¥ (347)	¥ (3,104)

(2) Derivatives not designated as hedging instruments

		Yen (Millions)	
		Three-month ended December 31, 2017	Three-month ended December 31, 2018
Forward foreign exchange contracts	Foreign exchange gain (loss)	¥619	¥ (1,117)
Nondeliverable forward contracts (NDF)	Foreign exchange gain (loss)	(132)	-
Currency swap contracts	Foreign exchange gain (loss)	49	(690)
Interest rate swap contracts	Other income (deductions)-Other-net	200	(76)
Currency option contracts	Foreign exchange gain (loss)	4	29
Commodity forward contracts	Cost of sales	15	77
Total		¥755	¥(1,777)

Notional amounts and fair value of derivative financial instruments as of March 31, 2018 and December 31, 2018 are as follows:

Yen (Millions)					
March 31, 2018					
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	¥ 135,530	¥ 173	Other current assets	¥ 1,183	Other current liabilities
Borrowings in local currency	63,744	-	-	-	-
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	¥ 82,896	¥ 273	Other current assets	¥ 248	Other current liabilities
Currency swap contracts	20,866	18 678	Other current assets Other assets	90 32	Other current liabilities Other liabilities
Interest rate swap contracts	31,872	293	Other assets	-	-
Commodity forward contracts	157	-	-	3	Other current liabilities

Yen (Millions)					
December 31, 2018					
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	¥ 136,450	¥ 2,369	Other current assets	¥ 6,576	Other current liabilities
Borrowings in local currency	66,600	-	-	-	-
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	¥ 82,359	¥ 244	Other current assets	¥ 594	Other current liabilities
Currency swap contracts	22,638	6 1,210	Other current assets Other assets	72 -	Other current liabilities -
Interest rate swap contracts	33,300	229	Other current assets	-	-
Commodity forward contracts	392	134	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, 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, 2018 and December 31, 2018, are summarized as follows:

As of March 31, 2018	Yen (Millions)	
	Carrying amount	Estimated fair value
Assets:		
Marketable securities	¥ 54	¥ 54
Other investments in securities and other assets	25,132	25,132
Liability:		
Long-term debt, including current portion (excluding lease obligation)	(352,736)	(350,950)
<hr/>		
As of December 31, 2018	Yen (Millions)	
	Carrying amount	Estimated fair value
Assets:		
Marketable securities	¥ 56	¥ 56
Other investments in securities and other assets	22,879	22,879
Liability:		
Long-term debt, including current portion (excluding lease obligation)	(314,172)	(313,316)

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, 2018 and December 31, 2018 are as follows:

As of March 31, 2018	Yen (Millions)			Total
	Level 1	Level 2	Level 3	
Assets:				
Marketable securities (debt securities):				
Government bonds	¥ 54	¥ -	¥ -	¥ 54
Derivative contracts:				
Forward foreign exchange contracts	-	446	-	446
Currency swap contracts	-	696	-	696
Interest rate swap contracts	-	293	-	293
Investments (Debt securities):				
Commercial papers	-	109	-	109
Public-utility bonds	0	-	-	0
Investments (Equity securities):				
Manufacturing companies	5,731	-	-	5,731
Other	2,659	-	-	2,659
Investments (Mutual funds)	1,191	-	-	1,191
Rabbi trust investments	5,920	-	-	5,920
Total	¥ 15,555	¥ 1,544	¥ -	¥ 17,099
Liabilities:				
Derivative contracts:				
Forward foreign exchange contracts	¥ -	¥ 1,431	¥ -	¥ 1,431
Currency swap contracts	-	122	-	122
Commodity forward contracts	-	3	-	3
Total	¥ -	¥ 1,556	¥ -	¥ 1,556

