

Financial Section 2017

For the Year Ended March 31, 2017

Hitachi Zosen Corporation



Independent Auditor's Report

To the Board of Directors of Hitachi Zosen Corporation:

We have audited the accompanying consolidated financial statements of Hitachi Zosen Corporation and its consolidated subsidiaries, which comprise the consolidated balance sheets as at March 31, 2017 and 2016, and the consolidated statements of income, statements of comprehensive income, statements of changes in net assets and statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in Japan. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, while the objective of the financial statement audit is not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Hitachi Zosen Corporation and its consolidated subsidiaries as at March 31, 2017 and 2016, and their financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2017 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

KPM9 AZSA LLC

July 21, 2017 Osaka, Japan

CONSOLIDATED BALANCE SHEETS

Hitachi Zosen Corporation and Consolidated Subsidiaries ${\rm At\,March\,31,\,2016\,and\,2017}$

	Millio	ns of yen	Thousands of U.S. dollars (Note 1)
	2016	2017	2017
ASSETS			
Current assets:			
Cash and time deposits (Note 16)	¥ 51,585	¥ 52,282	\$ 466,013
Receivables:			
Trade notes and accounts:			
Nonconsolidated subsidiaries and affiliates	832	858	7,648
Other (Note 6)	138,445	133,330	1,188,430
Other	5,071	5,702	50,824
Allowance for doubtful receivables	(3,411)	(3,811)	(33,969)
	140,937	136,079	1,212,933
Marketable securities (Note 3)	10	_	_
Inventories (Note 4)	30,978	28,650	255,370
Deferred tax assets (Note 21)	5,873	6,095	54,328
Prepaid expenses and other current assets (Note 5)	12,476	7,622	67,938
Total current assets	241,859	230,728	2,056,582
Property, plant and equipment, at cost (Note 5):			
Land (Notes 7 and 24)	61,315	57,864	515,768
Buildings and structures (Note 24)	80,370	81,101	722,890
Machinery and equipment	105,434	110,375	983,822
Lease assets (Note 17)	1,627	1,304	11,623
Construction in progress	1,429	3,550	31,643
	250,175	254,194	2,265,746
Less accumulated depreciation	(130,368)	(135,277)	(1,205,785)
Property, plant and equipment, net	119,807	118,917	1,059,961
Intangible assets:			
Goodwill	3,073	4,655	41,492
Other intangible assets	4,643	4,582	40,842
Total intangible assets	7,716	9,237	82,334
Investments and other noncurrent assets:			
Investments in nonconsolidated subsidiaries and affiliates (Notes 3 and 5)	8,449	9,177	81,799
Investments in securities (Notes 3 and 5)	15,677	15,464	137,838
Long-term loans receivable (Note 5)	37	33	294
Net defined benefit assets (Note 20)	759	1,351	12,042
Deferred tax assets (Note 21)	3,095	2,905	25,894
Other investments and noncurrent assets	5,217	6,326	56,386
Allowance for doubtful receivables	(990)	(671)	(5,981)
Total investments and other noncurrent assets	32,244	34,585	308,272
Deferred assets	23	7	62
Total assets			
200200/	¥ 401,649	¥ 393,474	\$ 3,507,211

		Millions	s of yer	n	U.	ousands of S. dollars Note 1)
		2016		2017		2017
LIABILITIES						
Current liabilities:						
Notes and accounts payable:	**		**			
Nonconsolidated subsidiaries and affiliates	¥	543	¥	391	\$	3,485
Other		62,006		61,046		544,131
Short-term borrowings (Note 5)		6,150		30,191		269,106
Current portion of long-term debt (Note 5)		22,506		24,925		222,168
Accrued expenses		51,960		49,150		438,096
Accrued income taxes		2,849		2,527		22,524
Advances received on work in progress		18,728		10,687		95,258
Reserve for product warranties		4,902		4,897		43,649
Reserve for losses on construction contracts (Note 4)		5,498		3,250		28,969
Other current liabilities		8,912		14,672		130,778
Total current liabilities		184,054		201,736		1,798,164
Long-term liabilities:		 100		T 0.040		100010
Long-term debt, less current portion (Note 5)		75,406		52,319		466,343
Asset retirement obligations (Note 23)		967		1,041		9,279
Deferred tax liabilities (Note 21)		790		918		8,183
Net defined benefit liability (Note 20)		17,700		17,168		153,026
Directors' and corporate auditors' severance and retirement benefits		401		412		3,672
Other noncurrent liabilities (Note 5)		1,665		2,063		18,388
Total long-term liabilities		96,929		73,921		658,891
Total liabilities		280,983		275,657		2,457,055
CONTINGENT LIABILITIES (Note 6)						
NET ASSETS (Note 8):						
Common stock						
Authorized -400,000,000 shares						
Issued -170,214,843 shares at March 31, 2016		45,442		45,442		405,045
-170,214,843 shares at March 31, 2017						
Capital surplus		12,231		8,893		79,267
Retained earnings		57,329		61,286		546,270
Treasury stock, at cost -1,650,068 shares in 2016						
-1,659,814 shares in 2017		(1,008)		(1,013)		(9,029)
Net unrealized holding gains (losses) on securities		489		480		4,278
Net unrealized holding gains (losses) on hedging derivatives		(96)		(366)		(3,262)
Land revaluation difference (Note 7)		(50)		(8)		(71)
Foreign currency translation adjustments		3,136		2,231		19,886
Remeasurements of defined benefit plans		(3,315)		(1,253)		(11,169)
Non-controlling interests in consolidated subsidiaries		6,508		2,125		18,941
Total net assets		120,666		117,817		1,050,156
Total liabilities and net assets	¥	401,649	¥	393,474	\$	3,507,211

CONSOLIDATED STATEMENTS OF INCOME

${\it Hitachi\ Zosen\ Corporation\ and\ Consolidated\ Subsidiaries} \\ For\ the\ Years\ Ended\ March\ 31,\ 2016\ and\ 2017$

Thousands of

				U.	.S. dollars	
		Million	s of yer	ı	((Note 1)
		2016		2017		2017
Net sales	¥	387,044	¥	399,331	\$	3,559,417
Cost of sales (Note 9)		322,766		334,325		2,979,989
Gross profit		64,278		65,006		579,428
Selling, general and administrative expenses		49,165		50,059		446,199
Operating income		15,113		14,947		133,229
Other income (expenses):						
Interest and dividend income		393		262		2,335
Interest expense		(992)		(796)		(7,095)
Foreign exchange gain (loss)		(532)		313		2,790
Equity in net income (loss) of nonconsolidated subsidiaries and affiliates		(1,269)		749		6,676
Liquidated damages		(480)		(2,495)		(22,239)
Impairment loss (Note 10)		(1,786)		_		_
Gain on sale of property (Note 13)		_		1,425		12,702
Loss on overseas business (Note 12)		_		(2,961)		(26,393)
Provision for loss on guarantees (Note 11)		(1,406)		_		_
Other, net		40		(1,755)		(15,643)
Total other expenses		(6,032)		(5,258)		(46,867)
Profit before income taxes and non-controlling interests		9,081		9,689		86,362
Income taxes (Note 21)						
Current		3,478		3,383		30,154
Deferred		(1,298)		(51)		(455)
Profit		6,901		6,357		56,663
Profit attributable to non-controlling interests		1,052		492		4,386
Profit attributable to shareholders of Hitachi Zosen	¥	5,849	¥	5,865	\$	52,277
					_	.S. dollars
		Ye	en			(Note 1)
Amounts per share (Note 2)		2016		2017		2017

See the accompanying Notes to the Consolidated Financial Statements.

34.96

12.00

34.79

12.00

\$

0.31

0.11

Net income

Cash dividends

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Hitachi Zosen Corporation and Consolidated Subsidiaries For the Years Ended March 31, 2016 and 2017

Thousands of

U.S. dollars (Note 1) Millions of yen 2016 2017 2017 6,901 6,357 Profit before non-controlling interests 56,663 Other comprehensive income (847)Net unrealized holding gains (losses) on securities (255)(95)Net unrealized holding gains (losses) on hedging derivatives 763 (400)(3,565)Foreign currency translation adjustments (538)(917)(8,174)Remeasurements of defined benefit plans (61)2,133 19,012 Equity of nonconsolidated subsidiaries and affiliates (703)(33)(294)accounted for using equity method (794) 6,132 688 Total other comprehensive income (Note 14) 6,107 7,045 Total comprehensive income 62,795 Comprehensive income attributable to Shareholders of Hitachi Zosen 5,004 6,794 60,558 Non-controlling interests 1,103 251 2,237

CONSOLIDATED STATEMENTS OF CHANGES IN NET ASSETS

Hitachi Zosen Corporation and Consolidated Subsidiaries For the Years Ended March 31, 2016 and 2017

For the year ended March 31,2016

(Millions of yen)

				Sha	areholders' eq	uity	
	Comr	non stock	Capital surplus		Retained earnings	Treasury stock (Note 15)	Total shareholders' equity
Balance at beginning of year	¥	45,442	¥ 9,576	¥	53,089	¥ (411)	¥ 107,696
Changes of items during the period							
Cash dividends					(1,671)		(1,671)
Increase by share exchanges			1,531			397	1,928
Profit attributable to shareholders of Hitachi Zosen					5,849		5,849
Treasury stock disposed, net			0			0	0
Treasury stock purchased, net						(994)	(994)
Change in treasury shares of parent arising from transactions with non-controlling shareholders			1,124				1,124
Reversal of land revaluation difference					62		62
Net changes of items other than shareholders' equity							
Total changes during the period		_	2,655		4,240	(597)	6,298
Balance at end of year	¥	45,442	¥ 12,231	¥	57,329	¥ (1,008)	¥ 113,994

		Non-							
	Net unrealized holding gains (losses) on securities	Net unrealized holding gains (losses) on hedging derivatives	Land revaluation difference (Note 7)	Foreign currency translation adjustments	Remeasure- ments of defined benefit plans	Total other accumulated comprehensive income	controlling interests in conslidated subsidiaries	Total net assets	
Balance at beginning of year	¥ 853	¥ (844)	¥ (4)	¥ 4,266	¥ (3,201)	¥ 1,070	¥ 8,765	¥ 117,531	
Changes of items during the period									
Cash dividends								(1,671)	
Increase by share exchanges								1,928	
Profit attributable to shareholders of Hitachi Zosen								5,849	
Treasury stock disposed, net								0	
Treasury stock purchased, net								(994)	
Change in treasury shares of parent arising from transactions with non-controlling shareholders								1,124	
Reversal of land revaluation difference			(46)			(46)		16	
Net changes of items other than shareholders' equity	(364)	748	_	(1,130)	(114)	(860)	(2,257)	(3,117)	
Total changes during the period	(364)	748	(46)	(1,130)	(114)	(906)	(2,257)	3,135	
Balance at end of year	¥ 489	¥ (96)	¥ (50)	¥ 3,136	¥ (3,315)	¥ 164	¥ 6,508	¥ 120,666	

For the year ended March 31,2017

(Millions of yen)

			Sł	har	eholders' equi	ty		
	Common stoo	k C	apital surplus		Retained earnings	Treasury stock (Note 15)	sha	Total reholders' equity
Balance at beginning of year	¥ 45,44	2 ¥	12,231	¥	57,329	¥ (1,008)	¥	113,994
Changes of items during the period								
Cash dividends					(2,022)			(2,022)
Profit attributable to shareholders of Hitachi Zosen					5,865			5,865
Treasury stock disposed, net			(0)			0		0
Treasury stock purchased, net						(5)		(5)
Change of scope of equity method					156			156
Change in treasury shares of parent arising from transactions with non-controlling shareholders			(3,338)					(3,338)
Reversal of land revaluation difference					(42)			(42)
Net changes of items other than shareholders' equity								
Total changes during the period		-	(3,338)		3,957	(5)		614
Balance at end of year	¥ 45,44	2 ¥	8,893	¥	61,286	¥ (1,013)	¥	114,608

