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SAMSUNG ELECTRO-MECHANICS CO., LTD.
CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015
WITH INDEPENDENT AUDITORS' REPORT

SAMSUNG
ELECTRO-MECHANICS

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Independent auditors' report

The Shareholders and Board of Directors
Samsung Electro-Mechanics Co., Ltd.

We have audited the accompanying consolidated financial statements of Samsung Electro-Mechanics Co., Ltd. (the "Company") and its subsidiaries (collectively the "Group"), which comprise the consolidated statements of financial position as at December 31, 2016 and 2015, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated 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 Korean International Financial Reporting Standards, 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.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the Republic of Korea. 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 the auditors' judgment, 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, the auditors 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, but 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.

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Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2016 and 2015, and their financial performance and cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.

Ernst & Young Han Young

February 24, 2017

This audit report is effective as at February 24, 2017, the independent auditors' report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditors' report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2016 and 2015

“The accompanying consolidated financial statements, including all footnotes and disclosures, have been prepared by, and the responsibility of, the Company.”

Lee, Yun Tae
Chief Executive Officer
Samsung Electro-Mechanics Co., Ltd.

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of financial position
as at December 31, 2016 and 2015

		Korean won		US dollar (Note 2)	
	Notes	**2016**	**2015**	**2016**	**2015**
Assets					
Current assets:					
Cash and cash equivalents	4	₩ 795,810,686,641	₩ 1,035,257,116,636	$ 658,511,118	$ 856,646,352
Current financial assets	5	312,665,553,792	94,010,836,567	258,722,014	77,791,342
Trade and other receivables	6,22	781,698,700,854	821,191,280,044	646,833,844	679,512,849
Short-term loans		276,685,872	651,985,288	228,950	539,500
Advanced payments		13,798,691,635	23,014,673,510	11,418,032	19,044,000
Prepaid expenses		32,903,398,664	33,629,190,019	27,226,643	27,827,216
Prepaid income taxes		48,096,380,444	39,230,822,577	39,798,412	32,462,410
Inventories, net	7	827,158,780,591	678,980,295,110	684,450,791	561,837,232
Assets classified as held for sale	26	-	4,005,097,736	-	3,314,107
		2,812,408,878,493	2,729,971,297,487	2,327,189,804	2,258,975,008
Non-current assets:					
Investment in associates	8	47,343,491,237	44,259,737,103	39,175,417	36,623,696
Available-for-sale financial assets	9	745,311,370,145	799,622,634,398	616,724,344	661,665,399
Long-term loans		2,420,927,040	1,821,427,533	2,003,250	1,507,180
Property, plant and equipment	10	3,714,441,304,500	3,298,412,243,924	3,073,596,446	2,729,344,016
Intangible assets, net	11	92,185,950,459	91,179,994,348	76,281,300	75,448,899
Non-current financial assets	5	52,823,526,435	63,407,114,801	43,709,993	52,467,617
Long-term prepaid expenses		44,239,902,776	47,393,251,331	36,607,284	39,216,592
Long-term trade and other receivables	6	67,466,009,592	144,877,466,511	55,826,239	119,882,058
Net employee defined benefit assets	14	15,347,623,628	-	12,699,730	-
Deferred tax assets	20	68,640,275,557	48,507,695,766	56,797,911	40,138,764
		4,850,220,381,369	4,539,481,565,715	4,013,421,914	3,756,294,221
Total assets		**₩ 7,662,629,259,862**	**₩ 7,269,452,863,202**	**$ 6,340,611,718**	**$ 6,015,269,229**

(Continued)

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of financial position
as at December 31, 2016 and 2015 (Cont'd)

		Korean won		US dollar (Note 2)	
	Notes	**2016**	**2015**	**2016**	**2015**
Liabilities and equity					
Current liabilities:					
Trade and other payables	12,22	₩ 831,636,663,006	₩ 705,158,745,629	$ 688,156,113	$ 583,499,169
Short-term borrowings	13	842,296,257,807	691,132,241,023	696,976,630	571,892,628
Advances received		8,495,728,477	5,652,150,240	7,029,978	4,676,996
Current financial liabilities	5	18,519,443,831	16,275,369,066	15,324,323	13,467,413
Income tax payables		4,772,691,318	8,678,731,378	3,949,269	7,181,408
Current portion of long-term borrowings	13	323,626,684,800	333,837,460,755	267,792,044	276,241,176
Unearned income	10	8,929,296,971	201,109,796	7,388,744	166,413
Provisions for product warranties	15	4,878,383,605	7,318,225,795	4,036,726	6,055,627
		2,043,155,149,815	1,768,254,033,682	1,690,653,827	1,463,180,830
Non-current liabilities:					
Long-term borrowings	13	1,277,706,471,534	1,016,625,800,137	1,057,266,422	841,229,458
Long-term trade and other payables	12	1,503,709,915	10,938,700,268	1,244,278	9,051,469
Net employee defined benefit liabilities	14	-	144,597,713,413	-	119,650,570
Deferred tax liabilities	20	2,678,630,166	13,653,397,789	2,216,492	11,297,805
		1,281,888,811,615	1,185,815,611,607	1,060,727,192	981,229,302
Total liabilities		**₩ 3,325,043,961,430**	**₩ 2,954,069,645,289**	**$ 2,751,381,019**	**$ 2,444,410,132**
Equity					
Issued capital	17	₩ 388,003,400,000	₩ 388,003,400,000	$ 321,061,978	$ 321,061,978
Share premium	17	1,045,201,199,091	1,045,201,199,091	864,874,803	864,874,803
Other components of equity	17	(146,701,455,500)	(146,701,455,500)	(121,391,357)	(121,391,357)
Accumulated other comprehensive income	9,17	419,861,212,787	490,069,961,984	347,423,428	405,519,207
Other capital reserves	17	2,215,365,257,472	2,148,465,257,472	1,833,152,882	1,777,795,000
Retained earnings		318,388,325,948	297,076,171,273	263,457,448	245,822,235
Equity attributable to owners of the parent		**4,240,117,939,798**	**4,222,114,534,320**	**3,508,579,182**	**3,493,681,866**
Non-controlling interests		97,467,358,634	93,268,683,593	80,651,517	77,177,231
Total equity		**4,337,585,298,432**	**4,315,383,217,913**	**3,589,230,699**	**3,570,859,097**
Total liabilities and equity		**₩ 7,662,629,259,862**	**₩ 7,269,452,863,202**	**$ 6,340,611,718**	**$ 6,015,269,229**

The notes are an integral part of the consolidated financial statements.