As of December 31, 2018	Yen (Millions)			
	Level 1	Level 2	Level 3	Total
Assets:				
Marketable securities (Debt securities):				
Government bonds	¥ 56	¥ -	¥ -	¥ 56
Derivative contracts:				
Forward foreign exchange contracts	-	2,613	-	2,613
Currency swap contracts	-	1,216	-	1,216
Interest rate swap contracts	-	229	-	229
Commodity forward contracts	-	134	-	134
Investments (Debt securities):				
Commercial papers	-	104	-	104
Public-utility bonds	0	-	-	0
Investments (Equity securities):				
Manufacturing companies	2,782	-	1,239	4,021
Other	2,356	-	-	2,356
Investments (Mutual funds)	1,260	-	-	1,260
Rabbi trust investments	5,845	-	-	5,845
Total	¥ 12,299	¥ 4,296	¥ 1,239	¥ 17,834
Liabilities:				
Derivative contracts:				
Forward foreign exchange contracts	¥ -	¥ 7,170	¥ -	¥ 7,170
Currency swap contracts	-	72	-	72
Total	¥ -	¥ 7,242	¥ -	¥ 7,242

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 are as follows:

	Yen (Millions)
	Nine-month ended December 31, 2018
Opening Balance	¥ -
Reclassification*	1,186
Net income (loss) (Realized or unrealized):	
Other Comprehensive Income(loss)	53
Ending Balance	<u>¥ 1,239</u>

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 are as follows:

	Yen (Millions)
	Three-month ended December 31, 2018
Opening Balance	¥ 1,268
Reclassification*	-
Net income (loss) (Realized or unrealized):	
Other Comprehensive Income(loss)	(29)
Ending Balance	<u>¥ 1,239</u>

*As a result of the adoption of ASU2016-01, certain investments (nonmarketable equity securities) were measured at fair value on a recurring basis and classified as Level_3.

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, 2017 and 2018 are as follows.

	Yen (Millions)			
	Nine-month ended December 31, 2017			
	Total gains (losses)	Level 1	Level 2	Level 3
Assets:				
Long-lived assets (Property, plant and equipment)	¥ (973)	-	-	¥ 370
	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, 2017, the book value of long-lived assets (property, plant and equipment) of ¥1,343 million was written down to its fair value of ¥370 million. 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. As a result of the above, impairment loss of ¥973 million caused by other-than-temporary declines in fair values during the nine-month ended December 31, 2017 was included in the consolidated statements of income.

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. Goodwill and Other Intangible Assets

The components of acquired intangible assets excluding goodwill as of March 31, 2018 and December 31, 2018 are as follows:

As of March 31, 2018	Yen (Millions)		
	Gross Carrying Amount	Accumulated Amortization	Net Amount
Amortizable intangible assets:			
Patent	¥ 24,185	¥ 9,216	¥ 14,969
Customer relationships	24,328	19,112	5,216
Software	36,727	16,065	20,662
Unpatented technologies	41,789	21,919	19,870
Other	11,267	2,971	8,296
Total	¥ 138,296	¥ 69,283	¥ 69,013
Nonamortizable intangible assets:			
Trademark	¥ 3,452		¥ 3,452
In-process research and development	12,834		12,834
Other	232		232
Total	¥ 16,518		¥ 16,518
As of December 31, 2018	Yen (Millions)		
	Gross Carrying Amount	Accumulated Amortization	Net Amount
Amortizable intangible assets:			
Patent	¥ 26,590	¥ 8,288	¥ 18,302
Customer relationships	24,437	19,749	4,688
Software	39,948	17,087	22,861
Unpatented technologies	44,156	25,018	19,138
Other	12,039	3,417	8,622
Total	¥ 147,170	¥ 73,559	¥ 73,611
Nonamortizable intangible assets:			
Trademark	¥ 3,452		¥ 3,452
In-process research and development	12,688		12,688
Other	232		232
Total	¥ 16,372		¥ 16,372

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, 2018 was ¥9,234 million.

As a result of the completion of the allocation of the acquisition cost of Chirp Microsystems Inc. during the nine-month ended December 31, 2018, the carrying amount of goodwill related to the Sensor Application Products segment was modified to ¥2,297 million and the modified amounts for in-process research and development of nonamortizable intangible was ¥770 million.

The detail of the acquisitions is presented in Note 14.