		Othe	er accumulated c	omprehensive in	come		N		
	Net unrealized holding gains (losses) on securities	Net unrealized holding gains (losses) on hedging derivatives	Land revaluation difference (Note 7)	Foreign currency translation adjustments	Remeasure- ments of defined benefit plans	Total other accumulated comprehensive income	Non- controlling interests in consolidated subsidiaries	Total net assets	
Balance at beginning of year	¥ 489	¥ (96)	¥ (50)	¥ 3,136	¥ (3,315)	¥ 164	¥ 6,508	¥ 120,666	
Changes of items during the period									
Cash dividends								(2,022)	
Profit attributable to shareholders of Hitachi Zosen								5,865	
Treasury stock disposed, net								0	
Treasury stock purchased, net								(5)	
Change of scope of equity method								156	
Change in treasury shares of parent arising from transactions with non-controlling shareholders								(3,338)	
Reversal of land revaluation difference			42			42		_	
Net changes of items other than shareholders' equity	(9)	(270)	_	(905)	2,062	878	(4,383)	(3,505)	
Total changes during the period	(9)	(270)	42	(905)	2,062	920	(4,383)	(2,849)	
Balance at end of year	¥ 480	¥ (366)	¥ (8)	¥ 2,231	¥ (1,253)	¥ 1,084	¥ 2,125	¥ 117,817	

For the year ended March 31,2017

(Thousands of U.S. dollars (Note 1))

				Sł	nar	eholders' equi	ty			
	Con	nmon stock	Cap	ital surplus		Retained earnings		sury stock Vote 15)	sha	Total areholders' equity
Balance at beginning of year	\$	405,045	\$	109,020	\$	510,999	\$	(8,984)	\$	1,016,080
Changes of items during the period										
Cash dividends						(18,023)				(18,023)
Profit attributable to shareholders of Hitachi Zosen						52,277				52,277
Treasury stock disposed, net				(0)				0		0
Treasury stock purchased, net								(45)		(45)
Change of scope of equity method						1,391				1,391
Change in treasury shares of parent arising from transactions with non-controlling shareholders				(29,753)						(29,753)
Reversal of land revaluation difference						(374)				(374)
Net changes of items other than shareholders' equity										
Total changes during the period		_		(29,753)		35,271		(45)		5,473
Balance at end of year	\$	405,045	\$	79,267	\$	546,270	\$	(9,029)	\$	1,021,553

		Othe	er accumulated co	omprehensive in	come		N		
	Net unrealized holding gains (losses) on securities	Net unrealized holding gains (losses) on hedging derivatives	Land revaluation difference (Note 7)	Foreign currency translation adjustments	Remeasure- ments of defined benefit plans	Total other accumulated comprehensive income	Non- controlling interests in consolidated subsidiaries	Total net assets	
Balance at beginning of year	\$ 4,358	\$ (856)	\$ (445)	\$ 27,952	\$ (29,548)	\$ 1,461	\$ 58,009	\$ 1,075,550	
Changes of items during the period									
Cash dividends								(18,023)	
Profit attributable to shareholders of Hitachi Zosen								52,277	
Treasury stock disposed, net								0	
Treasury stock purchased, net								(45)	
Change of scope of equity method								1,391	
Change in treasury shares of parent arising from transactions with non-controlling shareholders								(29,753)	
Reversal of land revaluation difference			374			374		_	
Net changes of items other than shareholders' equity	(80)	(2,406)	_	(8,066)	18,379	7,827	(39,068)	(31,241)	
Total changes during the period	(80)	(2,406)	374	(8,066)	18,379	8,201	(39,068)	(25,394)	
Balance at end of year	\$ 4,278	\$ (3,262)	\$ (71)	\$ 19,886	\$ (11,169)	\$ 9,662	\$ 18,941	\$ 1,050,156	

CONSOLIDATED STATEMENTS OF CASH FLOWS

 ${\it Hitachi\ Zosen\ Corporation\ and\ Consolidated\ Subsidiaries}$ For the Years Ended March 31, 2016 and 2017}

Thousands of

			U.S. dollars
	Millior	ns of yen	(Note 1)
	2016	2017	2017
Cash flows from operating activities:			
Profit before income taxes and non-controlling interests Adjustments to reconcile profit before income taxes and non-controlling interests	¥ 9,081	¥ 9,689	\$ 86,362
to net cash provided by operating activities:			
Depreciation	8,429	8,536	76,085
Impairment loss	1,786	, –	, <u> </u>
Amortization of goodwill	817	426	3,797
Increase in allowance for doubtful receivables	1,668	26	232
Increase of net defined benefit liability	1,596	1,505	13,415
Decrease in reserve for losses on construction contracts	(71)	(2,249)	(20,046)
Interest and dividend income	(393)	(262)	(2,335)
Interest expense	992	796	7,095
Foreign exchange loss (gain)	532	(313)	(2,790)
Equity in net loss (gain) of nonconsolidated subsidiaries and affiliates	1,269	(749)	(6,676)
Gain on sale of property	(= ===)	(1,425)	(12,702)
Decrease (increase) in trade receivables	(2,756)	5,301	47,250
Decrease (increase) in inventories	(4,860)	2,345	20,902
Decrease (increase) in other current assets	(8,044)	4,402	39,237
Increase (decrease) in trade payables Decrease in accrued expenses	3,679 (5,809)	(1,473) (2,331)	(13,130) (20,777)
Increase (decrease) in advances received	3,802	(7,712)	(68,741)
Increase (decrease) in other current liabilities	(1,063)	4,391	39,139
Other	(306)	(449)	(4,002)
Subtotal	10,349	20,454	182,315
Interest and dividends received	405	292	2,603
Interest paid	(951)	(753)	(6,712)
Income taxes paid	(1,655)	(2,689)	(23,968)
Net cash and cash equivalents provided by operating activities	8,148	17,304	154,238
Cash flows from investing activities:			
Increase in time deposits	(2,204)	(2,042)	(18,201)
Decrease in time deposits	1,847	2,312	20,608
Purchase of property, plant and equipment	(8,249)	(8,042)	(71,682)
Proceeds from sales of property, plant and equipment	5,671	5,456	48,632
Purchase of intangible assets	(771)	(974)	(8,682)
Purchase of investments in securities	(271)	(679)	(6,052)
Payments for investments in capital of affiliates	(495)	(176)	(1,569)
Purchase of shares of subsidiaries resulting in change in scope of consolidation (Note 16)	· <u> </u>	(3,825)	(34,094)
Other	806	971	8,655
Net cash and cash equivalents used in investing activities	(3,666)	(6,999)	(62,385)
Cash flows from financing activities:			
Increase in short-term borrowings, net	946	24,051	214,377
Proceeds from long-term debt	19,713	1,700	15,153
Payment of long-term debt	(24,786)	(22,537)	(200,883)
Redemption of bonds	(10,000)	_	_
Cash dividends paid	(1,671)	(2,022)	(18,023)
Payments from changes in ownership interests in subsidiaries			
that do not result in change in scope of consolidation	(107)	(9,578)	(85,373)
Other	(43)	(31)	(276)
Net cash and cash equivalents used in financing activities	(15,948)	(8,417)	(75,025)
Effect of exchange rate changes on cash and cash equivalents	196	(712)	(6,346)
Net increase (decrease) in cash and cash equivalents	(11,270)	1,176	10,482
Cash and cash equivalents at beginning of year	60,770	49,672	442,749
Cash and cash equivalents of newly consolidated subsidiaries, at beginning of year	172		
Cash and cash equivalents at end of year (Note 16)	¥ 49,672	¥ 50,848	\$ 453,231

Notes to the Consolidated Financial Statements

1. Basis of Presenting Consolidated Financial Statements

The accompanying consolidated financial statements of Hitachi Zosen Corporation ("the Company") and its consolidated subsidiaries (together, "the Companies") have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Law and its related accounting regulations and in conformity with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to application and disclosure requirements from International Financial Reporting Standards.

The accounts of the Company's overseas subsidiaries are based on their accounting records maintained in conformity with generally accepted accounting principles prevailing in the respective countries of domicile. As discussed in Note 2, the accounts of the consolidated overseas subsidiaries for the year ended March 31, 2017 were prepared in accordance with either International Financial Reporting Standards or U.S. generally accepted accounting principles. The accompanying consolidated financial statements have been reformatted and translated into English (with some expanded descriptions) from the consolidated financial statements of the Company prepared in accordance with Japanese GAAP and filed with the appropriate Local Finance Bureau of the Ministry of Finance as required by the Financial Instruments and Exchange Law. Certain supplementary information included in the statutory Japanese language consolidated financial statements is not presented in the accompanying consolidated financial statements.

The translations of the Japanese yen amounts into U.S. dollars are included solely for the convenience of readers outside Japan, using the prevailing exchange rate at March 31, 2017, which was ¥112.19 to U.S. \$1.00. The translations should not be construed as representations that the Japanese yen amounts have been, could have been or could in the future be converted into U.S. dollars at this or any other rate of exchange.

2. Significant Accounting Policies

a) Consolidation

The accompanying consolidated financial statements include the accounts of the Company and significant companies over which the Company has power of control through majority voting rights or the existence of certain other conditions evidencing control by the Company. Investments in nonconsolidated subsidiaries and affiliates over which the Company has the ability to exercise significant influence over operating and financial policies are accounted for by the equity method.

The consolidated financial statements consist of the accounts of the Company and its 109 significant subsidiaries that meet the control requirements for consolidation. Intercompany transactions and accounts have been eliminated in the consolidation.

Investments in 12 affiliates are accounted for by the equity method.

The consolidated financial statements include the accounts of 17 consolidated subsidiaries with the fiscal year-ends of December 31. Appropriate adjustments were made for significant transactions during the period from December 31 to March 31, the date of the consolidated financial statements. In addition, the fiscal year-ends of Osmoflo Holdings Pty Ltd, Osmoflo Holdings Singapore Pte Ltd and their 10 subsidiaries are mainly June 30. In preparation of the consolidated financial statements for these companies, financial statements based on provisional settlements executed as of the consolidated closing date are used. The closing dates of the other consolidated subsidiaries are consistent with the closing date of the consolidated financial statements.

b) Cash Flow Statements

In preparing the consolidated statements of cash flows, cash on hand, readily-available deposits and highly liquid debt investments with maturities not exceeding three months at the time of purchase are considered to be cash and cash equivalents.

c) Translation of Foreign Currencies

Foreign currency monetary assets and liabilities are translated into Japanese yen at the year-end rates, and the resulting translation gains and losses are included in the current statement of income.

Assets and liabilities of the consolidated overseas subsidiaries are translated into Japanese yen using the exchange rates prevailing at the end of each fiscal year. Revenue and expenses are translated at the average rates of exchange for the respective years. The resulting foreign currency translation adjustments are shown as a separate component of net assets, net of the non-controlling interests in the consolidated subsidiaries, in the consolidated balance sheets.

d) Revenue Recognition

For construction for which the portion completed by the end of the fiscal year can be determined with certainty, the Companies record revenues by the percentage of completion method, in which the progress of work is measured by the percentage of cost method. For other construction, the Companies record revenues at the time of delivery using the completed contract method.

e) Allowance for Doubtful Receivables

For receivables from insolvent customers who are undergoing bankruptcy or other collection proceedings or who are in a similar financial condition, the allowance for doubtful accounts is provided based on an evaluation of each customer's financial condition and an estimation of recoverable amounts due to the existence of security interests or guarantees.