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2016 and 2015

		Korean won		US dollar (Note 2)	
	Notes	**2016**	**2015**	**2016**	**2015**
Continuing operations					
Sales	3,22	₩ 6,033,040,463,975	₩ 6,176,258,143,768	$ 4,992,172,498	$ 5,110,681,128
Cost of sales	18,22	(5,006,276,573,992)	(4,864,706,500,318)	(4,142,554,054)	(4,025,408,771)
Gross profit		**1,026,763,889,983**	**1,311,551,643,450**	**849,618,444**	**1,085,272,357**
Selling and administrative expenses	18	(1,002,364,373,049)	(1,010,220,077,989)	(829,428,525)	(835,928,902)
Operating profit		**24,399,516,934**	**301,331,565,461**	**20,189,919**	**249,343,455**
Finance income	19	17,945,893,672	18,854,372,863	14,849,724	15,601,467
Finance costs	19	(49,000,338,038)	(35,412,835,542)	(40,546,411)	(29,303,132)
Share of profit of associates	8,19	8,549,171,284	7,044,610,923	7,074,200	5,829,219
Other income	19	333,078,356,033	316,040,063,823	275,613,038	261,514,326
Other expenses	10,19	(302,889,990,542)	(241,066,623,930)	(250,633,008)	(199,475,900)
Profit before tax from continuing operations		**32,082,609,343**	**366,791,153,598**	**26,547,462**	**303,509,435**
Income tax expense	20	9,168,250,627	44,562,958,072	7,586,471	36,874,603
Profit for the year from continuing operations		**22,914,358,716**	**322,228,195,526**	**18,960,991**	**266,634,832**
Discontinued operations					
Loss after tax for the year from discontinued operations	26	-	(301,584,866,073)	-	(249,553,054)
Profit for the year		**₩ 22,914,358,716**	**₩ 20,643,329,453**	**$ 18,960,991**	**$ 17,081,778**
Other comprehensive income:					
Other comprehensive income (loss) not to be reclassified to profit or loss in subsequent periods (net of tax):					
Re-measurement gains (losses) on defined benefit plans	14	111,421,091,615	(12,140,575,460)	92,197,842	(10,045,987)
Equity adjustments of investment in associates		(18,669,268)	(102,210,888)	(15,448)	(84,576)
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods (net of tax):					
Equity adjustments of investment in associates		(2,777,393,757)	101,132,407	(2,298,216)	83,684
Net gains (losses) on valuation of available-for-sale financial assets	9	(63,672,543,044)	(194,565,334,650)	(52,687,251)	(160,997,381)
Exchange differences on translation of foreign operations		(4,251,014,797)	67,280,002,509	(3,517,596)	55,672,323
Other comprehensive expense for the year, net of tax		**40,701,470,749**	**(139,426,986,082)**	**33,679,331**	**(115,371,937)**
Total comprehensive income (loss) for the year, net of tax		**₩ 63,615,829,465**	**₩ (118,783,656,629)**	**$ 52,640,322**	**$ (98,290,159)**

(Continued)

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2016 and 2015 (Cont'd)

	Notes	Korean won 2016	Korean won 2015	US dollar (Note 2) 2016	US dollar (Note 2) 2015
Profit for the year from continuing operations attributable to:					
Equity holders of the parent		14,707,365,760	312,773,326,119	12,169,934	258,811,192
Non-controlling interests		8,206,992,956	9,454,869,407	6,791,057	7,823,640
		₩ 22,914,358,716	₩ 322,228,195,526	$ 18,960,991	$ 266,634,832
Profit for the year attributable to:					
Equity holders of the parent		14,707,365,760	11,188,460,046	12,169,934	9,258,138
Non-controlling interests		8,206,992,956	9,454,869,407	6,791,057	7,823,640
		₩ 22,914,358,716	₩ 20,643,329,453	$ 18,960,991	$ 17,081,778
Total comprehensive income (loss) for the year attributable to:					
Equity holders of the parent		55,919,708,178	(127,256,914,247)	46,271,997	(105,301,543)
Non-controlling interests		7,696,121,287	8,473,257,618	6,368,325	7,011,384
		₩ 63,615,829,465	₩ (118,783,656,629)	$ 52,640,322	$ (98,290,159)
Earnings per share:	21				
Basic, profit for the year attributable to ordinary equity holders of the parent		₩ 193	₩ 146	$ .16	$ .12
Diluted, profit for the year attributable to ordinary equity holders of the parent		₩ 193	₩ 146	$ .16	$ .12
Basic and diluted, profit for the year attributable to preferred shareholders of the parent		₩ 243	₩ 196	$ .20	$ .16
Earnings per share for continuing operations:					
Basic, profit from continuing operations attributable to ordinary equity holders of the parent		₩ 193	₩ 4,120	$ .16	$ 3.41
Diluted, profit from continuing operations attributable to ordinary equity holders of the parent		₩ 193	₩ 4,120	$ .16	$ 3.41
Basic and diluted, profit from continuing operations attributable to preferred shareholders of the parent		₩ 243	₩ 4,170	$ .20	$ 3.45

The notes are an integral part of the consolidated financial statements.

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2016 and 2015

	Korean won								
	Attributable to equity holders of the parent								
	Issued capital	Share premium	Other components of equity	Accumulated other comprehensive income	Other capital reserves	Retained earnings	Sub-total	Non-controlling interests	Total equity
As at January 1, 2015	**₩ 388,003,400,000**	**₩ 1,045,201,199,091**	**₩ (969,755,640)**	**₩ 616,548,291,638**	**₩ 1,811,225,257,472**	**₩ 693,397,871,066**	**₩ 4,553,406,263,627**	**₩ 89,389,816,525**	**₩ 4,642,796,080,152**
Profit for the year	-	-	-	-	-	11,188,460,046	11,188,460,046	9,454,869,407	20,643,329,453
Other comprehensive income:									
Re-measurement losses on defined benefit plans	-	-	-	-	-	(11,967,044,639)	(11,967,044,639)	(173,530,821)	(12,140,575,460)
Equity adjustments of investment in associates	-	-	-	(1,078,481)	-	-	(1,078,481)	-	(1,078,481)
Net losses on valuation of available-for-sale financial assets	-	-	-	(194,595,384,250)	-	-	(194,595,384,250)	30,049,600	(194,565,334,650)
Exchange differences on translation of foreign operations	-	-	-	68,118,133,077	-	-	68,118,133,077	(838,130,568)	67,280,002,509
Total comprehensive income (loss)	**-**	**-**	**-**	**(126,478,329,654)**	**-**	**(778,584,593)**	**(127,256,914,247)**	**8,473,257,618**	**(118,783,656,629)**
Dividends	-	-	-	-	-	(58,303,115,200)	(58,303,115,200)	(4,594,390,550)	(62,897,505,750)
Appropriation of retained earnings	-	-	-	-	337,240,000,000	(337,240,000,000)	-	-	-
Acquisition of treasury shares	-	-	(145,731,699,860)	-	-	-	(145,731,699,860)	-	(145,731,699,860)
As at December 31, 2015	**₩ 388,003,400,000**	**₩ 1,045,201,199,091**	**₩ (146,701,455,500)**	**₩ 490,069,961,984**	**₩ 2,148,465,257,472**	**₩ 297,076,171,273**	**₩ 4,222,114,534,320**	**₩ 93,268,683,593**	**₩ 4,315,383,217,913**
As at January 1, 2016	**₩ 388,003,400,000**	**₩ 1,045,201,199,091**	**₩ (146,701,455,500)**	**₩ 490,069,961,984**	**₩ 2,148,465,257,472**	**₩ 297,076,171,273**	**₩ 4,222,114,534,320**	**₩ 93,268,683,593**	**₩ 4,315,383,217,913**
Profit for the year	-	-	-	-	-	14,707,365,760	14,707,365,760	8,206,992,956	22,914,358,716
Other comprehensive income:									
Re-measurement gains on defined benefit plans	-	-	-	-	-	111,421,091,615	111,421,091,615	-	111,421,091,615
Equity adjustments of investment in associates	-	-	-	(2,796,063,025)	-	-	(2,796,063,025)	-	(2,796,063,025)
Net losses on valuation of available-for-sale financial assets	-	-	-	(63,672,543,044)	-	-	(63,672,543,044)	-	(63,672,543,044)
Exchange differences on translation of foreign operations	-	-	-	(3,740,143,128)	-	-	(3,740,143,128)	(510,871,669)	(4,251,014,797)
Total comprehensive income (loss)	**-**	**-**	**-**	**(70,208,749,197)**	**-**	**126,128,457,375**	**55,919,708,178**	**7,696,121,287**	**63,615,829,465**
Dividends	-	-	-	-	-	(37,916,302,700)	(37,916,302,700)	(5,478,471,017)	(43,394,773,717)
Appropriation of retained earnings	-	-	-	-	66,900,000,000	(66,900,000,000)	-	-	-
Issue of share capital of subsidiary	-	-	-	-	-	-	-	1,990,024,771	1,990,024,771
Stock redemption of subsidiary	-	-	-	-	-	-	-	(9,000,000)	(9,000,000)
As at December 31, 2016	**₩ 388,003,400,000**	**₩ 1,045,201,199,091**	**₩ (146,701,455,500)**	**₩ 419,861,212,787**	**₩ 2,215,365,257,472**	**₩ 318,388,325,948**	**₩ 4,240,117,939,798**	**₩ 97,467,358,634**	**₩ 4,337,585,298,432**