10. Equity

The changes in the carrying amount of stockholders' equity, noncontrolling interests and total equity for the nine-month ended December 31, 2017 and December 31, 2018 are as follows:

	Yen (Millions)		
	Stockholders' equity	Noncontrolling Interests	Total equity
March 31, 2017	¥ 793,614	¥ 8,504	¥ 802,118
Equity transaction of consolidated subsidiaries and other	(6,400)	(1,977)	(8,377)
Comprehensive income:			
Net income	52,269	549	52,818
Other comprehensive income (loss), net of taxes:			
Foreign currency translation adjustments	35,919	128	36,047
Pension liability adjustments	2,947	0	2,947
Net unrealized gains (losses) on securities	246	-	246
Total other comprehensive income	39,112	128	39,240
Comprehensive income	91,381	677	92,058
Dividends	(15,145)	(313)	(15,458)
December 31, 2017	¥ 863,450	¥ 6,891	¥ 870,341

	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 (Note 1)	181	-	181
Cumulative-effect from adoption of ASU 2016-01 (Note 1)	-	-	-
Cumulative-effect from adoption of ASU 2016-16 (Note 1)	(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 (loss)	66,451	18	66,469
Dividends	(18,939)	(21)	(18,960)
December 31, 2018	¥ 863,351	¥ 6,224	¥ 869,575

Net income attributable to TDK and transfers (to) from noncontrolling interests for the nine-month ended December 31, 2017 and December 31, 2018 are as follows:

	Yen (Millions)	
	Nine-month ended	
	December 31,	
	2017	2018
Net income attributable to TDK	¥ 52,269	¥ 63,485
Decrease in TDK's additional paid-in capital for purchase of Amperex Technology Ltd.'s common shares from third parties	(6,893)	(2,787)
Increase in TDK's additional paid-in capital for purchase of Tronics Microsystems SA's common shares from third parties	0	-
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 in TDK's additional paid-in capital for purchase of SolidGear Corporation's common shares from third parties	-	3
Net transfers (to) from noncontrolling interests	(6,893)	(2,811)
Changes arising from net income attributable to TDK and transfers (to) from noncontrolling interests	¥ 45,376	¥ 60,674

11. Other Comprehensive Income (Loss)

The changes in the carrying amount of accumulated other comprehensive income (loss) for the nine-month ended December 31, 2017 and December 31, 2018 are as follows:

	Yen (Millions)			
	Foreign currency translation adjustments	Pension liability adjustments	Net unrealized gains (losses) on securities	Total
March 31, 2017	¥ (40,789)	¥ (71,421)	¥ 3,635	¥ (108,575)
Equity transaction of consolidated subsidiaries and other	73	-	-	73
Other comprehensive income (loss) before reclassifications	36,047	29	256	36,332
Amounts reclassified from accumulated other comprehensive income (loss)	-	2,918	(10)	2,908
Other comprehensive income (loss)	36,047	2,947	246	39,240
Other comprehensive income (loss) attributable to noncontrolling interests	128	0	-	128
December 31, 2017	¥ (4,797)	¥ (68,474)	¥ 3,881	¥ (69,390)

	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 (Note 1)	-	-	(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)

The reclassifications out of accumulated other comprehensive income (loss) for the six-month ended December 31, 2017 and December 31, 2018 are as follows:

For the nine-month ended December 31,	Yen (Millions)		Affected line items in consolidated statements of income
	2017	2018	
Foreign currency translation:			
	¥ -	¥ 27	Selling and general administrative expense
	-	776	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	-	803	Net of tax
Pension liability adjustments:			
	(3,260)	(3,684)	Other - net of other income (deductions)*2
	342	400	Tax (expense) or benefit
	(2,918)	(3,284)	Net of tax
Net unrealized gains (losses) on securities:			
	10	-	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	10	-	Net of tax
Total amount reclassified, net of tax	¥ (2,908)	¥ (2,481)	

*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, 2017 and December 31, 2018 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		
	2017	2018	
Foreign currency translation:			
	¥ -	¥ (209)	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	-	(209)	Net of tax
Pension liability adjustments:			
	(1,104)	(1,225)	Other - net of other income (deductions)*2
	113	78	Tax (expense) or benefit
	(991)	(1,147)	Net of tax
Net unrealized gains (losses) on securities:			
	9	-	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	9	-	Net of tax
Total amount reclassified, net of tax	¥ (982)	¥ (1,356)	