For other receivables, the allowance for doubtful receivables is provided based on the Companies' actual rate of bad debts in the past.

f) Securities

Held-to-maturity debt securities are stated at amortized cost. Equity securities issued by subsidiaries and affiliated companies which are not consolidated or accounted for by the equity method are stated at moving average cost. Available-for-sale securities with available fair market values are stated at fair market value. Unrealized holding gains and unrealized holding losses on these securities are reported, net of applicable income taxes, as a separate component of net assets. Realized gains and losses on the sale of such securities are calculated using moving average cost. Securities with no available fair market value which are classified as available-for-sale securities are stated at moving average cost.

If the market value of held-to-maturity debt securities, equity securities issued by nonconsolidated subsidiaries and affiliated companies or available-for-sale securities declines significantly, the securities are stated at fair market value, and the difference between fair market value and the carrying amount is recognized as loss in the period of the decline. If the fair market value of equity securities issued by nonconsolidated subsidiaries or affiliated companies not on the equity method is not readily available, the securities are written down to net asset value with a corresponding charge in the statement of income in the event net asset value declines significantly. In these cases, the fair market value or the net asset value will be the carrying amount of the securities at the beginning of the next year.

g) Derivatives and Hedge Accounting

Derivative financial instruments are stated at fair value and changes in the fair values are recognized as gains and losses unless the derivative financial instruments are used for hedging purposes.

(1) Hedge accounting

The Companies defer recognition of gains and losses resulting from changes in the fair value of derivative financial instruments until the related losses and gains on the hedged items are recognized. However, if interest rate swap contracts are used as hedges and meet certain hedging criteria, the net amount to be paid or received under the interest rate swap contract is added to or deducted from the interest on the asset or liability for which the swap contract was executed.

(2) Hedging instruments and hedged items

Hedging instruments: Interest rate swap contracts

Hedged items: Interest on borrowings and bonds payable

Hedging instruments: Forward foreign exchange contracts and other derivatives

Hedged items: Trade receivables and expected trade receivables denominated in foreign

currencies from exports of products, trade payables and expected trade payables denominated in foreign currencies from imports of materials

(3) Hedging policy

The Companies use derivative financial instruments to hedge future risks of interest rate fluctuations and future risks of foreign exchange fluctuations in accordance with their internal policies and procedures.

(4) Evaluation of hedge effectiveness

The Companies evaluate hedge effectiveness by comparing the cumulative changes in cash flows and foreign currency exchange or the changes in fair value of hedged items and the corresponding changes in the hedging derivative instruments.

(5) Control over use of derivatives

When the accounting sections of group companies use derivatives, they follow the group companies' basic policies approved at the management strategy conferences and the group companies' administrative rules.

h) Inventories

Work in progress is composed of the accumulated production costs of contracts. The accumulated production costs include direct production costs, factory and engineering overhead and other costs incurred. And it is stated at the lower of the accumulated production costs of contracts or net realizable value at the end of the fiscal year.

Raw materials and supplies are stated at the lower of the costs, which are generally determined by the specific identification method or the moving average method, or net realizable value at the end of the fiscal year.

i) Depreciation and Amortization

Depreciation, except for that of leased assets, is calculated, with minor exceptions, by the declining balance method. However, buildings, excluding facilities attached to buildings, acquired since April 1, 1998 and facilities attached to buildings and structures acquired since April 1, 2016 are depreciated using the straight-line method.

Amortization of intangible assets, except for leased assets, is calculated by the straight-line method based on the useful life of the asset.

Depreciation for leased assets is calculated by the straight-line method over the term of the lease to the residual value of zero.

i) Software Costs

The Companies include internal use software in intangible assets and depreciate it using the straight-line method over the estimated useful life of five years.

k) Goodwill

Goodwill is amortized by the straight-line method over five or ten years.

1) Deferred Assets

Bond issue expenses are amortized by the straight-line method over the repayment period of the bond.

m) Reserve for Product Warranty

The reserve for product warranty, which is based on the experience of the past two years, is provided to cover possible warranty costs incurred after delivery or completion of construction.

n) Reserve for Losses on Construction Contracts

To provide for losses on construction contracts, the Companies record an estimated amount at the end of the fiscal year.

o) Employees' Severance and Retirement Benefits

In calculating projected benefit obligation, the benefit formula basis is used as the method of attributing expected benefit obligation to the period up to the end of this fiscal year.

Unrecognized past service costs are recognized by the straight-line method over a certain term within the average remaining service period of the employees (from 5 to 12 years).

Unrecognized actuarial differences are recognized as income or expenses from the following fiscal year by the straight-line method over a certain term within the average remaining service period of the employees (from 5 to 12 years) of the respective fiscal years.

p) Directors' and Corporate Auditors' Severance and Retirement Benefits

To provide for payment of retirement benefits to directors and corporate auditors, the Companies record the required amount based on internal regulations for retirement benefits for directors and corporate auditors at the end of the fiscal year.

q) Research and Development Expenses

Research and development expenses are charged to selling, general and administrative expenses and manufacturing costs as incurred. Research and development expenses amounted to \\$6,526 million and \\$7,090 million (\$63,196 thousand) for the years ended March 31, 2016 and 2017, respectively.

r) Income Taxes

The provision for income taxes is based on income for financial statement purposes. Deferred income taxes are recognized for loss carryforwards and temporary differences between financial and tax reporting purposes. Income taxes comprise corporation tax, enterprise tax and prefectural and municipal inhabitants taxes.

The Company and some of the consolidated subsidiaries have adopted the Japanese tax regulations allowing the Company to file under a consolidated taxation system.

s) Amounts Per Share

Basic net income per share is calculated based on the weighted average number of shares of common stock outstanding during each year.

Diluted net income per share is not shown because there were no dilutive securities.

t) Changing Accounting Policies

Due to amendments to the Japanese Corporation Tax Act, the Company and its domestic subsidiaries adopted "Practical Solution on a change in depreciation method due to Tax Reform 2016" (Practice Issue Task Force No.32, June 17, 2016) from the current fiscal year and changed the depreciation method for buildings, facilities attached to buildings and structures, which were acquired since April 1, 2016, from the declining balance method to the straight-line method.

The effect of this change on consolidated statement of income for the fiscal year ended March 31, 2017 was insignificant.

u) Revised Implementation Guidance on Recoverability of Deferred Tax Assets

The Company and its domestic subsidiaries adopted "Revised Implementation Guidance on Recoverability of Deferred Tax Assets" (ASBJ Guidance No. 26, March 28, 2016) from the current fiscal year.

v) Reclassifications

Certain reclassifications were made to previously reported amounts for the fiscal year ended March 31, 2016 to conform to the fiscal year ended March 31, 2017 presentation. These reclassifications had no effect on previously reported net profit or total shareholders' equity.

3. Securities

a) The following tables summarize acquisition costs, book values and fair values of securities with available fair values as of March 31, 2016 and 2017:

(1) Held-to-maturity debt securities:

At March 31, 2016

Securities with available fair values exceeding book values:

		Millions of yen								
	Boo	k value	Fai	r value	Difference					
Others	¥	23	¥	24	¥	1				

At March 31, 2017

Securities with available fair values exceeding book values:

		Millions of yen								
	Boo	k value	Fai	r value		Difference				
Others	¥	24	¥	24	¥	0				
		,	Thousands							
	Boo	k value	Fai	r value		Difference				
Others	\$	214	\$	214	\$	0				

(2) Available-for-sale securities:

At March 31, 2016

Securities with book values (fair values) exceeding acquisition costs:

		Millions of yen						
	Book value		•	uisition cost	Difference			
Equity securities	¥	831	¥	423	¥	408		
Others		603		534		69		
Total	¥	1,434	¥	957	¥	477		

Securities with book values (fair values) not exceeding acquisition costs:

			Millio	ons of yen			
	Book value		-	uisition cost	Difference		
Equity securities	¥	544	¥	600	¥	(56)	
Others		9		10		(1)	
Total	¥	55 3	¥	610	¥	(57)	

At March 31, 2017

Securities with book values (fair values) exceeding acquisition costs:

		Millions of yen						
	Book value		•	uisition cost	Difference			
Equity securities	¥	1,144	¥	879	¥	265		
Others		601		566		35		
Total	¥	1,745	¥	1,445	¥	300		

Securities with book values (fair values) not exceeding acquisition costs:

		Millions of yen						
	Book value		_	isition ost	Difference			
Equity securities	¥	7	¥	17	¥	(10)		
Others		9		10		(1)		
Total	¥	16	¥	27	¥	(11)		

Securities with book values (fair values) exceeding acquisition costs:

		7	s of U.S. dolla	llars			
	Book value		Acc	quisition cost	Difference		
Equity securities	\$	10,197	\$	7,835	\$	2,362	
Others		5,357		5,045		312	
Total	\$	15,554	\$ 12,880		\$	2,674	

Securities with book values (fair values) not exceeding acquisition costs:

		7	Thousands	of U.S. dolla	rs		
	Book value		_	uisition ost	Difference		
Equity securities	\$	63	\$	152	\$	(89)	
Others		80		89		(9)	
Total	\$	143	\$	241	\$	(98)	

Note. There was no available fair market price for non-listed equity securities, and it was considered extremely difficult to determine the fair value. As a result, these securities were not included in the table (2) Available-for-sale securities.

b) Sales of available-for-sale securities in the year ended March 31, 2016 and 2017 were as follows:

Year ended March 31, 2016

		Sales	Gains on sales			Losses on sales	
Equity securities	¥	742	¥	326	¥	_	
Others		19		_		2	
Total	¥	761	¥	326	¥	2	
Year ended March 31, 2017							
			Milli	ons of yen			
		Sales	(Gains on	Losses on		
				sales		sales	
Equity securities	¥	395	¥	227	¥	_	
Others		541		32		_	
Total	¥	936	¥	259	¥		
	Thousands of U.S. dollars						
		Sales	(Gains on		Losses on	
		Cales		sales		sales	
Equity securities	\$	3,521	\$	2,024	\$	_	
Others		4,822		285		_	

4. Inventories

Total

Inventories at March 31, 2016 and 2017 consisted of the following:

		N (C-11)	c			usands of
		Millions	s or ye	<u>n</u>	<u>U.</u> î	S dollars
		2016		2017	2017	
Merchandise and finished goods	¥	2,152	¥	1,845	\$	16,445
Work in progress		23,914		21,949		195,641
Raw material and supplies		4,912		4,856		43,284
Total	¥	30,978	¥	28,650	\$	255,370

8,343

2,309

Inventories for construction contracts with expected losses and a reserve for losses on construction contracts were not offset but individually reported.

The corresponding amounts of inventories for the reserve for losses on construction contracts at March 31, 2016 and 2017 were \(\frac{1}{2}\),458 million and \(\frac{1}{2}\),185 million (\\$10,562 thousand), respectively, all of which represented work in progress.

5. Short-term Borrowings and Long-term Debt

Short-term borrowings that represented bank borrowings bearing average interest rates of 0.59 percent and 0.28 percent as of March 31, 2016 and 2017, respectively, were as follows:

					Tho	usands of	
		Million	U.S	U.S. dollars			
		2016		2017		2017	
Secured (or partly secured)	¥	200	¥	150	\$	1,337	
Unsecured		5,950		30,041		267,769	
Total	¥	6,150	¥	30,191	\$	269,106	

As of March 31, 2016 and 2017, the Company had line of-credit agreements for short-term borrowings with financial institutions totaling \$20,000 million and \$30,000 million (\$267,404 thousand), among which used amounts were \$0 (unused) and \$8,500 million (\$75,764 thousand), respectively.