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Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2016 and 2015

	US dollar (Note 2)								
	Attributable to equity holders of the parent								
	Issued capital	Share premium	Other components of equity	Accumulated other comprehensive income	Other capital reserves	Retained earnings	Sub-total	Non-controlling interests	Total equity
As at January 1, 2015	$ **321,061,978**	$ **864,874,803**	$ **(802,446)**	$ **510,176,493**	$ **1,498,738,318**	$ **573,767,374**	$ **3,767,816,520**	$ **73,967,577**	$ **3,841,784,097**
Profit for the year	-	-	-	-	-	9,258,138	9,258,138	7,823,640	17,081,778
Other comprehensive income:									
Re-measurement losses on defined benefit plans	-	-	-	-	-	(9,902,395)	(9,902,395)	(143,592)	(10,045,987)
Equity adjustments of investment in associates	-	-	-	(892)	-	-	(892)	-	(892)
Net losses on valuation of available-for-sale financial assets	-	-	-	(161,022,246)	-	-	(161,022,246)	24,865	(160,997,381)
Exchange differences on translation of foreign operations	-	-	-	56,365,852	-	-	56,365,852	(693,529)	55,672,323
Total comprehensive income (loss)	**-**	**-**	**-**	**(104,657,286)**	**-**	**(644,257)**	**(105,301,543)**	**7,011,384**	**(98,290,159)**
Dividends	-	-	-	-	-	(48,244,200)	(48,244,200)	(3,801,730)	(52,045,930)
Appropriation of retained earnings	-	-	-	-	279,056,682	(279,056,682)	-	-	-
Acquisition of treasury shares	-	-	(120,588,911)	-	-	-	(120,588,911)	-	(120,588,911)
As at December 31, 2015	$ **321,061,978**	$ **864,874,803**	$ **(121,391,357)**	$ **405,519,207**	$ **1,777,795,000**	$ **245,822,235**	$ **3,493,681,866**	$ **77,177,231**	$ **3,570,859,097**
As at January 1, 2016	$ **321,061,978**	$ **864,874,803**	$ **(121,391,357)**	$ **405,519,207**	$ **1,777,795,000**	$ **245,822,235**	$ **3,493,681,866**	$ **77,177,231**	$ **3,570,859,097**
Profit for the year	-	-	-	-	-	12,169,934	12,169,934	6,791,057	18,960,991
Other comprehensive income:									
Re-measurement gains on defined benefit plans	-	-	-	-	-	92,197,842	92,197,842	-	92,197,842
Equity adjustments of investment in associates	-	-	-	(2,313,664)	-	-	(2,313,664)	-	(2,313,664)
Net losses on valuation of available-for-sale financial assets	-	-	-	(52,687,251)	-	-	(52,687,251)	-	(52,687,251)
Exchange differences on translation of foreign operations	-	-	-	(3,094,864)	-	-	(3,094,864)	(422,732)	(3,517,596)
Total comprehensive income (loss)	**-**	**-**	**-**	**(58,095,779)**	**-**	**104,367,776**	**46,271,997**	**6,368,325**	**52,640,322**
Dividends	-	-	-	-	-	(31,374,681)	(31,374,681)	(4,533,282)	(35,907,963)
Appropriation of retained earnings	-	-	-	-	55,357,882	(55,357,882)	-	-	-
Issue of share capital of subsidiary	-	-	-	-	-	-	-	1,646,690	1,646,690
Stock redemption of subsidiary	-	-	-	-	-	-	-	(7,447)	(7,447)
As at December 31, 2016	$ **321,061,978**	$ **864,874,803**	$ **(121,391,357)**	$ **347,423,428**	$ **1,833,152,882**	$ **263,457,448**	$ **3,508,579,182**	$ **80,651,517**	$ **3,589,230,699**

The notes are an integral part of the consolidated financial statements.

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2016 and 2015

		Korean won		US dollar (Note 2)	
	Notes	2016	2015	2016	2015
Operating activities					
Cash flows from operating activities	23	₩ 702,285,900,446	₩ 804,597,162,924	$ 581,121,970	$ 665,781,682
Interest received		14,768,972,900	14,949,428,849	12,220,913	12,370,235
Income tax paid		(37,411,114,105)	(282,429,272,210)	(30,956,652)	(233,702,335)
Net cash flows from operating activities		**679,643,759,241**	**537,117,319,563**	**562,386,231**	**444,449,582**
Investing activities					
Increase (decrease) in other financial assets, net		(208,980,521,928)	703,164,163,491	(172,925,546)	581,848,708
Proceeds from investments in subsidiaries		-	2,998,761,158	-	2,481,391
Proceeds from disposal of available-for-sale financial assets		5,005,097,734	55,998,722,560	4,141,579	46,337,379
Acquisition of available-for-sale financial assets		(31,058,025,936)	(3,019,410,000)	(25,699,649)	(2,498,477)
Proceeds from disposal of property, plant and equipment		67,837,985,416	185,763,404,651	56,134,038	153,714,030
Acquisition of property, plant and equipment		(1,051,853,037,876)	(1,196,229,279,233)	(870,379,014)	(989,846,321)
Proceeds from disposal of intangible assets		34,933,613,724	31,640,453,635	28,906,590	26,181,592
Acquisition of intangible assets		(7,169,821,989)	(9,345,919,246)	(5,932,827)	(7,733,487)
Dividends received		4,943,181,500	7,853,970,510	4,090,345	6,498,941
Net cash flows used in investing activities		**(1,186,341,529,355)**	**(221,175,132,474)**	**(981,664,484)**	**(183,016,244)**
Financing activities					
Proceeds from short-term borrowings		259,910,030,743	190,978,881,264	215,068,292	158,029,691
Repayment of short-term borrowings		(121,468,225,893)	(175,572,804,864)	(100,511,565)	(145,281,593)
Repayment of current portion of long-term borrowings		(180,271,019,557)	(458,475,734,887)	(149,169,234)	(379,375,867)
Proceeds from long-term borrowings		438,412,654,227	722,899,526,350	362,774,228	598,179,170
Repayment of long-term borrowings		(27,807,998,457)	-	(23,010,342)	-
Acquisition of treasury shares		-	(145,731,699,860)	-	(120,588,912)
Issue of share capital of subsidiary		1,990,024,771	-	1,646,690	-
Stock redemption of subsidiary		(9,000,000)	-	(7,447)	-
Interest paid		(48,448,555,987)	(40,868,222,467)	(40,089,827)	(33,817,313)
Dividends paid		(41,009,848,407)	(62,971,452,329)	(33,934,504)	(52,107,118)
Net cash flows from financing activities		**281,298,061,440**	**30,258,493,207**	**232,766,291**	**25,038,058**
Net increase (decrease) in cash and cash equivalents		(225,399,708,674)	346,200,680,296	(186,511,962)	286,471,395
Cash and cash equivalents at January 1		1,035,257,116,636	688,025,403,172	856,646,352	569,321,807
Net foreign exchange difference		(14,046,721,321)	1,031,033,168	(11,623,272)	853,150
Cash and cash equivalents at December 31		**₩ 795,810,686,641**	**₩ 1,035,257,116,636**	**$ 658,511,118**	**$ 856,646,352**

The notes are an integral part of the consolidated financial statements.

1. Organization and business

1.1 The Company

Samsung Electro-Mechanics Co., Ltd. (the "Company") was incorporated on August 8, 1973 under the laws of the Republic of Korea to engage in manufacture and sales of various electronic components. The ordinary shares of the Company have been publicly traded on the Korea Exchange since 1979.

The Company's manufacturing plants are located in Suwon, Gyunggi-do, Busan, Gyeongsangnam-do, Sejong Special Self-Governing City, Ulsan Metropolitan City and Cheonan, Chungcheongnam-do. The Company maintains its overseas business operations through 16 overseas direct subsidiaries and 2 overseas indirect subsidiaries located in the Americas, Europe and Asia.