*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 three-month ended December 31, 2017 and December 31, 2018 are as follows:

For the nine-month ended December 31, 2017	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ 34,557	¥ 1,490	¥ 36,047
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	-	-	-
Net foreign currency translation adjustments	34,557	1,490	36,047
Pension liability adjustments:			
Amount arising during the period	29	(0)	29
Reclassification adjustments for amortization	3,260	(342)	2,918
Net pension liability adjustments	3,289	(342)	2,947
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	347	(91)	256
Reclassification adjustment	(10)	-	(10)
Net unrealized gains (losses)	337	(91)	246
Other comprehensive income (loss)	¥ 38,183	¥ 1,057	¥ 39,240

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

Tax effects allocated to each component of other comprehensive income (loss) and reclassification adjustments for the nine-month ended December 31, 2017 and December 31, 2018 are as follows:

For the three-month ended December 31, 2017	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ 21,964	¥ (297)	¥ 21,667
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	-	-	-
Net foreign currency translation adjustments	21,964	(297)	21,667
Pension liability adjustments:			
Amount arising during the period	0	0	0
Reclassification adjustments for amortization	1,104	(113)	991
Net pension liability adjustments	1,104	(113)	991
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	721	(219)	502
Reclassification adjustment	(9)	-	(9)
Net unrealized gains (losses)	712	(219)	493
Other comprehensive income (loss)	¥ 23,780	¥ (629)	¥ 23,151

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)

12. 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, 2017		Nine-month ended December 31, 2018	
	Basic	Diluted	Basic	Diluted
Net income attributable to TDK	¥ 52,269	¥ 52,269	¥ 63,485	¥ 63,485
	Number of shares (Thousands)			
Weighted average common shares outstanding	126,218	126,218	126,267	126,267
Incremental shares arising from the exercise of stock option	-	323	-	313
Weighted average common shares outstanding – Total	126,218	126,541	126,267	126,580
	Yen			
Per common share:				
Net income attributable to TDK	¥ 414.12	¥ 413.06	¥ 502.78	¥ 501.54
	Yen (Millions)			
	Three-month ended December 31, 2017		Three-month ended December 31, 2018	
	Basic	Diluted	Basic	Diluted
Net income attributable to TDK	¥ 21,580	¥ 21,580	¥ 22,409	¥ 22,409
	Number of shares (Thousands)			
Weighted average common shares outstanding	126,225	126,225	126,281	126,281
Incremental shares arising from the exercise of stock option	-	334	-	287
Weighted average common shares outstanding – Total	126,225	126,559	126,281	126,568
	Yen			
Per common share:				
Net income attributable to TDK	¥ 170.96	¥ 170.51	¥ 177.45	¥ 177.05

For the six-month and the three-month ended December 31, 2017, certain stock options issued by TDK Corporation were excluded from the diluted per share calculation of net income attributable to TDK as the effect would have been antidilutive. The stock options issued by TDK Corporation that are vested when a certain performance condition is achieved were also excluded from the diluted per share calculation of net income attributable to TDK for the nine-month and the three-month ended December 31, 2018 as it was not probable that the performance condition would be achieved as of December 31, 2018.

13. Impairment of Long-Lived Assets

For the nine-month and the three-month ended December 31, 2017, impairment losses of ¥973 million and ¥948 million, respectively, were recorded. For the nine-month ended December 31, 2018, impairment losses of ¥4,720 million were recorded. These are the result of a reduction of the carrying value of the long-lived assets to the fair value because of a reduction in profitability derived from lower demand. The impairment losses are mainly included in other operating expense(income) in the consolidated statements of income.