Long-term debt at March 31, 2016 and 2017 consisted of the following:

				Thousands of			
	Millions of yen				U.	U.S. dollars	
	2016			2017		2017	
Borrowings from banks and other financial institutions at							
0.48 percent to 4.28 percent, due through 2035:							
Secured (or partly secured)	¥	337	¥	761	\$	6,783	
Unsecured		87,575		66,483		592,593	
Straight bonds at 0.47 percent due 2017		10,000		10,000		89,135	
Others		765		1,280		11,409	
Less current portion included in current liabilities		(22,506)		(24,925)		(222, 168)	
Total	¥	76,171	¥	53,599	\$	477,752	

The following assets were pledged as collateral mainly for secured long-term debt of \\$37 million at March 31, 2016 and \\$761 million (\\$6,783 thousand) at March 31, 2017:

					Thousands of		
	Millions of yen				U.S	U.S. dollars	
		2016		2017	2017		
Prepaid expenses and other current assets	¥	6	¥	6	\$	54	
Property, plant and equipment (at net book value)		13,974		1,907		16,998	
Investments in nonconsolidated subsidiaries and affiliates		25		25		223	
Investments in securities		57		57		508	
Long-term loans receivable		37		32		285	
Total	¥	14,099	¥	2,027	\$	18,068	

The aggregate annual maturities of long-term debt outstanding at March 31, 2017 were as follows:

			Tho	Thousands of			
Year ending March 31,	Millio	ons of yen	U.\$	S dollars			
2019	¥	24,579	\$	219,083			
2020		20,278		180,747			
2021		4,960		44,211			
2022		2,045		18,228			
2023 and thereafter		1,737		15,483			
Total	¥	53,599	\$	477,752			

6. Contingent Liabilities

Contingent liabilities at March 31, 2016 and 2017 consisted of the following:

		Millions	Thousands of U.S. dollars			
	2016		2017		2017	
Notes receivable endorsed	¥	259	¥	262	\$	2,335
Guarantees of bank borrowings and other indebtedness		135		134		1,195
Total	¥	394	¥	396	\$	3,530

7. Land Revaluation Difference

Land for operations was revalued by consolidated subsidiaries in accordance with the Land Revaluation Law in the year ended March 31, 2000. The revaluation amount is shown as a separate component of net assets.

At October 1, 2002, the Company merged with HEC Corporation, which was a consolidated subsidiary, and succeeded to the land revaluation difference.

The market value of the land was \square 484 million and \square 67 million (\\$597 thousand) lower than the revalued book amount at March 31, 2016 and 2017, respectively.

8. Net Assets

Under the Japanese Companies Act ("the law") and regulations, the entire amount paid for new shares is required to be designated as common stock. However, a company may, by a resolution of the Board of Directors, designate an amount not exceeding one half of the price of the new shares as additional paid-in capital, which is included in capital surplus.

In cases in which a dividend distribution of surplus is made, the smaller of an amount equal to 10% of the dividend or the excess, if any, of 25% of common stock over the total of additional paid-in capital and legal earnings reserve must be set aside as additional paid-in capital or legal earnings reserve. Legal earnings reserve is included in retained earnings in the accompanying consolidated balance sheets.

Additional paid-in capital and legal earnings reserve may not be distributed as dividends. However, all additional paid-in capital and all legal earnings reserve may be transferred to other capital surplus and retained earnings, respectively, which are potentially available for dividends.

The maximum amount that the Company can distribute as dividends is calculated based on the nonconsolidated financial statements of the Company in accordance with Japanese laws and regulations.

At the annual shareholders' meeting held on June 22, 2017, the shareholders approved cash dividends of \(\frac{\pmathbf{Z}}{2}\),023 million (\\$18,032 thousand). The appropriation has not been accrued in the consolidated financial statements as of March 31, 2017. This type of appropriation is recognized in the period in which it is approved by the shareholders.

9. Provision for Losses on Construction Contracts Included in Cost of Sales

Provision for losses on construction contracts included in cost of sales was \$4,047 million and \$1,909 million (\$17,016 thousand) for the years ended March 31, 2016 and 2017, respectively.

10. Impairment Loss

The assets on which the Companies recognized impairment loss in the year ended March 31, 2016 were as follows:

Location	Location Use Type of Assets			
Cumberland International LLC. and its subsidiaries (Dubai, U.A.E)	Engineering of seawater and brine electrolysis equipment	Goodwill	¥	1,786

At the time of the acquisition of Cumberland International LLC, Cumberland Electrochemical Ltd. and Cumberland Pte Ltd. ("Cumberland Group"), the Companies booked goodwill, which comprised mainly the prospective extra earning power. In the year ended March 31, 2016, the prospective extra earning power was lost due to the deterioration of Cumberland Group's forecast of income. As a result, the Companies reduced the book value of the goodwill to the recoverable amount and recognized impairment loss of \(\frac{1}{2}\)1,786 million. The recoverable amount was zero because the present values of the expected cash flows was lost.

11. Provision for Loss on Guarantees

The Company guaranteed certain affiliates' indebtedness. For the year ended March 31, 2016, the Companies recognized provision for loss on guarantees of \(\fomathbf{1}\),406 million due to weakness of its financial positions.

12. Loss on Overseas Business

For the year ended March 31, 2017, loss on overseas business was recognized in the amount of \(\frac{\pi}{2}\),961 million (\(\frac{\pi}{2}\)6,393 thousand) mainly due to a request for payment on a performance bond and lawyer costs regarding the shield machine business in the United States.

13. Gain on Sale of Property

Gain on sale of property resulted from the sale of the land of the former Sakurajima works.

14. Comprehensive Income Information

Amounts reclassified to net income (loss) in the current period that were recognized in other comprehensive income in the current or previous periods and tax effects for each component of other comprehensive income were as follows:

		Millions	Thousands of U.S. dollars			
		2016 2017				2017
Net unrealized holding gains (losses)			1			
on securities						
Increase (decrease) during the year	¥	(269)	¥	124	\$	1,105
Reclassification adjustments		(97)		(251)		(2,237)
Subtotal before tax		(366)		(127)		(1,132)
Tax benefit (expenses)		111		32		285
Subtotal net of tax		(255)		(95)		(847)
Net unrealized holding gains (losses)						
on hedging derivatives						
Increase (decrease) during the year	¥	466	¥	(116)	\$	(1,034)
Reclassification adjustments		476		(386)		(3,440)
Subtotal before tax		942		(502)		(4,474)
Tax benefit (expenses)		(179)		102		909
Subtotal net of tax		763		(400)		(3,565)
Foreign currency translation						
adjustments						
Increase (decrease) during the year	¥	(538)	¥	(917)	\$	(8,174)
Remeasurements of defined benefit plans						
Increase (decrease) during the year	¥	(1,132)	¥	1,634	\$	14,564
Reclassification adjustments		986		1,079		9,618
Subtotal before tax		(146)		2,713	·	24,182
Tax benefit (expenses)		85		(580)		(5,170)
Subtotal net of tax		(61)		2,133		19,012
Equity of nonconsolidated subsidiaries						
and affiliates accounted for using						
equity method						
Increase (decrease) during the year	¥	(703)	¥	(33)	\$	(294)
Total other comprehensive income	¥	(794)	¥	688	\$	6,132

15. Treasury Stock

Treasury stock for the years ended March 31, 2016 and 2017 consisted of the following:

Year ended March 31, 2016

Number of shares of common stock	Thousands
At March 31, 2015	830
Increase	1,620
Decrease	(800)
At March 31, 2016	1,650

Increase of 1,620 thousand shares was mainly due to purchase of the Company's treasury stock via Off-Auction Own Share Repurchase Trading (ToSTNeT-3) by the Tokyo Stock Exchange.

Decrease of 800 thousand shares was mainly due to allocation of the Company's treasury stock to the shareholders of OHNAMI CORPORATION at the time of share exchange.

Year ended March 31, 2017

Number of shares of common stock	Thousands
At March 31, 2016	1,650
Increase	10
Decrease	(0)
At March 31, 2017	1,660

16. Cash Flow Information

a) Cash and cash equivalents

Cash and cash equivalents in the consolidated statements of cash flows and cash and time deposits in the consolidated balance sheets at March 31, 2016 and 2017 were reconciled as follows:

		Million	en	Thousands of U.S. dollars		
	2016 2017			2017		
Cash and time deposits in the balance sheets	¥	51,585	¥	52,282	\$	466,013
Time deposits with maturities over three months		(1,913)		(1,434)		(12,782)
Cash and cash equivalents in cash flow statements	¥	49,672	¥	50,848	\$	453,231

b) Other

The assets and liabilities of newly consolidated Osmoflo Holdings Pty Ltd, Osmoflo Holdings Singapore Pte Ltd and their 10 subsidiaries as of March 31, 2017 and the reconciliation between the acquisition cost of shares and net cash outflow were as follows:

	M	illions of yen	Thousands of U.S. dollars		
		2017		2017	
Current assets	¥	3,426	\$	30,537	
Fixed assets		3,931		35,039	
Goodwill		2,148		19,146	
Current liabilities		(1,855)		(16,534)	
Noncurrent liabilities		(648)		(5,776)	
Non-controlling interests		(1,791)		(15,964)	
Acquisition cost	¥	5,211	\$	46,448	
Cash and cash equivalents of acquired companies		(1,386)		(12,354)	
Purchase of shares of subsidiaries resulting in change in scope of consolidation	¥	3,825	\$	34,094	

17. Lease Information

a) Finance leases as lessee

Finance leases which do not transfer ownership and do not have bargain purchase provisions at March 31, 2016 and 2017 consisted of leases for production facilities for the Environmental systems and Industrial plants segment and Machinery segment (machinery, equipment and vehicles) and software. Depreciation was as described in Note 2(i), "Significant Accounting Policies - Depreciation and Amortization."

b) Operating leases as lessee

Future minimum payments for operating leases at March 31, 2016 and 2017 were as follows:

					Tho	usands of	
	Millions of yen				U.S dollars		
	2016			2017	2017		
Payments due within one year	¥	668	¥	794	\$	7,077	
Payments due after one year		1,825		1,914		17,061	
Total	¥	2,493	¥	2,708	\$	24,138	

c) Finance leases as lessor

Lease investment assets

Current assets as of March 31, 2016 and 2017 were as follows:

		Millions		Thousands of U.S. dollars			
	2016		2017		2	017	
Lease payments receivable	¥	19	¥	63	\$	562	
Interest		(1)		(3)		(27)	
Total	¥	18	¥	60	\$	535	

Lease investment assets receivable after March 31, 2016 and 2017 were as follows:

					Thous	ands of
		Million	U.S. dollars			
	2	2016		017	2	017
Within one year	¥	10	¥	19	\$	170
Over one year but within two years		8		12		107
Over two years but within three years		1		12		107
Over three years but within four years		0		11		98
Over four years but within five years		_		9		80
Over five years		_		0		0

18. Financial Instruments

a) Articles concerning status of financial instruments

(1) Policies for financial instruments

The Companies raise necessary funds for capital investment plans, R&D plans and operation of particular projects mainly through bank borrowings and the issuance of corporate bonds. The Companies invest temporary surplus funds in highly secure financial assets and obtain working capital mainly through bank borrowings. The Companies utilize derivative financial instruments not for speculation but for hedging purposes only.

(2) Substances and risks of financial instruments

Trade and other receivables are exposed to credit risk of customers. Since the Companies operate internationally, foreign currency net cash inflows are exposed to currency fluctuation risks. Forward foreign exchange contracts are used principally to hedge these risks.