1.2 Consolidated subsidiaries

Details of consolidated subsidiaries as at December 31, 2016 are as follows (Korean won in thousands):

Subsidiary	Issued capital	Number of shares	Equity interest	Principal activities	Domicile
Samsung Electro-Mechanics (Thailand) Co., Ltd.	₩ 13,130,733	3,181,869	75.00%	Network module manufacturing	Thailand
Dongguan Samsung Electro-Mechanics Co., Ltd. (*1)	73,534,869	-	100.00%	Chip component manufacturing	China
Tianjin Samsung Electro-Mechanics Co., Ltd. (*1)	129,269,389	-	81.76%	Chip component manufacturing	China
Samsung Electro-Mechanics Philippines, Corp.	53,917,212	4,046,711	100.00%	Chip component manufacturing	Philippines
Samsung High-Tech Electro-Mechanics(Tianjin) Co., Ltd. (*1)	38,972,998	-	95.00%	Camera module manufacturing	China
Kunshan Samsung Electro-Mechanics Co., Ltd. (*1)	174,462,200	-	100.00%	Multi-layer board manufacturing	China
Samsung Electro-Mechanics Vietnam Co., Ltd. (*1)	64,620,500	-	100.00%	Camera module, multi-layer board manufacturing	Vietnam
Samsung Electro-Mechanics America, Inc. (*2)	3,420,160	5,000	100.00%	Trading	US
Samsung Electro-Mechanics GmbH (*1)	3,089,662	-	100.00%	Trading	Germany
Calamba Premier Realty Corporation (*3)	3,383	398	39.80%	Real estate	Philippines
Samsung Hungary Electro-Mechanics Private Limited Liability Company	2,478,280	13,800	100.00%	Real estate	Hungary
Samsung Electro-Mechanics Pte Ltd.	1,215,800	1,760,200	100.00%	Trading	Singapore
Samsung Electro-Mechanics (Shenzhen) Co., Ltd. (*1)	2,368,283	-	100.00%	Trading	China
Samsung Electro-Mechanics do Brasil Intermediacoes de Negocios Ltda. (*1)	320,760	-	100.00%	Trading	Brazil
Samsung Electro-Mechanics Japan Co., Ltd.	4,696,119	330,000	100.00%	Trading	Japan
Samsung Electro-Mechanics Japan Advanced Technology Co., Ltd.	99,559,277	309,891	100.00%	Trading	Japan
Batino Realty Corporation	2,704	1,000	39.80%	Real estate	Philippines
Samsung Venture Investment Co., Ltd.(SVIC#19) (*1)	14,261,000	-	99.00%	Investment	Korea

1. Organization and business (cont'd)

1.2 Consolidated subsidiaries (cont'd)

The end of fiscal year for all subsidiaries is at the end of December.

(*1) These subsidiaries are limited liability entities that do not issue shares in accordance with local law.
(*2) Samsung Electro-Mechanics America Inc. is a direct subsidiary which wholly owns Samsung Electro-Mechanics do Brasil Intermediacoes de Negocios Ltda.
(*3) Calamba Premier Realty Corporation is a direct subsidiary which wholly owns Batino Realty Coporation.

Although equity interests in Calamba Premier Realty Corporation and Batino Realty Corporation are less than 50%, the Company holds *de facto* control. Retirement pension for the employees of Samsung Electro-Mechanics Philippines, Corp. owns more than 50% of the equity interests.

The summary of the consolidated subsidiaries' financial position as at December 31, 2016 and the results of their financial performance for the year then ended, which have been included in the accompanying consolidated financial statements are as follows (Korean won in thousands):

Subsidiary	Total assets	Total liabilities	Sales	Profit (loss) for the year
Samsung Electro-Mechanics (Thailand) Co., Ltd.	₩ 207,788,075	₩ 79,039,987	₩ 504,441,515	₩ 7,769,825
Dongguan Samsung Electro-Mechanics Co., Ltd.	244,289,109	113,385,997	579,593,848	11,707,063
Tianjin Samsung Electro-Mechanics Co., Ltd.	746,290,224	399,247,605	985,842,575	34,870,439
Samsung Electro-Mechanics Philippines,Corp.	700,601,636	533,181,974	598,847,277	5,930,811
Samsung High-Tech Electro-Mechanics (Tianjin) Co., Ltd.	400,563,353	328,023,159	795,778,090	3,560,951
Kunshan Samsung Electro-Mechanics Co., Ltd.	424,023,660	300,519,533	255,235,051	(16,926,833)
Samsung Electro-Mechanics Vietnam Co., Ltd.	1,166,004,213	1,048,832,692	1,179,774,699	65,772,865
Samsung Electro-Mechanics America, Inc.	53,925,102	38,906,235	257,620,619	177,815
Samsung Electro-Mechanics GmbH	42,771,119	15,283,057	89,798,619	4,764,398
Calamba Premier Realty Corporation	8,434,225	6,754,562	-	(46,237)
Samsung Hungary Electro-Mechanics Private Limited Liability Company	3,522,727	25,655	106,071	(823,629)
Samsung Electro-Mechanics Pte Ltd.	36,524,055	17,420,632	156,154,788	1,577,888
Samsung Electro-Mechanics (Shenzhen) Co., Ltd.	196,968,933	175,674,897	1,028,013,207	13,263,636
Samsung Electro-Mechanics do Brasil Intermediacoes de Negocios Ltda.	295,896	3,875	609,720	25,572
Samsung Electro-Mechanics Japan Co., Ltd.	13,999,146	9,721,036	48,740,659	595,652

1. Organization and business (cont'd)

1.2 Consolidated subsidiaries (cont'd)

Subsidiary	Total assets	Total liabilities	Sales	Profit (loss) for the year
Samsung Electro-Mechanics Japan Advanced Technology Co., Ltd.	₩ 102,444,125	₩ 98,195,626	₩ 554,547,942	₩ 51,867,758
Batino Realty Corporation	5,000,182	4,469,087	-	84,059
Samsung Venture Investment Co., Ltd. (SVIC#19)	12,529,762	52,887	-	(258,899)
Total	₩ 4,365,975,542	₩ 3,168,738,496	₩ 7,035,104,680	₩ 183,913,134

Profit attributable to non-controlling interests

Details of profit attributable to non-controlling interests for the year ended December 31, 2016 are as follows (Korean won in thousands):

Subsidiary	Non-controlling ownership	Profit (loss)	Attributable to non-controlling interests
Samsung Electro-Mechanics Thailand Co., Ltd.	25.00%	₩ 8,029,781	₩ 2,007,445
Tianjin Samsung Electro-Mechanics Co., Ltd.	18.24%	33,693,296	6,145,657
Samsung High-Tech Electro-Mechanics (Tianjin) Co., Ltd.	5.00%	674,209	33,710
Calamba Premier Realty Corp.	60.20%	(46,237)	(27,834)
Batino Realty Corporation	60.20%	84,059	50,604
Sansung Venture Investment Co.,Ltd. (SVIC#19)	1.00%	(258,899)	(2,589)
Total		₩ 42,176,209	₩ 8,206,993

2. Summary of significant accounting policies

2.1 Basis of financial statements preparation

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries (collectively referred to as the "Group") prepare statutory financial statements in the Korean language in accordance with Korean International Financial Reporting Standards (KIFRS) enacted by the *Act on External Audit of Stock Companies*. The accompanying consolidated financial statements have been translated into English from the Korean financial statements. In the event of differences in interpreting the financial statements or the independent auditor's report thereon, the Korean version, which is used for regulatory purposes, shall prevail.

The accompanying consolidated financial statements have been prepared on a historical cost basis, except for financial instruments that have been measured at fair value and when otherwise noted. The consolidated financial statements are presented in Korean won (KRW) with all values rounded to the nearest thousand, except when otherwise indicated.