The breakdown of impairment losses for the nine-month ended December 31, 2017 and December 31, 2018 are as follows:

	Yen (Millions)	
	Nine-month ended December 31,	
	2017	2018
Passive Components	¥ 9	¥ 9
Sensor Application Products	-	-
Magnetic Application Products	87	4,711
Energy Application Products	703	-
Other	8	-
Sub total	807	4,720
Corporate and eliminations	166	-
Total	¥ 973	¥ 4,720

The breakdown of impairment losses for the three-month ended December 31, 2017 and December 31, 2018 are as follows:

	Yen (Millions)	
	Three-month ended December 31,	
	2017	2018
Passive Components	¥ 4	¥ -
Sensor Application Products	-	-
Magnetic Application Products	67	-
Energy Application Products	703	-
Other	8	-
Sub total	782	-
Corporate and eliminations	166	-
Total	¥ 948	¥ -

14. Acquisition

(1) InvenSense, Inc. (“InvenSense”)

On May 18, 2017 (“acquisition date”), TDK acquired 96,253 thousand shares (100% of equity interest) of InvenSense at a cost of ¥142,758 million, which was paid in cash, in accordance with an acquisition agreement dated December 21, 2016. As a result, InvenSense and its subsidiaries became consolidated subsidiaries of TDK Corporation.

The acquisition-related costs of ¥1,263 million were recognized as a part of selling, general and administrative expenses.

InvenSense is headquartered in San Jose, California, U.S.A., and its primary businesses are development, fabless-manufacture and sales of inertial sensors, acceleration sensors, angular velocity sensors, magnetic compasses, voice sensors etc. and control software.

Through the acquisition of InvenSense, TDK will be able to strengthen its product line-ups and technologies, which is expected to enable TDK to become a stronger player in broad based sensor solutions for IoT, automotive and ICT by accelerating the sensor product roadmap to offer innovative next generation products and platforms. In addition, sensor fusion, the combination of various sensor technologies and software, creates products with enhanced added value for customers across multiple fields.

The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date. The purchase price allocation had been completed as of March 31, 2018.

	Yen (millions)
	Fair values
Current assets	38,048
Net property, plant and equipment	4,154
Intangible assets	30,170
Investments in securities and Other assets	654
Total assets	73,026
Current liabilities	27,679
Noncurrent liabilities	2,929
Total liabilities	30,608
Net assets acquired	42,418
Goodwill	100,340
Total	142,758

Other intangible assets acquired mainly include technologies of ¥15,775 million subject to amortization and in process research and development of ¥12,915 million not subject to amortization. TDK had estimated the amortization period for technologies to be 8 years. Goodwill recognized of ¥100,340 million was attributable primarily to expected synergies from combining operations of InvenSense and TDK. The goodwill is not deductible for tax purpose.

Although TDK included the results of operations of InvenSense subsequent to the acquisition date in its consolidated financial statements, the results were not material. The effect of the acquisition to net sales and net income attributable to TDK for the nine-month ended December 31, 2017 as though the acquisition had occurred at the beginning of the year ended March 31, 2018 was also not material.

(2) Chirp Microsystems Inc. (“Chirp”)

On February 28, 2018 (“acquisition date”), TDK acquired 29,368 thousand shares (100 percent of equity interest) of Chirp at a cost of ¥3,015 million, which was paid in cash in accordance with a share acquisition agreement. As a result, Chirp became a consolidated subsidiary of TDK Corporation.

Chirp is headquartered in California, U.S.A., and its primary businesses are development, design and supply of high-performance ultrasonic 3D-sensing solutions. Through the acquisition of Chirp, TDK plans to further accelerate TDK's sensor and actuator business.

The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date. The purchase price allocation had been completed as of the date on which the quarterly report for 3rd quarter of 123rd term was issued.

	<u>Yen (millions)</u>
	<u>Fair values</u>
Current assets	200
Net property, plant and equipment and Intangible assets	774
Other assets	218
Total assets	<u>1,192</u>
Current liabilities	258
Noncurrent liabilities	216
Total liabilities	<u>474</u>
Net assets acquired	<u>718</u>
Goodwill	2,297
Total	<u>3,015</u>

Intangible assets acquired mainly include in-process research and development of ¥ 770 million which is not subject to amortization. Goodwill recognized of ¥2,297 million was attributable primarily to expected synergies from combining operations of Chirp and TDK. The goodwill is not deductible for tax purpose.

Although TDK included the results of operations of Chirp subsequent to the acquisition date in its consolidated financial statements, the results were not material. The effect of the acquisition to net sales and net income attributable to TDK for the nine-month ended December 31, 2017 as though the acquisition had occurred at the beginning of the year ended March 31, 2018 was also not material.