Securities and investment securities, mainly held-to-maturity debt securities and the securities of companies with which the Companies have business relationships, are exposed to market fluctuation risk. The Companies have long-term loans with the companies with which the Companies have business relationships.

Almost all of the trade payables are due within six months. Foreign currency trade payables are exposed to currency fluctuation risk, but these trade payables are controlled not to exceed the cash inflows of the same foreign currencies.

Borrowings and corporate bonds are mainly for the purpose of raising funds for capital investment, R&D and operation of particular projects. The longest due date is 18 years after the fiscal year end. Some of the items are exposed to interest rate fluctuation risk.

Derivative transactions mainly consist of forward foreign exchange contracts and currency option contracts made for hedging currency fluctuation risk arising from foreign currency receivables and payables and interest rate swap contracts for hedging interest rate fluctuation risk arising from long-term borrowings. As to the hedging derivative financial instruments used and items hedged, hedging policy and the method of evaluating hedge effectiveness are described in Note 2 (g), "Significant Accounting Policies-Derivatives and Hedge Accounting."

(3) Management of financial instruments

① Management of credit risk (risk of customer default)

The financial department of the Company is subject to internal regulations for the management of trade receivables and long-term loans. To reduce the risk of default associated with these instruments, the Company research the credit standing of customers, monitors due dates and balances by customer at regular intervals through the each sales and business administration divisions of each department and recognizes early signs of deterioration in the financial status of its customers. The consolidated subsidiaries are subject to internal regulations for similar management.

Held-to-maturity debt securities are limited to top-ranked securities so as to minimize credit risk.

As to derivative transactions, the Companies deal solely with financial institutions to raise funds and top-ranked financial institutions to reduce credit risk.

② Management of market risk (risk of exchange rate or interest rate fluctuation)

The Company and some consolidated subsidiaries utilize mainly forward foreign exchange contracts and currency option contracts for the purpose of hedging currency fluctuation risk arising from foreign currency receivables and payables and prospective transactions that are highly expected to occur, which are categorized by the type of currency and the monthly due date. The Company utilizes interest rate swap contracts for the purpose of hedging interest rate fluctuation risk arising from long-term borrowings.

As to securities and investment securities, the Companies monitor the fair market value and evaluate the financial status of issuing companies that are important customers. For other than held-to-maturity debt securities, the Companies regularly examine whether the holding position is proper or not while taking the relationships with the issuing companies into consideration.

As to derivative transactions, the Company is subject to internal regulations to administer derivative transactions that provide for trading authority and limit maximum amounts and approves basic policies annually at its management strategy conference. The Company's financial department engages in transactions, records them and monitors the balances. The results of the transactions are reported regularly in its management strategy conference. The consolidated subsidiaries manage derivatives in a similar way.

③ Management of liquidity risk of raising funds (risk of default)

The financial department of the Company makes and updates finance plans based on finance reports from each department. The consolidated subsidiaries manage liquidity risk in a similar way.

(4) Supplementary explanation about fair value of financial instruments

Fair values of financial instruments include not only fair market values based on market prices but also reasonably estimated values if market prices are not available. Reasonably estimated fair values may fluctuate because the values depend on estimations based on certain variable assumptions. The contract amounts of derivative transactions of the following Note 19, "Derivative Transactions," do not show the market risk of the derivatives themselves.

b) Articles concerning fair value of financial instruments

Consolidated balance sheet amounts and fair values of financial instruments and the difference between them, if any, for the years ended March 31, 2016 and 2017 are set forth in the tables below. Financial instruments for which the fair value was considered to be extremely difficult to determine were not included in the tables below.

At March 31, 2016:

	Millions of yen							
	Bo	ok value	F	air value	Difference			
(1) Cash and time deposits	¥	51,585	¥	51,585	¥			
(2) Trade notes and accounts		139,277						
Allowance for doubtful receivables *1		(878)						
		138,399		138,504		105		
(3) Securities and investment securities		4,697		2,997		(1,700)		
(4) Long-term loans receivable		37		35		(2)		
Total assets	¥	194,718	¥	193,121	¥	(1,597)		
(1) Notes and accounts payable		(62,549)		(62,549)		_		
(2) Short-term borrowings		(6,150)		(6,150)		_		
(3) Current portion of long-term debt		(22,506)		(22,558)		(52)		
(4) Accrued expenses		(51,960)		(51,960)		_		
(5) Accrued income taxes		(2,849)		(2,849)		_		
(6) Long-term debt, less current portion		(75,406)		(75,739)		(333)		
Total liabilities	¥	(221,420)	¥	(221,805)	¥	(385)		
Derivative transactions *2								
Derivative transactions for which hedge		378		378		_		
accounting has not been applied		310		310				
Derivative transactions for which hedge		378		378		_		
accounting has been applied		316		310				
Total derivative transactions	¥	756	¥	756	¥	_		

 $^{^{*}1}$ Allowance for doubtful receivables was deducted from trade notes and accounts.

^{*2} Liabilities were indicated in parenthesis (). Assets and liabilities arising from derivative transactions were offset and indicated by parenthesis () when the offset amount was a liability.

At March 31, 2017:

	Millions of yen					
	Book value		Fair value		Difference	
(1) Cash and time deposits	¥	52,282	¥	52,282	¥	
(2) Trade notes and accounts		134,188				
Allowance for doubtful receivables *1		(1,072)				
	·	133,116		133,211		95
(3) Securities and investment securities		4,583		3,143		(1,440)
(4) Long-term loans receivable		33		31		(2)
Total assets	¥	190,014	¥	188,667	¥	(1,347)
(1) Notes and accounts payable		(61,437)		(61,437)		_
(2) Short-term borrowings		(30,191)		(30, 191)		_
(3) Current portion of long-term debt		(24,925)		(25,008)		(83)
(4) Accrued expenses		(49, 150)		(49, 150)		_
(5) Accrued income taxes		(2,527)		(2,527)		_
(6) Long-term debt, less current portion		(52,319)		(52,820)		(501)
Total liabilities	¥	(220,549)	¥	(221, 133)	¥	(584)
Derivative transactions *2					-	
Derivative transactions for which hedge		163		163		_
accounting has not been applied		100		100		
Derivative transactions for which hedge		(124)		(124)		_
accounting has been applied		(124)		(12-1/		
Total derivative transactions	¥	39	¥	39	¥	

^{*1} Allowance for doubtful receivables was deducted from trade notes and accounts.

Thousands of U.S. dollars Book value Fair value Difference (1) Cash and time deposits 466,013 466,013 (2) Trade notes and accounts 1,196,078 Allowance for doubtful receivables *1 (9,555)1,186,523 1,187,370 847 (3) Securities and investment securities (12,835)40,851 28,016 (4) Long-term loans receivable 294 276 (18)Total assets (12,006)\$ 1,693,681 1,681,675 \$ (547,616) (547,616) (1) Notes and accounts payable (2) Short-term borrowings (269, 106)(269, 106)(740)(3) Current portion of long-term debt (222, 168)(222,908)(438,096)(438,096)(4) Accrued expenses (5) Accrued income taxes (22,524)(22,524)(466,343)(470,808)(4.465)(6) Long-term debt, less current portion Total liabilities (1,965,853)(1,971,058)(5,205)Derivative transactions *2 Derivative transactions for which hedge 1,453 1,453 accounting has not been applied Derivative transactions for which hedge (1,105)(1,105)accounting has been applied Total derivative transactions \$ 348 348

^{*2} Liabilities were indicated in parenthesis (). Assets and liabilities arising from derivative transactions were offset and indicated by parenthesis () when the offset amount was a liability.

^{*1} Allowance for doubtful receivables was deducted from trade notes and accounts.

^{*2} Liabilities were indicated in parenthesis (). Assets and liabilities arising from derivative transactions were offset and indicated by parenthesis () when the offset amount was a liability.

Note 1. Articles concerning the calculation method for fair value, marketable securities and derivative transactions

<u>Assets</u>

(1) Cash and time deposits

These instruments were settled within the short-term and fair value was roughly equal to book value. Therefore, the fair value was stated at book value.

(2) Trade notes and accounts

For the instruments settled within the short-term, fair value was roughly equal to book value. Therefore, the fair value was stated at book value. For the instruments settled over the long-term, fair value was stated at the present value using future cash flows discounted by the premium-added rate on the proper index, such as the yield on the government bonds.

(3) Securities and investment securities

Fair value was based on the market price on the stock exchange for equity instruments and on the prices obtained from financial institutions for certain debt instruments. Securities classified by intent for which they were held were summarized in the table in Note 3, "Securities."

(4) Long-term loans receivable

The fair value of these accounts was stated at the present value using future cash flows discounted by the premium-added rate on the proper index such as the yield on the government bonds.

Liabilities

(1) Notes and accounts payable, (2) Short-term borrowings, (4) Accrued expenses and (5) Accrued income taxes

These instruments were settled within the short-term and fair value was roughly equal to book value. Therefore, the fair value was stated at book value.

(3) Current portion of long-term debt and (6) Long-term debt less current portion

The fair value of bonds consists of both fair value based on fair market value and the present value using the total amount of the principal and interest discounted by the interest rate that reflected the bond's remaining period and the credit risk.

The fair value of debt was stated at the present value using the total amount of the principal and interest discounted by the interest rate as if the borrowings would be newly executed.

Derivative transactions

See Note 19, "Derivative Transactions."

Note 2. Financial instruments for which the fair value was considered to be extremely difficult to determine were as follows:

		Million	U.S. dollars				
		2016		2017	2017		
Stock of nonconsolidated subsidiaries and affiliates	¥	5,762	¥	6,379	\$	56,859	
Non-listed equity securities, etc.		13,676		13,679		121,927	
Total	¥	19,438	¥	20,058	\$	178,786	

As to these financial instruments, there was no available fair market price and it was considered extremely difficult to determine the fair value. As a result, these financial instruments were not included in "(3) Securities and investment securities."

Note 3. The expected redemption amounts of monetary credit and securities with maturity dates after the consolidated fiscal year-end were as follows:

At March 31, 2016:

	Millions of yen									
	Within one year		Over one year but within five years		but	ive years within years	Over ten years			
Cash and time deposits	¥	51,585	¥	_	¥		¥	_		
Trade notes and accounts		136,196		499		537		1,167		
Securities and investment										
securities										
Held-to-maturity debt										
securities										
(1) Others		_		24		_		_		
Available-for-sale securities										
with maturities										
(1) Others		10		39		_		_		
Long-term loans receivable				21		9		7		
Total	¥	187,791	¥	583	¥	546	¥	1,174		

At March 31, 2017:

				Million	s of yen			
	Within one year		Over one year but within five years		but	ive years within years	Over ten years	
Cash and time deposits	¥	52,282	¥	_	¥	_	¥	_
Trade notes and accounts		131,114		553		571		878
Securities and investment securities								
Held-to-maturity debt securities								
(1) Others Available for sale securities		_		24		_		_
with maturities				4.4		- 11		
(1) Others		_		44		541		_
Long-term loans receivable				19		9		5
Total	¥	183,396	¥	640	¥	1,121	¥	883

Thousands of U.S. dollars Over one year Over five years Within one year but within but within Over ten years five years ten years Cash and time deposits 466,013 Trade notes and accounts 1,168,678 4,929 5,090 7,826 Securities and investment securities Held-to-maturity debt securities (1) Others 214Available-for-sale securities with maturities 393 (1) Others 4,822 169 Long-term loans receivable 45 Total 1,634,691 5,7059,9927,871

Note 4. The expected redemption amounts of short-term borrowings and long-term debt after the consolidated fiscal year-end were as follows:

At March 31, 2016:

		willions of yen										
	With	in one year	Over one year but within two years		Over two years but withn three years		Over three years but within four years		Over four years but within five years		Over five years	
Short-term borrowings	¥	6,150	¥		¥		¥	=	¥		¥	
Long-term debt		22,506		24,722		23,900		19,936		4,704		2,144
Others		307		224		156		134		87		164
Total	¥	28,963	¥	24,946	¥	24,056	¥	20,070	¥	4,791	¥	2,308

At March 31, 2017:

						Millio	ns of yen					
	With	in one year	but w	one year vithin two years	bu	two years at withn ree years	but	three years t within ur years	but	four years t within e years	Over	five years
Short-term borrowings	¥	30,191	¥	_	¥		¥		¥	_	¥	_
Long-term debt		24,925		24,041		20,009		4,764		1,922		1,583
Others		452		538		269		196		123		154
				0.4 550		20.050	V	4,960	¥	2.045	V	1,737
Total	¥	55,568	¥	24,579	¥	20,278	Ť	4,960	*	2,045	¥	1,131
Total	¥	55,568		·	*	Thousands		llars			Ť	1,101
Total	¥ With		Over	one year		Thousands two years	Over t	llars three years	Over	four years		
Total	With	in one year	Over but w	·	bu	Thousands	Over t	llars	Over			five years
Total Short-term borrowings	With		Over but w	one year	bu	Thousands two years at withn	Over t	llars three years t within	Over	four years t within		
		in one year	Over but w	one year	bu thr	Thousands two years at withn	Over t but for	llars three years t within	Over but	four years t within	Over	
Short-term borrowings		in one year 269,106	Over but w	one year vithin two years	bu thr	Thousands t two years at withn ree years	Over t but for	llars three years t within ar years	Over but	four years t within e years	Over	five years

19. Derivative Transactions

The Companies enter into forward foreign exchange contracts, currency swaps and interest rate swap contracts. Forward foreign exchange contracts and currency swaps are used to reduce the risk of fluctuations in future foreign currency exchange rates with respect to the difference between the foreign trade order balances and the future payments for foreign procurement. Interest rate swap contracts are used to avoid the risk of rising interest rates.

The following tables summarize fair value information as of March 31, 2016 and 2017 for derivative transactions for which hedge accounting had not been applied.

a) Currency related derivatives

At March 31, 2016:

	Millions of yen									
	Notional amount		Over one year		Fair	value	Unrealized gain (loss)			
Forward foreign exchange										
contracts:										
Type of contracts:										
Sell										
U.S. dollars	¥	6,233	¥	_	¥	461	¥	461		
Euro		420		_		(9)		(9)		
Swedish krona		45		_		(0)		(0)		
Purchase										
U.S. dollars		842		_		(48)		(48)		
Euro		382		_		(21)		(21)		
Swiss franc		105				(5)		(5)		
Total	¥	8,027	¥		¥	378	¥	378		

Note. The fair value of forward foreign exchange contracts is calculated using the forward exchange rate.

At March 31, 2017:

	Millions of yen									
		tional nount	Over	ne year	Fair value		Unrealized gain (loss)			
Forward foreign exchange										
contracts:										
Type of contracts:										
Sell										
U.S. dollars	¥	3,433	¥	542	¥	161	¥	161		
Euro		575		_		4		4		
Swedish krona		146		_		0		0		
Purchase										
U.S. dollars		95		_		1		1		
Euro		21		_		0		0		
Swiss franc		50		_		(1)		(1)		
Currency swaps:										
Receive in U.S. dollars,		110				0		0		
pay in swiss franc		110		_		2		2		
Receive in euro,		CEE				(7)		(7)		
pay in GBP		655		_		(1)		(7)		
Receive in euro,		9 959				(0)		(0)		
pay in swiss franc		2,252		_		(0)		(0)		
Receive in GBP,		CO7				Ō		3		
pay in swiss franc		697		_		3		3		
Receive in swedish krona,						0		0		
pay in swiss franc		75		_		0		0		
Total	¥	8,109	¥	542	¥	163	¥	163		

Note. The fair value of forward foreign exchange contracts is calculated using the forward exchange rate. And the fair value of currency swaps is calculated using the price offered by transacting financial institutions.

Thousands of U.S. dollars Notional Unrealized Over one year Fair value amount gain (loss) Forward foreign exchange contracts: Type of contracts: Sell 1,435 4,831 U.S. dollars \$ 30,600 \$ 1,435 Euro 5,125 35 35 0 Swedish krona 1,301 0 Purchase 9 U.S. dollars 9 847 0 0 Euro 187 (9)Swiss franc 446 (9) Currency swaps: Receive in U.S. dollars, 980 18 18 pay in swiss franc Receive in euro, 5,838 (62)(62)pay in GBP Receive in euro, 20,073 (0) (0) pay in swiss franc Receive in GBP, 27 6,213 27 pay in swiss franc Receive in swedish krona, 669 0 0 pay in swiss franc Total 72,279 4,831 \$ 1,453 1,453 \$ \$ \$

Note. The fair value of forward foreign exchange contracts is calculated using the forward exchange rate. And the fair value of currency swaps is calculated using the price offered by transacting financial institutions.

The following tables summarize fair value information as of March 31, 2016 and 2017 for derivative transactions for which hedge accounting had been applied.

a) Currency related derivatives

At March 31, 2016:

		Millions of yen							
	Hedged items		Notional amount		Over one year		r value		
Basic treatment:									
Forward foreign exchange contracts:									
Type of contracts: Sell									
U.S dollars	Trade receivable	¥	6,322	¥	3,886	¥	443		
Euro	Trade receivable		278		_		(6)		
GBP	Trade receivable and others		4,005		_		243		
Thai baht	Trade receivable		44		_		1		
CNY	Trade receivable		6		_		(0)		
Purchase									
U.S dollars	Trade payable		536		_		20		
Euro	Trade payable		5,448		778		(326)		
Swiss franc	Trade payable		89		75		3		
CNY	Trade payable		45		_		(0)		
Alternative treatment *2:									
Forward foreign exchange contracts:									
Type of contracts:									
Sell U.S. dollars	Trade receivable		88						
GBP	Trade receivable Trade receivable		36				_		
Thai baht	Trade receivable Trade receivable		98						
Purchase	Trade receivable		90				_		
U.S. dollars	Trade payable		57		_		_		
Euro	Trade payable Trade payable		6		_		_		
Total	rrade payame	¥	17,058	¥	4,739	¥	378		

^{*1} The fair value of forward foreign exchange contracts is calculated based on the price provided by the financial institutions.

^{*2} For certain trade receivables and trade payables denominated in foreign currencies for which forward foreign exchange contracts are used to hedge the foreign currency fluctuation risk, the fair value of the derivative financial instruments is included in the fair value of the trade receivables and trade payable as hedged items.

At March 31, 2017:

		Millions of yen							
	Hedged items	Notional amount		Over one year		Fair value			
Basic treatment									
Forward foreign exchange contracts:									
Type of contracts:									
Sell									
U.S. dollars	Trade receivable	¥	2,000	¥	1,693	¥	(194)		
Euro	Trade receivable		3,818		3,030		37		
GBP	Trade receivable		817		_		103		
Thai baht	Trade receivable		11		_		(1)		
Purchase									
U.S. dollars	Trade payable		367		64		(3)		
Euro	Trade payable		824		_		(54)		
Swiss franc	Other accounts payable		25		25		1		
Swedish krona	Trade payable		1,261		473		(8)		
Singapore dollars	Trade payable		365		_		(5)		
Alternative treatment *2:									
Forward foreign exchange contracts:									
Type of contracts:									
Sell									
U.S. dollars	Trade receivable		349		_		_		
Euro	Trade receivable		6		_		_		
Thai baht	Trade receivable		107		_		_		
Total		¥	9,950	¥	5,285	¥	(124)		

^{*1} The fair value of forward foreign exchange contracts is calculated based on the price provided by the financial institutions.

^{*2} For certain trade receivables and trade payables denominated in foreign currencies for which forward foreign exchange contracts are used to hedge the foreign currency fluctuation risk, the fair value of the derivative financial instruments is included in the fair value of the trade receivables and trade payables as hedged items.

		Thousands of U.S. dollars					
	Hedged items		otional mount	Over	r one year	Fa	air value
Basic treatment:							
Forward foreign exchange contracts:							
Type of contracts:							
Sell							
U.S. dollars	Trade receivable	\$	17,827	\$	15,091	\$	(1,729)
Euro	Trade receivable		34,032		27,008		330
GBP	Trade receivable		7,282		_		918
Thai baht	Trade receivable		98		_		(9)
Purchase							
U.S. dollars	Trade payable		3,271		570		(27)
Euro	Trade payable		7,345		_		(481)
Swiss franc	Other accounts payable		223		223		9
Swedish krona	Trade payable		11,240		4,216		(71)
Singapore dollars	Trade payable		3,253		_		(45)
Alternative treatment *2:							
Forward foreign exchange contracts:							
Type of contracts:							
Sell							
U.S. dollars	Trade receivable		3,111		_		_
Euro	Trade receivable		53		_		_
Thai baht	Trade receivable		954		_		_
Total		\$	88,689	\$	47,108	\$	(1,105)

^{*1} The fair value of forward foreign exchange contracts is calculated based on the price provided by the financial institutions.

^{*2} For certain trade receivables and trade payables denominated in foreign currencies for which forward foreign exchange contracts are used to hedge the foreign currency fluctuation risk, the fair value of the derivative financial instruments is included in the fair value of the trade receivables and trade payables as hedged items.

b) Interest related derivatives

At March 31, 2016:

				Mil	lions of yen		
Exceptional treatment:	Hedged items		otional mount	Over	one year	Fair	value
Interest rate swap contracts: Receive float, pay fixed Interest rate and currency swap contracts:	Long-term borrowings	¥	27,900	¥	19,190	¥	
Receive float, pay fixed Receive in U.S. dollars, pay in PY	Long-term borrowings		500		500		_

Note. As interest rate swap contracts subject to exceptional treatment for interest rate swap contracts and interest rate and currency swap contracts subject to exceptional treatment for interest rate and currency swap contracts are accounted for as a single item with the underlying long-term debt, which are hedged items, their fair value is included in that of the long-term debt.

At March 31, 2017:

		Millions of yen						
Exceptional treatment:	Hedged items		otional mount	Ove	r one year	Fair	value	
Interest rate swap contracts:			,				,	
Receive float, pay fixed	Long-term borrowings	¥	19,190	¥	17,150	¥	_	
Interest rate and currency swap contracts:								
Receive float, pay fixed	Long-term borrowings		500		500		_	
Receive in U.S. dollars, pay in JPY	Long term borrowings		500		300			
			Th	nousan	ds of U.S. de	ollars		
Exceptional treatment:	Hedged items		otional mount	Ove	r one year	Fair	value	
Interest rate swap contracts:								
Receive float, pay fixed		_		Φ.	150,000	d•	_	
neceive noat, pay meu	Long-term borrowings	\$	171,049	\$	152,866	\$		
Interest rate and currency swap contracts:	Long-term borrowings	\$	171,049	\$	152,866	Ф		
	Long-term borrowings Long-term borrowings	\$	171,049	\$	152,866 4,457	Ф		

Note. As interest rate swap contracts subject to exceptional treatment for interest rate swap contracts and interest rate and currency swap contracts subject to exceptional treatment for interest rate and currency swap contracts are accounted for as a single item with the underlying long-term debt, which are hedged items, their fair value is included in that of the long-term debt.

20. Severance and Retirement Benefits

The Companies provide post-employment benefit plans, including unfunded lump-sum payment plans, under which all eligible employees are entitled to benefits based on the level of wages and salaries at the time of retirement or termination, length of service and certain other factors. The Company and some consolidated subsidiaries provide defined contribution pension plans in addition to defined benefit pension plans.