United States dollar amounts
The US dollar amounts provided herein represent supplementary information solely for the convenience of the reader. All Korean won amounts of the 2016 and 2015 financial statements are translated to US dollars at US$1:₩1,208.5, the exchange rate in effect on December 31, 2016. Such presentation is not in accordance with Korean International Financial Reporting Standards, and should not be construed as a representation that the won amounts shown could be readily converted, realized or settled in US dollars at this or at any other rate.

2. Summary of significant accounting policies (cont'd)

2.2 Principles of consolidation

The consolidated financial statements comprise the financial statements of the Group and its subsidiaries as at December 31, 2016. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if and only if the Group has:

- Power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee)
- Exposure, or rights, to variable returns from its involvement with the investee, and
- The ability to use its power over the investee to affect its returns

When the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- The contractual arrangement with the other vote holders of the investee
- Rights arising from other contractual arrangements
- The Group's voting rights and potential voting rights

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date the Group gains control until the date the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If the Group loses control over a subsidiary, it derecognizes the related assets (including goodwill), liabilities, non-controlling interest and other components of equity while any related gain or loss is recognized in profit or loss. Any remaining investment is recognized at fair value.

2.3 Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. For each business combination, the acquirer measures the non-controlling interest in the acquiree either at fair value or at the proportionate share of the acquiree's identifiable net assets. Acquisition costs incurred are expensed and included in administrative expenses.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date.

If the business combination is achieved in stages, any previously held equity interest is re-measured at its acquisition date fair value and any resulting gain or loss is recognized in profit or loss. It is then considered in the determination of goodwill.

2. Summary of significant accounting policies (cont'd)

2.3 Business combinations and goodwill (cont'd)

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Contingent consideration classified as an asset or liability that is a financial instrument and within the scope of KIFRS 1039 *Financial Instruments: Recognition and Measurement*, is measured at fair value with changes in fair value recognized either in either profit or loss or as a change to OCI. If the contingent consideration is not within the scope of KIFRS 1039, it is measured in accordance with the appropriate KIFRS. Contingent consideration that is classified as equity is not re-measured and subsequent settlement is accounted for within equity.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill has been allocated to a cash-generating unit and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the cash-generating unit retained.

2.4 Investment in associates

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

The Group's investments in its associate and are accounted for using the equity method. Under the equity method, the investment in an associate is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the associate since the acquisition date. Goodwill relating to the associate is included in the carrying amount of the investment and is neither amortized nor individually tested for impairment.

The consolidated statement of comprehensive income reflects the share of the results of financial performance of the associate. Where there has been a change recognized directly in the equity of the associate, the Group recognizes its share of any changes and discloses this, when applicable, in the statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the associate are eliminated to the extent of the interest in the associate.

The share of profit of associates is shown on the face of the statements of profit or loss and other comprehensive income. This is the profit attributable to equity holders of the associate and therefore is profit after tax and non-controlling interests in the subsidiaries of the associates.

The financial statements of the associate are prepared for the same reporting period as the Group. Where necessary, adjustments are made to bring the accounting policies in line with those of the Group.

2. Summary of significant accounting policies (cont'd)

2.4 Investment in associates (cont'd)

After application of the equity method, the Group determines whether it is necessary to recognize an additional impairment loss on the Group's investment in its associates. At each reporting date, the Group determines whether there is objective evidence that the investment in the associate is impaired. If this is the case, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate and its carrying value and recognizes the amount in the statements of profit or loss and other comprehensive income.

Upon loss of significant influence over the associate, the Group measures and recognizes any retaining investment at its fair value. Any difference between the carrying amount of the associate upon loss of significant influence and the fair value of the retaining investment and proceeds from disposal is recognized in profit or loss.

2.5 Current versus non-current classification

The Group presents assets and liabilities in the statement of financial position based on current/non-current classification.

An asset is current when it is:
- Expected to be realized or intended to be sold or consumed in the normal operating cycle
- Held primarily for the purpose of trading
- Expected to be realized within twelve months after the reporting period, or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period

All other assets are classified as non-current.

A liability is current when:
- It is expected to be settled in the normal operating cycle
- It is held primarily for the purpose of trading
- It is due to be settled within twelve months after the reporting period, or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period

The Group classifies all other liabilities as non-current.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.6 Foreign currency translation

The Group's consolidated financial statements are presented in Korean won, which is also its functional currency. Each entity in the Group determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency.

Transactions and balances

Transactions in foreign currencies are initially recorded by the Group entities at their respective functional currency rates prevailing at the date of the transaction.

Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange ruling at the reporting date.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as of the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined.

2. Summary of significant accounting policies (cont'd)

2.6 Foreign currency translation (cont'd)

Foreign operations

The assets and liabilities of foreign operations are translated into Korean won at the rate of exchange prevailing at the reporting date and their statements of profit or loss and other comprehensive incomes are translated at average exchange rate during the applicable period. The exchange differences arising on the translation are recognized in other comprehensive income. On disposal of a foreign operation, the gain or loss on translation of foreign operations recorded in other comprehensive income is reclassified to the statements of profit or loss and other comprehensive income. Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition are treated as assets and liabilities of the foreign operation and translated at the spot rate of exchange at the reporting date.

2.7 Cash and cash equivalents

Cash and cash equivalents in the consolidated statement of financial position comprise cash at banks and on hand and short-term deposits with a maturity of three months or less, which represent cash and cash equivalents on the consolidated statements of cash flows.

2.8 Financial instruments : Initial recognition and subsequent measurement

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets

• Initial recognition and measurement

Financial assets within the scope of KIFRS 1039 are classified as financial assets at fair value through profit or loss, loans and receivables, held-to-maturity investments, available-for-sale financial assets, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial assets are recognized initially at fair value plus, in the case of financial assets not recorded at fair value through profit or loss, transaction costs that are attributable to the acquisition of the financial asset.

Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognized on the trade date, i.e., the date that the Group commits to purchase or sell the asset.

• Subsequent measurement

For purposes of subsequent measurement, financial assets are classified in four categories:

• Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Derivatives, including separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments as defined by KIFRS 1039. The Group has not designated any financial assets at fair value through profit or loss.

Derivatives embedded in host contracts are accounted for as separate derivatives and recorded at fair value if their economic characteristics and risks are not closely related to those of the host contracts and the host contracts are not held for trading or designated at fair value though profit or loss. These embedded derivatives are measured at fair value with changes in fair value recognized in profit or loss. Reassessment only occurs if there is a change in the terms of the contract that significantly modifies the cash flows that would otherwise be required.

2. Summary of significant accounting policies (cont'd)

2.8 Financial instruments : Initial recognition and subsequent measurement (cont'd)

• Loans and receivables
Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, such financial assets are subsequently measured at amortized cost using the effective interest rate method (EIR), less impairment. Amortized cost is calculated by taking into account any discount or premium on acquisition and fee or costs that are an integral part of the EIR. The EIR amortization is included in finance income in the consolidated statement of comprehensive income. The losses arising from impairment are recognized in the consolidated statement of comprehensive income in finance costs.

• Held-to-maturity investments
Non-derivative financial assets with fixed or determinable payments and fixed maturities are classified as held to maturity when the Group has the positive intention and ability to hold them to maturity. After initial measurement, held to maturity investments are measured at amortized cost using the EIR, less impairment. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance income in the consolidated statement of comprehensive income.

• Available-for-sale financial assets
Available-for-sale financial assets include equity and debt securities. Equity investments classified as available-for sale are those, which are neither classified as held for trading nor designated at fair value through profit or loss. Debt securities in this category are those which are intended to be held for an indefinite period of time and which may be sold in response to needs for liquidity or in response to changes in the market conditions.

After initial measurement, available-for-sale financial assets are subsequently measured at fair value with unrealized gains or losses recognized as other comprehensive income in the available-for-sale reserve until the investment is derecognized, at which time the cumulative gain or loss is recognized in other operating income, or determined to be impaired, at which time the cumulative loss is recognized in the statements of profit or loss and other comprehensive income in finance costs and removed from the available-for-sale reserve.