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 EPCOS 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. An option to put and call the remaining common shares (49%) of RF360 after 30 months after the closing date is held by TDK and QGT, respectively. 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, 2018. The remaining common shares (49%) of RF360 Holdings is recognized in consolidated balance sheet as investments in affiliates.

16. Revenue

TDK disaggregates revenue by industry segment, product and geographic segment based on contracts with customers. The following table presents disaggregation of revenue. Detailed information of geographic segment is presented in Note 17. TDK adopted ASU 2014-09 “Revenue from Contracts with Customers” by applying the modified retrospective method to recognize a cumulative-effect adjustment to the opening retained earnings and all contracts are in scope. Therefore, the figures for the nine-month and the three-month ended December 31, 2017 are not restated.

	Yen (millions)					
	Nine-month ended					
	December 31, 2017					
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 11,256	¥ 19,316	¥ 30,694	¥ 36,553	¥ 17,728	¥ 115,547
Inductive Devices	15,462	13,839	33,328	41,569	14,173	118,371
Other Passive Components	8,732	4,214	19,967	35,354	9,624	77,891
Passive Components	35,450	37,369	83,989	113,476	41,525	311,809
Sensor Application Products	9,971	4,657	15,340	23,990	4,112	58,070
Magnetic Application Products	17,716	10,266	10,214	90,444	82,085	210,685
Energy Application Products	14,705	22,412	8,947	274,030	22,356	342,450
Other	7,279	7,939	1,631	19,229	5,605	41,683
Net Sales Total	¥ 85,121	¥ 82,603	¥ 120,121	¥ 521,169	¥ 155,683	¥ 964,697
	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	15,145	14,602	34,434	43,372	14,869	122,422
Other Passive Components	8,397	4,801	21,770	33,334	9,735	78,037
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

Yen (millions)						
Three-month ended December 31, 2017						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 4,016	¥ 6,872	¥ 10,547	¥ 12,671	¥ 5,983	¥ 40,089
Inductive Devices	5,437	4,670	11,389	14,095	4,693	40,284
Other Passive Components	2,987	1,424	6,349	14,908	3,136	28,894
Passive Components	12,440	12,966	28,375	41,674	13,812	109,267
Sensor Application Products	3,940	1,645	5,036	9,045	1,925	21,591
Magnetic Application Products	6,745	3,442	4,553	29,087	28,704	72,531
Energy Application Products	5,341	8,273	3,173	102,644	5,535	124,966
Other	2,556	3,262	753	4,679	1,521	12,771
Net Sales Total	¥ 31,022	¥ 29,588	¥ 41,890	¥ 187,129	¥ 51,497	¥ 341,126
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	5,139	4,994	10,911	13,617	4,823	39,484
Other Passive Components	2,778	1,583	6,732	10,278	3,126	24,497
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

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, 2018 and December 31, 2018 were ¥1,307 million and ¥932 million, respectively, and included in other current liabilities in the balance sheets. Out of the advance received as of March 31, 2018,

¥865 million was recognized as revenue in the statements for the nine-month ended December 31, 2018, and ¥0 million was recognized as revenue in the statements for the three-month ended December 31, 2018. The amounts of revenue recognized from performance obligations for the nine-month and the three-month ended December 31, 2018 that had been satisfied in previous periods were not material.

There are no unsatisfied or partially unsatisfied performance obligations as of December 31, 2018. Furthermore, there is no balance of contract assets as of December 31, 2018.

17. 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.

In addition, TDK newly established Energy Solution Business Company on April 1, 2018, and established the Energy Application Products segment from the three-month ended June 30, 2018 in accordance with the change in the management category of certain businesses. Energy Devices (Rechargeable Batteries) of the Film Application Products segment, Power Supplies of the Magnetic Application Products segment and certain products of Other were reclassified into newly established reporting segment of the Energy Application Products from the three-month ended June 30, 2018.

Furthermore, in accordance with the reorganization for the three-month ended June 30, 2018, certain products of the Passive Components segment were reclassified into Other, certain products of Other were reclassified into the Passive Components segment and certain products of the Sensor Application Products were reclassified into Other.