The Companies occasionally make additional payments to employees for special retirement benefits.

The components of defined benefit plans for the year ended March 31, 2016 and 2017 were as follows:

(a) Movements in projected benefit obligations for the years ended March 31, 2016 and 2017.

	Millions of yen			Thousands of U.S. dollars		
		2016		2017	-	2017
Balance at April 1, 2015 and 2016	¥	42,673	¥	44,067	\$	392,789
Service cost		2,091		1,447		12,898
Interest cost		307		139		1,239
Actuarial differences		1,963		(335)		(2,986)
Benefits paid		(1,036)		(1,809)		(16, 124)
Past service cost		(107)		_		_
Other		(1,824)		(96)		(856)
Balance at March 31, 2016 and 2017	¥	44,067	¥	43,413	\$	386,960

Note. Some consolidated subsidiaries have adopted the alternative treatment.

(b) Movements in fair value of pension assets for the year ended March 31, 2016 and 2017.

	Millions of yen			_	usands of S dollars	
		2016	•	2017		2017
Balance at April 1, 2015 and 2016	¥	27,725	¥	27,126	\$	241,786
Expected return on pension assets		189		90		802
Actuarial differences		61		1,146		10,215
Contributions paid by the employer etc.		1,357		1,050		9,359
Benfits paid		(61)		(863)		(7,692)
Other		(2,145)		(953)		(8,494)
Balance at March 31, 2016 and 2017	¥	27,126	¥	27,596	\$	245,976

Note. Some consolidated subsidiaries have adopted the alternative treatment.

(c) Reconciliation of projected benefit obligations and fair value of pension assets to liability (asset) for retirement benefits

	Millions of yen					ousands of S dollars 2017
		2016		2017		
Funded projected benefit obligations	¥	28,201	¥	26,310	\$	234,513
Fair value of pension assets		(27,126)		(27,596)		(245,976)
		1,075		(1,286)		(11,463)
Unfunded projected benefit obligations		15,866		17,103		152,447
Total net liability (asset) for projected benefits at March 31, 2016 and 2017	¥	16,941	¥	15,817	\$	140,984
Net defined benefit liability	¥	17,700	¥	17,168	\$	153,026
Net defined benefit asset		(759)		(1,351)		(12,042)
Total net liability (asset) for projected benefits at March 31 , 2016 and 2017	¥	16,941	¥	15,817	\$	140,984

Note. Some consolidated subsidiaries have adopted the alternative treatment.

(d) Severance and pension costs of the Companies included the following components for the year ended March 31, 2016 and 2017.

	Millions of yen				Thousands of		
					U.	S. dollars	
		2016		2017		2017	
Service cost	¥	2,091	¥	1,447	\$	12,898	
Interest cost		307		139		1,239	
Expected return on pension assets		(189)		(90)		(802)	
Amortization of actuarial differences		985		1,101		9,813	
Amortization of past service cost		0		(23)		(205)	
Severance and retirement benefit expenses		259		278		9 479	
based on the alternative treatment		209		210		2,478	
Others		0		14		125	
Severance and retirement benefit expenses	¥	3,453	¥	2,866	\$	25,546	

(e) Remeasurements of defined benefit plans (before tax) for the years ended March 31, 2016 and 2017.

	Millions of yen					usands of S dollars
		2016		2017		2017
Past service cost	¥	107	¥	(23)	\$	(205)
Actuarial differences		(669)		2,793		24,895
Other		(92)		(57)		(508)
Total	¥	(654)	¥	2,713	\$	24,182

(f) Remeasurements of defined benefit plans (before tax) at the years ended March 31, 2016 and 2017.

	Millions of yen			usands of S. dollars	
		2016		2017	2017
Unrecognized past service cost	¥	158	¥	135	\$ 1,203
Unrecognized actuarial differences		(6,099)		(3,306)	(29,468)
Other		1,438		1,381	12,310
Total	¥	(4,503)	¥	(1,790)	\$ (15,955)

(g) Pension assets

(1) Pension assets comprise:

	2016	2017
Stocks	26 %	29 %
Bonds	33 %	26 %
Cash and deposits	1 %	2 %
Real estate	35 %	38 %
Other	5 %	5 %
Total	100 %	100 %

(2) Long-term expected rate of return

Current and target asset allocations, historical and expected returns on various categories of pension assets have been considered in determining the long-term expected rate of return.

(h) Actuarial assumptions

The principal actuarial assumptions at March 31, 2016 and 2017 (expressed as weighted averages) were as follows:

	2016	2017
Discount rate	0.36 %	0.51 %
Long-term expected rate of return	0.37 %	0.56 %
Expected rate of increase in salary	2.00 %	2.07 %

(i) Contributions to the defined contributions pension plan

For the years ended March 31, 2016 and 2017, the Companies made contributions to the defined contributions pension plan in the amount of \$1,198 million and \$1,313 million (\$11,703 thousand), respectively.

21. Income Taxes

The Companies are subject to a number of income taxes which, in the aggregate, indicate a statutory rate in Japan of approximately 33.0% and 30.8% for the years ended March 31, 2016 and 2017, respectively.

The significant differences between the statutory tax rate and the Companies' effective tax rate for financial statement purposes for the years ended March 31, 2016 and 2017 were as follows:

	2016	2017
Statutory tax rate	33.0 %	30.8 %
Nondeductible expenses	2.9 %	2.1 %
Nontaxable dividend income	(6.5) %	(6.4) %
Fluctuation in deferred tax assets valuation allowance account	(1.6) %	(1.9) %
Elimination of dividend income	6.2 %	7.0 %
Effect of tax credit	(6.3) %	(4.9) %
Other	(3.7) %	7.7~%
Effective tax rate	24.0 %	34.4 %

Significant components of the Companies' deferred tax assets and liabilities as of March 31, 2016 and 2017 were as follows:

			Thou	usands of	
	Millions	s of ye	n	U.S	dollars
- 2	2016		2017		2017
¥	5,981	¥	5,152	\$	45,922
	4,849		5,118		45,619
	1,217		1,328		11,837
	893		1,676		14,939
	554		526		4,689
	505		372		3,316
	4,440		3,757		33,488
	4,461		4,548		40,538
•	22,900		22,477		200,348
	(10,748)		(10,623)		(94,688)
•	12,152		11,854		105,660
	(1,321)		(1,321)		(11,775)
	(701)		(701)		(6,248)
	(478)		(465)		(4,145)
	(448)		(346)		(3,084)
	(87)		(85)		(758)
	(139)		(84)		(749)
	(810)		(793)		(7,068)
	(3,984)		(3,795)		(33,827)
¥	8,168	¥	8,059	\$	71,833
	¥	2016 ¥ 5,981 4,849 1,217 893 554 505 4,440 4,461 22,900 (10,748) 12,152 (1,321) (701) (478) (448) (87) (139) (810) (3,984)	2016 Y 5,981 Y 4,849 1,217 893 554 505 4,440 4,461 22,900 (10,748) 12,152 (1,321) (701) (478) (448) (87) (139) (810) (3,984)	¥ 5,981 ¥ 5,152 4,849 5,118 1,217 1,328 893 1,676 554 526 505 372 4,440 3,757 4,461 4,548 22,900 22,477 (10,748) (10,623) 12,152 11,854 (1,321) (1,321) (701) (701) (478) (465) (448) (346) (87) (85) (139) (84) (810) (793) (3,984) (3,795)	Millions of yen U.S. 2016 2017 ¥ 5,981 ¥ 5,152 \$ 4,849 5,118 1,217 1,328 893 1,676 554 526 505 372 4,440 3,757 4,461 4,548 22,900 22,477 (10,748) (10,623) 12,152 11,854 (1,321) (1,321) (701) (701) (478) (465) (448) (346) (87) (85) (139) (84) (810) (793) (3,984) (3,795)

Net deferred tax assets were included in the consolidated balance sheets as follows:

				Thousands of			
		Millions	L	U.S. dollars			
		2016	2	2017	2017		
Current assets	¥	5,873	¥	6,095	\$	54,328	
Investments and other noncurrent assets		3,095		2,905		25,894	
Current liabilities		(10)		(23)		(206)	
Long-term liabilities		(790)		(918)		(8,183)	
Net deferred tax assets	¥	8,168	¥	8,059	\$	71,833	

22. Business Combinations

Making Hitachi Zosen Fukui Corporation a wholly owned subsidiary

The Company acquired the ordinary shares of Hitachi Zosen Fukui Corporation (the "Target Company") through a tender offer (the "Tender Offer") pursuant to the Financial Instrument and Exchange Act from November 7, 2016 to December 19, 2016.

As a result, the Company became a special controlling shareholder of the Target Company at December 27, 2016.

On the same day, the Company executed the demand that all shareholders of the Target Company, excluding the Target Company and the Company, ("Demand for Sale Shareholders") sell all of their Target Company's shares in accordance with the provisions of Article 179, Paragraph 1 of the Companies Act. Through the approval of the Target Company's Board of director's meeting, the Company made the Target Company a wholly owned subsidiary at February 2, 2017.

We call the Tender Offer and Demand for Sale Shareholders the "Transactions."

a) Overview

(1) Purpose

By the Company making the Target Company its wholly-owned subsidiary and securing mutual collaboration with fully utilizing the Target Company's business characteristics, operations and structures, the Company will strengthen its manufacturing business, which is the origin of the Companies and the overseas business, such as strengthening the power to handle customer's needs and enhancing productivity through the optimal product mix and strengthening the overseas solution business.

(2) Legal method

Acquisition of shares for cash consideration by the Company

b) Accounting method

The Company applied the following accounting treatments stipulated by "Accounting Standard for Business Combinations" (ASBJ Statement No. 21, September 13, 2013) and "Guidance on Accounting Standard for Business Combinations and Accounting Standard for Business Divestitures" (ASBJ Guidance No. 10, September 13, 2013) and accounted for the business combination as a transaction with non-controlling shareholders under common control.

c) Acquisition cost of share exchange

			Tho	usands of
	Millio	ons of yen	U.S	S. dollars
Cash	¥	9,535	\$	84,990
Total	¥	9,535	\$	84,990

d) Contents of the Transactions

(1) Purchase price

¥2,125 (\$19) per share ordinary share

(2) Basis of calculation

The Company requested Mitsubishi UFJ Morgan Stanley Securities and the Target Company requested Nomura Securities, acting in the capacity of a third-party valuation institutions independent from both the Company and the Target Company.

The Company finally determined the Purchase Price to be \(\frac{125}{2}\) (\$19) per share, considering the results of the discussions and negotiations with the Target Company based on the statement and analysis results in the Share Valuation Report obtained from the third-party valuation institutions, premium rates offered

by tender offerors other than issuers in the past tender offer cases (the tender offer cases assuming that tender offerors intends to make target companies a wholly-owned subsidiaries) conducted in the past year, the price performance trend of the Target Company's shares and the prospects of the Tender Offer, among other things.

(3) Number of shares and ratio of voting rights to be obtained by the Transactions

Before the Transactions	5,362,400 shares	54.44%
To be obtained by the Transactions	4,487,202 shares	45.56%
After the Transactions	9.849.602 shares	100.00%

e) Change in equity related to transactions with non-controlling shareholders

Decrease in capital surplus by transactions with non-controlling shareholders is \(\frac{\pmathbb{X}}{3},356\) million (\\$29,914\) thousand).