The Group evaluated its available-for-sale financial assets whether the ability and intention to sell them in the near term is still appropriate. When the Group is unable to trade these financial assets due to inactive markets and management's intent significantly changes to do so in the foreseeable future, the Group may elect to reclassify these financial assets in rare circumstances. Reclassification to loans and receivables is permitted when the financial asset meets the definition of loans and receivables and has the intent and ability to hold these assets for the foreseeable future or maturity. The reclassification to held to maturity is permitted only when the entity has the ability and intent to hold until the financial asset accordingly.

For a financial asset reclassified out of the available-for-sale category, any previous gain or loss on that asset that has been recognized in equity is amortized to profit or loss over the remaining life of the investment using the EIR. Any difference between the new amortized cost and the expected cash flows is also amortized over the remaining life of the asset using the EIR. If the asset is subsequently determined to be impaired then the amount recorded in equity is reclassified to the statements of profit or loss and other comprehensive income.

2. Summary of significant accounting policies (cont'd)

2.8 Financial instruments : Initial recognition and subsequent measurement (cont'd)

• Derecognition
A financial asset (or, where applicable a part of a financial asset or part of a group of similar financial assets) is derecognized when:

- The rights to receive cash flows from the asset have expired.
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Group continues to recognize the transferred asset to the extent of the Group's continuing involvement. In that case, the Group also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Impairment of financial assets

Further disclosures relating to impairment of financial assets are also provided in the following notes:

	Notes
Trade and other receivables	6
Available-for-sale financial assets	9

The Group assesses, at each reporting date, whether there is objective evidence that a financial asset or a group of financial assets is impaired. An impairment exists if one or more events that has occurred since the initial recognition of the asset (an incurred 'loss event'), has an impact on the estimated future cash flows of the financial asset or the group of financial assets that can be reliably estimated. Evidence of impairment may include indications that the debtors or a group of debtors is experiencing significant financial difficulty, default or delinquency in interest or principal payments, the probability that they will enter bankruptcy or other financial reorganization and observable data indicating that there is a measurable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults.

• Financial assets carried at amortized cost
For financial assets carried at amortized cost, the Group first assesses whether impairment exists individually for financial assets that are individually significant, or collectively for financial assets that are not individually significant. If the Group determines that no objective evidence of impairment exists for an individually assessed financial asset, whether significant or not, it includes the asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for impairment. Assets that are individually assessed for impairment and for which an impairment loss is, or continues to be, recognized are not included in a collective assessment of impairment.

The amount of any impairment loss identified is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future expected credit losses that have not yet been incurred). The present value of the estimated future cash flows is discounted at the financial asset's original effective interest rate.

2. Summary of significant accounting policies (cont'd)

2.8 Financial instruments : Initial recognition and subsequent measurement (cont'd)

The carrying amount of the asset is reduced through the use of an allowance account and the loss is recognized in consolidated statement of comprehensive income. Interest income (recorded as finance income in the consolidated statement of comprehensive income) continues to be accrued on the reduced carrying amount and is accrued using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss. Loans together with the associated allowance are written off when there is no realistic prospect of future recovery and all collateral has been realized or has been transferred to the Group. If, in a subsequent year, the amount of the estimated impairment loss increases or decreases because of an event occurring after the impairment was recognized, the previously recognized impairment loss is increased or reduced by adjusting the allowance account. If a write-off is later recovered, the recovery is credited to finance costs in the consolidated statement of comprehensive income.

• Available-for-sale financial assets
For available-for-sale financial assets, the Group assesses at each reporting date whether there is objective evidence that an investment or a group of investments is impaired.

In the case of equity investments classified as available-for-sale, objective evidence would include a significant or prolonged decline in the fair value of the investment below its cost. 'Significant' is to be evaluated against the original cost of the investment and 'prolonged' against the period in which the fair value has been below its original cost. When there is evidence of impairment, the cumulative loss – measured as the difference between the acquisition cost and the current fair value, less any impairment loss on that investment previously recognized in the statements of profit or loss and other comprehensive income – is removed from other comprehensive income and recognized in the statements of profit or loss and other comprehensive income. Impairment losses on equity investments are not reversed through the statements of profit or loss and other comprehensive income; increases in their fair value after impairment are recognized directly in other comprehensive income.

In the case of debt instruments classified as available-for-sale, impairment is assessed based on the same criteria as financial assets carried at amortized cost. However, the amount recorded for impairment is the cumulative loss measured as the difference between the amortized cost and the current fair value, less any impairment loss on that investment previously recognized in the consolidated statement of comprehensive income. Future interest income continues to be accrued based on the reduced carrying amount of the asset, using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss. The interest income is recorded as part of finance income. If, in a subsequent year, the fair value of a debt instrument increases and the increase can be objectively related to an event occurring after the impairment loss was recognized in the statements of profit or loss and other comprehensive income, the impairment loss is reversed through the consolidated statement of comprehensive income.

2. Summary of significant accounting policies (cont'd)

2.8 Financial instruments : Initial recognition and subsequent measurement (cont'd)

Financial liabilities

• Initial recognition and measurement
Financial liabilities within the scope of KIFRS 1039 are classified at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and in the case of loans and borrowings and payable, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, borrowings and etc.

• Subsequent measurement
The measurement of financial liabilities depends on their classification.

\- Financial liabilities at fair value through profit or loss
Financial liabilities at fair value through profit or loss includes financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss. Financial liabilities are classified as held for trading if they are acquired for the purpose of selling in the near term. This category includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by KIFRS 1039. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments. Gains or losses on liabilities held for trading are recognized in the consolidated statement of comprehensive income. The Group has not designated any financial liabilities upon initial recognition as at fair value through profit or loss.

\- Loans and borrowings
After initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest rate method. Gains and losses are recognized in the consolidated statement of comprehensive income when the liabilities are derecognized as well as through the effective interest rate method (EIR) amortization process. Amortized cost is calculated by taking into account any discount or premium on acquisition and fee or costs that are an integral part of the EIR. The EIR amortization is included in finance cost in the statements of profit or loss and other comprehensive income.

• Derecognition
A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in the statements of profit or loss and other comprehensive income.

• Offsetting of financial instruments
Financial assets and financial liabilities are offset and the net amount reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

2. Summary of significant accounting policies (cont'd)

2.9 Fair value measurement

The Group measures financial instruments, at fair value at each balance sheet date. Fair value related disclosures for financial instruments that are measured at fair value or where fair values are disclosed, are summarized in the following notes:

	Notes
Quantitative disclosures of fair value measurement hierarchy	25
Investment in unquoted equity shares	9
Financial instruments (including those carried at amortized cost)	25

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:
- In the principal market for the asset or liability, or
- In the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the Group.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:
- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognized in the consolidated financial statements on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, the Group has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

2.10 Inventories

Inventories are valued at the lower of cost and net realizable value. Purchase costs, transfer costs and costs incurred in bringing each product to its present location and conditions are accounted for initial cost of inventories. Unit costs of inventories are measured by weighted average basis. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale.

2. Summary of significant accounting policies (cont'd)

2.11 Non-current assets held for sale

The Group classifies non-current assets and disposal groups as held for sale or for distribution to equity holders of the parent if their carrying amounts will be recovered principally through a sale or distribution rather than through continuing use. Such non-current assets and disposal groups classified as held for sale or as held for distribution are measured at the lower of their carrying amount and fair value less costs to sell or to distribute.

The criteria for held for sale classification is regarded as met only when the distribution is highly probable and the asset or disposal group is available for immediate distribution in its present condition. Actions required to complete the distribution should indicate that it is unlikely that significant changes to the distribution will be made or that the distribution with be withdrawn. Management must be committed to the distribution expected within one year from the date of the classification.

Property, plant and equipment and intangible assets are not depreciated or amortized once classified as held for sale or as held for distribution. Assets and liabilities classified as held for sale or for distribution are presented separately as current items in the statement of financial position.