In accordance with the above, the prior year's figures are also reclassified to conform to the new segmentation.

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, 2017 and December 31, 2018 are as follows:

Net sales

	Yen (Millions)	
	Nine-month ended December 31,	
	2017	2018
Passive Components:		
External customers	¥ 311,809	¥ 331,524
Intersegment	3,208	2,577
	<u>315,017</u>	<u>334,101</u>
Sensor Application Products:		
External customers	58,070	59,178
Intersegment	65	78
	<u>58,135</u>	<u>59,256</u>
Magnetic Application Products:		
External customers	210,685	212,276
Intersegment	144	609
	<u>210,829</u>	<u>212,885</u>
Energy Application Products:		
External customers	342,450	425,720
Intersegment	2	9
	<u>342,452</u>	<u>425,729</u>
Other:		
External customers	41,683	44,045
Intersegment	25,899	23,172
	<u>67,582</u>	<u>67,217</u>
Intersegment eliminations	(29,318)	(26,445)
Total	<u>¥ 964,697</u>	<u>¥ 1,072,743</u>

Segment profit (loss)

	Yen (Millions)	
	Nine-month ended December 31,	
	2017	2018
Passive Components	¥ 36,662	¥ 45,110
Sensor Application Products	(14,038)	(14,972)
Magnetic Application Products	15,576	12,234
Energy Application Products	59,381	78,983
Other	1,059	(3,968)
Sub total	<u>98,640</u>	<u>117,387</u>
Corporate and eliminations	(20,969)	(22,449)
Operating income	<u>77,671</u>	<u>94,938</u>
Other income (deductions), net	55	(6,147)
Income before income taxes	<u>¥ 77,726</u>	<u>¥ 88,791</u>

The business segment information for the three-month ended December 31, 2017 and December 31, 2018 are as follows:

Net sales

	Yen (Millions)	
	Three-month ended December 31,	
	2017	2018
Passive Components:		
External customers	¥ 109,267	¥ 106,702
Intersegment	1,174	885
	<u>110,441</u>	<u>107,587</u>
Sensor Application Products:		
External customers	21,591	19,701
Intersegment	8	38
	<u>21,599</u>	<u>19,739</u>
Magnetic Application Products:		
External customers	72,531	66,410
Intersegment	50	572
	<u>72,581</u>	<u>66,982</u>
Energy Application Products:		
External customers	124,966	145,372
Intersegment	-	2
	<u>124,966</u>	<u>145,374</u>
Other:		
External customers	12,771	12,618
Intersegment	8,124	8,535
	<u>20,895</u>	<u>21,153</u>
Intersegment eliminations	(9,356)	(10,032)
Total	<u>¥ 341,126</u>	<u>¥ 350,803</u>

Segment profit (loss)

	Yen (Millions)	
	Three-month ended December 31,	
	2017	2018
Passive Components	¥ 13,552	¥ 14,709
Sensor Application Products	(3,720)	(5,468)
Magnetic Application Products	6,883	7,827
Energy Application Products	24,327	24,635
Other	(198)	(1,212)
Sub total	<u>40,844</u>	<u>40,491</u>
Corporate and eliminations	(7,387)	(7,733)
Operating income	<u>33,457</u>	<u>32,758</u>
Other income (deductions), net	15	(1,766)
Income before income taxes	<u>¥ 33,472</u>	<u>¥ 30,992</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, 2017 and December 31, 2018 are as follows:

Net sales

	Yen (Millions)	
	Six-month ended December 31,	
	2017	2018
Japan	¥ 85,121	¥ 86,091
Americas	82,603	83,416
Europe	120,121	124,547
China	521,169	588,288
Asia and others	155,683	190,401
Total	¥ 964,697	¥ 1,072,743

The geographic segment information for the three-month ended December 31, 2017 and December 31, 2018 are as follows:

Net sales

	Yen (Millions)	
	Three-month ended December 31,	
	2017	2018
Japan	¥ 31,022	¥ 29,875
Americas	29,588	26,538
Europe	41,890	38,779
China	187,129	189,725
Asia and others	51,497	65,886
Total	¥ 341,126	¥ 350,803

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 Thailand, Philippines, India, Korea