Acquisition of Osmoflo Group

The Company has acquired Osmoflo Holdings Pty Ltd and Osmoflo Holdings Singapore Pte Ltd ("Osmoflo Group") during the fiscal year ended March 31, 2017.

a) Overview

Name of acquired company	Osmoflo Holdings Pty Ltd
	Osmoflo Holdings Singapore Pte Ltd
	and their 10 subsidiaries
Business of acquired company	Design, manufacture, supply operation and
	maintenance of desalination and wastewater
	system and equipment, etc.
Purpose	The acquisition will enable integration of
	Osmoflo's technology, especially reverse osmosis,
	with the Company's plant engineering technology
	and experience in the multistage flash method.
	The Company believes this will further enhance
	the combined opportunities in the desalination
	and industrial water treatment business in
	overseas markets including the Middle East.
	The Company views this opportunity with
	Osmoflo as a key component of the Companies
	target of promoting operations at overseas bases,
	outlined in the new medium-term management
	plan Hitz Vision II, and will seek to maximize
	synergy with Osmoflo in the hope that it will
	substantially contribute to sustainable growth for
	the Companies.
Acquition date	February 14, 2017
Legal form of acquisition	Acquisition of shares for cash consideration by the
	Company
Ratio of voting rights acquired	70%

b) Period for which the acquired company's results are included in the consolidated financial results. Acquisition date is February 14, 2017, but the assumed consolidation date is March 31, 2017. Therefore, the acquired company's results are not included in the consolidated financial results.

c) Acquisition costs

			Thousands of				
	Millio	ns of yen	U.S	dollars			
Cash	¥	5,211	\$	46,448			
Total	¥	5,211	\$	46,448			
d) Main acquisition related costs		ns of yen	U.S	usands of dollars			
Advisory fees, etc.	¥	252	\$	2,246			
Total	¥	252	\$	2,246			

e) Goodwill

Goodwill in the amount of \$2,148 million (\$19,146 thousand) comprises mainly the excess earning power expected in the future from the business expansion in the desalination and industrial water treatment business. The goodwill will be amortized over ten years.

f) Assets and liabilities acquired on the day of the business combination were as follows:

Assets	-	Millio	ons of yen	 usands of dollars
	Current assets	¥	3,426	\$ 30,537
	Fixed assets		3,931	35,039
	Total	¥	7,357	\$ 65,576
Liabilities		Millio	ons of yen	 usands of . dollars
	Current liabilities	¥	1,855	\$ 16,534
	Long-term liabilities		648	 5,776
	Total	¥	2,503	\$ 22,310

g) Purchase price allocation

The Company used a provisional accounting treatment based on rational information available at the end of this fiscal year because the purchase price allocation had not been finished at this time.

23. Asset Retirement Obligations

a) General information about asset retirement obligations

The Company and some consolidated subsidiaries have recognized asset retirement obligations associated with the removal of asbestos and other harmful substances in the some works and the restoration under certain real estate rental agreements.

b) Basis of measurement for asset retirement obligations

Asset retirement obligations are calculated based on the estimated period of use, which is the remaining period of depreciation of the target assets, and discounted by the yield in circulation on government bonds according to the remaining number of years.

Year ended March 31, 2016 and 2017:

		Millions	n	Thousands of U.S.dollars			
	2	016	2	2017	2017		
Balance at the beginning of the fiscal year	¥	918	¥	967	\$	8,619	
Increase in purchase of property, plant and							
equipment		39		65		580	
Adjustment with passing of time		10		9	,	80	
Balance at the end of the fiscal year	¥	967	¥	1,041	\$	9,279	

24. Investment and Rental Property

The Company and some consolidated subsidiaries own rental property and idle land in Osaka and other areas. For the years ended March 31, 2016 and 2017, rental income was ¥513 million and ¥295 million (\$2,629 thousand), respectively. Rental income and rental expenses were counterbalanced and described mainly in other income and expenses.

Book value of investment and rental property stated in the consolidated balance sheet, the relative increase or decrease for this fiscal year and the corresponding fair value were as follows:

		Million	s of v	e n	Thousands of U.S.dollars			
		2016	2017	2017	2017			
Book value								
Balance at the beginning of the fiscal year	¥	23,062	¥	17,472	\$	155,736		
Decrease for this fiscal year, net		(5,590)		(3,388)		(30, 199)		
Balance at the end of the fiscal year	¥	17,472	¥	14,084	\$	125,537		
Fair value	-							
at the end of the fiscal year	¥	16,052	¥	10,576	\$	94,269		

Note. Book value stated in the consolidated balance sheet was net of accumulated depreciation.

For the fiscal year ended March 31, 2016 and 2017, net decrease of \\$5,590 million and \\$3,388 million (\\$30,199 thousand) was due mainly to sale of rental land in the amount of \\$5,383 million and \\$3,612 million (\\$32,195 thousand), respectively.

The fair value of major property at the end of the fiscal year was measured based on values in the appraisal reports prepared by external real estate appraisers. The fair value of other property was measured based on certain assessed values or indicators which could be considered to properly reflect the market price.

25. Segment Information

a) Reportable segments

(1) General information about reportable segments

The Company's reportable segments are based on the organization into which the Company has classified the active conducting of business in order to evaluate performance by the Board of Directors.

The Company has set up the head offices according to products and services. Each head office has drafted strategies for handling products and services and has developed the active conducting of business.

The Companies' operations are classified into four reportable segments as follows:

Operations in the environmental systems and the industrial plants segment include the production of environmental protection systems, water treatment systems, desalination and potabilization plants and chemical plants.

Operations in the machinery segment include the production of marine diesel engines, boilers, SCR systems, process equipment, nuclear equipment, plastic machinery, food filling and packaging systems and material business.

Operations in the infrastructure segment include bridge construction, water gates and shield tunneling machines.

Operations in the other businesses segment include the transportation business and warehousing business.

(2) Basis of measurement for reported segment income or loss, segment assets and other material items. There were no significant changes in the accounting methods used for reported business segments in this fiscal year.

The amounts of reported segment income or loss are based on operating income.

Intersegment sales, operating revenue and transfers are made with reference to prevailing market prices.

(3) Information about reported segment income or loss, segment assets and other material items Information by reported segment of the Companies was as follows:

							Millio	ns of yen						
•							1	2016						
	Environmental systems and industrial plants		Machinery		Infra- structure		Other businesses		Total		Eliminations and corporate		(Consoli- dated
Net sales														
Outside customers	¥	241,629	¥	104,482	¥	30,835	¥	10,098	¥	387,044	¥	_	¥	387,044
Intersegment		372		3,548		519		2,919		7,358		(7,358)		_
Total		242,001		108,030		31,354		13,017		394,402		(7,358)		387,044
Segment income (loss)	¥	14,819	¥	(864)	¥	433	¥	753	¥	15,141	¥	(28)	¥	15,113
Segment assets	¥	136,768	¥	119,353	¥	47,852	¥	56,597	¥	360,570	¥	41,079	¥	401,649
Others														
Depreciation	¥	3,379	¥	3,029	¥	763	¥	1,258	¥	8,429	¥	_	¥	8,429
Increase in assets and intangible assets	¥	3,322	¥	2,985	¥	1,048	¥	1,665	¥	9,020	¥	_	¥	9,020

							Millio	ns of yen						
							2	2017						
	sys	ronmental stems and strial plants	М	achinery		Infra- structure		Other businesses		Total		Eliminations and corporate		Consoli- dated
Net sales					-								-	
Outside customers	¥	254,612	¥	103,722	¥	29,236	¥	11,761	¥	399,331	¥	_	¥	399,331
Intersegment		293		3,935		251		2,014		6,493		(6,493)		_
Total		254,905		107,657		29,487		13,775		405,824		(6,493)		399,331
Segment income (loss)	¥	11,313	¥	2,204	¥	994	¥	397	¥	14,908	¥	39	¥	14,947
Segment assets	¥	131,132	¥	115,292	¥	39,730	¥	68,283	¥	354,437	¥	39,037	¥	393,474
Others														
Depreciation	¥	3,374	¥	3,121	¥	651	¥	1,390	¥	8,536	¥	_	¥	8,536
Increase in assets and intangible assets	¥	2,698	¥	3,114	¥	793	¥	2,411	¥	9,016	¥	_	¥	9,016

						Th	ousands	of U.S.dollars					
•							:	2017					
	Environmental systems and industrial plants		Machinery		Infra- structure		Other businesses		Total		Eliminations and corporate		Consoli- dated
Net sales													
Outside customers	\$	2,269,471	\$	924,521	\$	260,594	\$	104,831	\$	3,559,417	\$	_	\$ 3,559,417
Intersegment		2,612		35,074		2,237		17,952		57,875		(57,875)	_
Total		2,272,083		959,595		262,831		122,783		3,617,292		(57,875)	 3,559,417
Segment income (loss)	\$	100,838	\$	19,645	\$	8,860	\$	3,539	\$	132,882	\$	347	\$ 133,229
Segment assets	\$	1,168,839	\$	1,027,650	\$	354,131	\$	608,637	\$	3,159,257	\$	347,954	\$ 3,507,211
Others													
Depreciation	\$	30,074	\$	27,819	\$	5,802	\$	12,390	\$	76,085	\$	_	\$ 76,085
Increase in assets and intangible assets	\$	24,049	\$	27,757	\$	7,068	\$	21,490	\$	80,364	\$	-	\$ 80,364

The amounts of segment income or loss are adjusted to operating income in the Consolidated Statements of Income.

Corporate amounts are mainly the common accounts of the head office that cannot be allocated to each segment. Corporate assets, which include mainly cash, time deposits and securities, at March 31, 2016 and 2017 were \$41,258 million and \$38,876 million (\$346,519 thousand), respectively.

b) Related information

(1) Information about products and services

Information about products and services is not shown because the classification of products and services is the same as the classification of reported segments.

(2) Information about geographic areas

Sales by region for the years ended March 31, 2016 and 2017 were as follows:

					Tho	ousands of	
		Millions of yen				U. S. dollars	
	2016		2017		2017		
Japan	¥	258,116	¥	268,522	\$	2,393,458	
Asia		23,083		27,996		249,541	
North America		14,571		15,385		137,133	
Middle East		20,246		43,932		391,586	
Europe		68,579		40,402		360,121	
Other		2,449		3,094		27,578	
Total	¥	387,044	¥	399,331	\$	3,559,417	

Information about tangible fixed assets by region is not shown because tangible fixed assets in Japan accounted for more than 90% of the amounts of tangible fixed assets in the Consolidated Balance Sheets.

(3) Information about major customers

Sales by major customers for the year ended March 31, 2017 were as follows:

			Tho	usands of	
	Milli	ons of yen	U.	S. dollars	
Customer		2017		2017	
Umm Al Houl Power	¥	42,288	\$	376,932	

For the year ended March 31, 2016, information about major customers is not shown because there were no sales from transactions with a single external customer that amounted to 10% or more of sales in the Consolidated Statements of Income.

26. Related Party Information

Year ended March 31, 2016:

Attribute	Name	Domicile		Nature of	Equity ownership by the Company			Trading amount	Account	Balance at year end
Affiliate	Naikai Zosen Corporation	Onomichi City, Hiroshima Prefecture	¥1,200 million	Manu- facturing	10.5%	purchase	Ot .	,		¥1,429 million

This related party transaction took place on terms similar to those with third parties.

The significant affiliated company was Zhongji Hitachi Zosen Diesel Engine Co., Ltd. for the year ended March 31, 2016.

A summary of the financial statements of the significant affiliates was as follows:

		Millions of yen		
Total current assets	¥	1,648		
Total fixed assets		8,847		
Total current liabilities		12,885		
Total long-term liabilities		1,671		
Total net assets		(4,061)		
Net sales	¥	1,269		
Loss before income taxes and non-controlling interests		(11,744)		
Net loss		(11,744)		

Year ended March 31, 2017:

Since there are no significant transactions and affiliates, the description is omitted.