2.12 Property, plant and equipment

Property, plant and equipment is stated at cost, net of accumulated depreciation and/or accumulated impairment losses, if any. Such cost includes the cost of replacing part of the property, plant and equipment and borrowing costs for long-term construction projects if the recognition criteria are met. When significant parts of property, plant and equipment are required to be replaced at intervals, the Group recognizes such parts as individual assets with specific useful lives and depreciates them accordingly. Likewise, when a major inspection is performed, its cost is recognized in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognized in profit or loss as incurred. The residual values, useful lives and methods of depreciation of property, plant and equipment are reviewed at each financial year end and adjusted prospectively, if appropriate.

Depreciation of property, plant and equipment is provided using the straight-line method over the estimated useful life of the assets as follows:

	Years
Buildings	17 – 52
Structures	20 – 40
Machinery	4 – 5
Equipment	4
Vehicles	4

2.13 Leases

The determination of whether an arrangement is, (or contains) a lease is based on the substance of the arrangement at the inception date. The arrangement is assessed for (i) whether fulfilment of the arrangement is dependent on the use of a specific asset or assets or (ii) the arrangement conveys a right to use the asset or assets, even if that right is not explicitly specified in an arrangement.

A lease is classified at the inception date as a finance lease or an operating lease. An operating lease is a lease other than a finance lease. Operating lease payments are recognized as an operating expense in the statement of profit or loss on a straight-line basis over the lease term.

2.14 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective assets. All other borrowing costs are expensed in the period they occur.

2. Summary of significant accounting policies (cont'd)

2.15 Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value as of the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses. Internally generated intangible assets, excluding capitalized development costs, are not capitalized and expenditure is reflected in the statements of profit or loss and other comprehensive income in the year in which the expenditure is incurred.

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life is reviewed at least at each financial year end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization expense on intangible assets with finite lives is recognized in the statements of profit or loss and other comprehensive income in the expense category consistent with the function of the intangible asset.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognized in the consolidated statement of comprehensive income when the asset is derecognized.

• Research and development costs
Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset when the Group can demonstrate:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale
- Its intention to complete and its ability to use or sell the asset
- How the asset will generate future economic benefits
- The availability of resources to complete the asset
- The ability to measure reliably the expenditure during development

• Goodwill
Goodwill is accounted for as an intangible asset and is initially measured consideration paid which exceeds the cost of the investment over the Company's share of the fair value of the subsidiary's net identifiable assets.

• Patents, licenses, software and membership
The patents have been granted for a period of 7~10 years by the relevant government agency with the option of renewal at the end of this period. Licenses for the use of intellectual property and software are granted for periods 5 and 4 years, respectively. Memberships for usage rights that are not kept for investment purposes, are regarded to have indefinite useful lives and are not amortized.

2. Summary of significant accounting policies (cont'd)

2.15 Intangible assets (cont'd)

A summary of the policies applied to the Group's intangible assets is as follows:

	Amortization methods	Estimated useful lives
Development costs	Straight-line method over their expected sales period	5 years
Patents	Straight-line method over the licensed period	7 ~ 10 years
Industrial proprietary rights	〃	5 years
Other intangible assets	〃	5 years
Software	Straight-line method over their useful lives	4 years
Membership	Not amortized	indefinite
Goodwill	Not amortized	indefinite

2.16 Impairment of non-financial assets

The Group assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs of disposal and its value in use. Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded subsidiaries or other available fair value indicators.

The Group bases its impairment calculation on detailed budgets and forecast calculations, which are prepared separately for each of the Group's CGUs to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of five years. For longer periods, a long-term growth rate is calculated and applied to project future cash flows after the fifth year.

Impairment losses of continuing operations are recognized in the consolidated statement of comprehensive income in expense categories consistent with the function of the impaired asset, except for property previously revalued with the revaluation was taken to other comprehensive income. In this case, the impairment is also recognized in other comprehensive income up to the amount of any previous revaluation.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the Group estimates the asset's or cash-generating unit's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the statements of profit or loss and other comprehensive income unless the asset is carried at a revalued amount, in which case the reversal is treated as a revaluation increase.

2. Summary of significant accounting policies (cont'd)

2.16 Impairment of non-financial assets (cont'd)

The following criteria are also applied in assessing impairment of specific assets:

• Goodwill
Goodwill is tested for impairment annually (as at December 31) and when circumstances indicate that the carrying value may be impaired. Impairment is determined for goodwill by assessing the recoverable amount of each cash-generating unit (or group of cash-generating units) to which the goodwill relates. When the recoverable amount of the cash generating unit is less than their carrying amount an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods.

• Intangible assets
Intangible assets with indefinite useful lives are tested for impairment annually as at December 31 either individually or at the cash generating unit level, as appropriate and when circumstances indicate that the carrying value may be impaired.

2.17 Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When the Group expects some or all of a provision to be reimbursed, for example under an insurance contract, the reimbursement is recognized as a separate asset but only when the reimbursement is virtually certain. The expense relating to any provision is presented in the consolidated statement of comprehensive income net of any reimbursement.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognized as a finance cost. The Group accrues provision for warranty corresponding to the estimated costs of future repairs and returns, based on the past experience. The provision for product warranties is charged to selling and administrative expenses when the goods covered by warranties are sold to customers.

Asset (allowance) and liability (emission obligation)
The Group is allocated with emission allowances free of charge by the government in accordance with the Act on Allocation and Trading of Emission Allowances in the Republic of Korea. The allowances are allocated to the Group every year for planned periods, and the Group should submit the equivalent number of emission allowances for actual emissions.

The Group measures the emission allowances that it receives from the government free of charge at nil, and measures any purchased emission allowances at cost. In addition, emission allowances are derecognized in the financial statements when they are delivered to the government or sold.

A liability (emission obligation) is recognized only where actual emissions exceed the allocated emission allowances, and the cost of emissions is recognized as an operating cost. The liability is measured by adding the following (1) and (2).

(1) The carrying value of emission allowances for the year to be delivered to the government
(2) The best estimate of expenditures, as at the end of a reporting period, in performing emission obligations exceeding the above emission allowances

Estimated emissions of the Group during 2016 are expected as 395,000KAU, which is less than the allocated emission allowances issued by the government. The Group does not have any emission right held for sale.

2. Summary of significant accounting policies (cont'd)

2.18 Employee Benefits

Pension benefits and other post-employment benefits

The Group operates a defined benefit pension plan in Korea, the cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Re-measurements, comprising of actuarial gains and losses, the effect of the asset ceiling, excluding net interest (not applicable to the Group) and the return on plan assets (excluding net interest), are recognized immediately in the statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Re-measurements are not reclassified to profit or loss in subsequent periods.

Past service costs are recognized in profit or loss on the earlier of:
- The date of the plan amendment or curtailment, and
- The date that the Group recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The Group recognizes the following changes in the net defined benefit obligation under 'cost of sales' and 'Selling and administrative expenses' in consolidated consolidated statement of comprehensive income.

Other long-term employee benefits

Other long-term employee benefits, not due within twelve months after the end of the period in which the employees render the related service, are discounted to the present value of expected future payments required to settle the obligation resulting from employee service in the current and prior periods. Changes arising from remeasurements are recognized in profit or loss.

2.19 Treasury shares

Own equity instruments which are reacquired (treasury shares) are recognized at cost and deducted from equity. No gain or loss is recognized in the statements of profit or loss and other comprehensive income on the purchase, sale, issue or cancellation of the Group's own equity instruments. Any difference between the carrying amount and the consideration is recognized in other capital reserves.

2.20 Share-based payment transactions

Employees of the Group receive remuneration in the form of share-based payment transactions, whereby employees render services as consideration for equity instruments.

The cost of equity-settled transactions is determined by the fair value at the date when the grant is made using an appropriate valuation model.

That cost is recognized in employee benefits expense, together with a corresponding increase in equity (other capital reserves), over the period in which the service and, where applicable, the performance conditions are fulfilled (the vesting period). The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Group's best estimate of the number of equity instruments that will ultimately vest. The expense or credit in the statement of profit or loss and other comprehensive income for a period represents the movement in cumulative expense recognized as at the beginning and end of that period.

Service and non-market performance conditions are not taken into account when determining the grant date fair value of awards, but the likelihood of the conditions being met is assessed as part of the Group's best estimate of the number of equity instruments that will ultimately vest. Market performance conditions are reflected within the grant date fair value. Any other conditions attached to an award, but without an associated service requirement, are considered to be non-vesting conditions. Non-vesting conditions are reflected in the fair value of an award and lead to an immediate expensing of an award unless there are also service and/or performance conditions.

2. Summary of significant accounting policies (cont'd)

2.20 Share-based payment transactions (cont'd)

No expense is recognized for awards that do not ultimately vest, except for equity-settled transactions where vesting is conditional upon a market or non-vesting condition, which are treated as vesting irrespective of whether or not the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

When the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee as measured at the date of modification.

When an equity-settled award is cancelled, it is treated as if it vested on the date of cancellation, and any expense not yet recognized for the award is recognized immediately. This includes any award where non-vesting conditions within the control of either the entity or the employee are not met.

2.21 Revenue recognition

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Group and the revenue can be reliably measured, regardless of when the payment is being made. Revenue is measured at the fair value of the consideration received or receivable, taking into account contractually defined terms of payment and excluding taxes or duty. The Group has concluded that it is the principal in all of its revenue arrangements since it is the primary obligor in all the revenue arrangements, has pricing latitude and is also exposed to inventory and credit risks.

The specific recognition criteria described below must also be met before revenue is recognized.

Sale of goods

Revenue from the sale of goods is recognized when the significant risks and rewards of ownership of the goods have passed to the buyer, usually on delivery of the goods.

Interest income

For all financial instruments measured at amortized cost and interest-bearing financial assets classified as available-for-sale, interest income is recorded using the effective interest rate (EIR). EIR is the rate that exactly discounts the estimated future cash payments or receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability. Interest income is included in finance income in the consolidated statement of comprehensive income.

Dividends

Revenue is recognized when the Group's right to receive the payment is established, which is generally when shareholders approve the dividend.

Other revenue

The Group recognizes revenue when the amount of revenue is earned, can be reliably measured, and it is probable that future economic benefits will flow into the Group.

2. Summary of significant accounting policies (cont'd)

2.22 Taxes

Current income tax

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, at the reporting date in the countries where the Group operates and generates taxable income.

Current income tax relating to items recognized directly in equity is recognized in equity and not in the statements of profit or loss and other comprehensive income. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred tax

Deferred tax is provided using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- When the deferred tax liability arises from the initial recognition of goodwill.
- When the deferred tax liability arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, the carry forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized except:

- When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in other comprehensive income or directly in equity.

Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

2. Summary of significant accounting policies (cont'd)

2.23 Government grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. Government grants, which is used for the acquisition of certain assets, is accounted for as a deduction from the acquisition cost of the acquired assets. Such grants amount is offset against the depreciation or amortization of the acquired assets during such assets' useful life.

2.24 New and amended standards and interpretations

The Group applied for the first time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2016. The nature and the impact of each new standard and amendment are described below:

Amendments to KIFRS 1016 and KIFRS 1038 *Clarification of Acceptable Methods of Depreciation and Amortisation*

The amendments clarify the principle in KIFRS 1016 *Property, Plant and Equipment* and KIFRS 1038 *Intangible Assets* that revenue reflects a pattern of economic benefits that are generated from operating a business (of which the asset is a part) rather than the economic benefits that are consumed through use of the asset. As a result, a revenue-based method cannot be used to depreciate property, plant and equipment and may only be used in very limited circumstances to amortise intangible assets. The amendments are applied prospectively and do not have any impact on the Group, given that it has not used a revenue-based method to depreciate its non-current assets.

Amendments to KIFRS 1001 *Disclosure Initiative*

The amendments to KIFRS 1001 clarify, rather than significantly change, existing KIFRS 1001 requirements. The amendments clarify:

- The materiality requirements in KIFRS 1001
- That specific line items in the statement(s) of profit or loss and OCI and the statement of financial position may be disaggregated
- That entities have flexibility as to the order in which they present the notes to financial statements
- That the share of OCI of associates and joint ventures accounted for using the equity method must be presented in aggregate as a single line item, and classified between those items that will or will not be subsequently reclassified to profit or loss

Furthermore, the amendments clarify the requirements that apply when additional subtotals are presented in the statement of financial position and the statement(s) of profit or loss and OCI. These amendments do not have any impact on the Group.

Annual Improvements *2012-2014 Cycle*

These amendments do not have any impact on the Group's consolidated financial statements. The improvements include:

• KIFRS 1105 *Non-current Assets Held for Sale and Discontinued Operations*

Non-current assets (or disposal groups) are generally disposed of either through sale or distribution to the owners. The amendment clarifies that changing from one of these disposal methods to the other would not be considered a new plan of disposal, rather it is a continuation of the original plan. There is, therefore, no interruption of the application of the requirements in KIFRS 1105. This amendment is applied prospectively.

2. Summary of significant accounting policies (cont'd)

2.24 New and amended standards and interpretations (cont'd)

• KIFRS 1107 *Financial Instruments: Disclosures*
(i) Servicing contracts
The amendment clarifies that a servicing contract that includes a fee can constitute continuing involvement in a financial asset. An entity must assess the nature of the fee and the arrangement against the guidance for continuing involvement in KIFRS 1107 in order to assess whether the disclosures are required. The assessment of which servicing contracts constitute continuing involvement must be made retrospectively. However, the required disclosures need not be provided for any period beginning before the annual period in which the entity first applies the amendments.

(ii) Applicability of the amendments to KIFRS 1107 to condensed interim financial statements
The amendment clarifies that the offsetting disclosure requirements do not apply to condensed interim financial statements, unless such disclosures provide a significant update to the information reported in the most recent annual report. This amendment is applied retrospectively.

• KIFRS 1019 *Employee Benefits*
The amendment clarifies that market depth of high quality corporate bonds is assessed based on the currency in which the obligation is denominated, rather than the country where the obligation is located. When there is no deep market for high quality corporate bonds in that currency, government bond rates must be used. This amendment is applied prospectively.

• KIFRS 1034 *Interim Financial Reporting*
The amendment clarifies that the required interim disclosures must either be in the interim financial statements or incorporated by cross-reference between the interim financial statements and wherever they are included within the interim financial report (e.g., in the management commentary or risk report). The other information within the interim financial report must be available to users on the same terms as the interim financial statements and at the same time. This amendment is applied retrospectively.

2.25 Significant accounting judgments, estimates and assumptions
The preparation of the Group's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

Other disclosures relating to the Group's exposure to risks and uncertainties are summarized in the following note.

	Note
Capital management	24
Financial risk management and policies	24
Sensitivity analysis and disclosure	24

Estimates and assumptions
The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustments to the carrying amounts of assets and liabilities within the next financial year, are descdribed below. The Group based its assumptions and estimates on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond control of the Group. Such changes are reflected in the assumptions when they occur.

2. Summary of significant accounting policies (cont'd)

2.25 Significant accounting judgments, estimates and assumptions (cont'd)

• Impairment of non-financial assets
The Group assesses, at each reporting date, whether there is an indication that an asset may be impaired. Goodwill and intangible assets with indefinite useful lives are tested for impairment annually, or when circumstances indicate that the carrying value may be impaired. Other non-financial assets are tested for impairment when circumstances indicate that its carrying amount may not be recoverable. In determining a value in use, management estimates future cash flows to be derived from the asset or CGU, and applies the appropriate discount rate to those future cash flows. The key assumptions including a sensitivity analysis, are further discussed in Note 16.

• Pension benefits
The cost of defined benefit pension plans and the present value of the pension obligation are determined using actuarial valuations. An actuarial valuation involves making various assumptions. These include the determination of the discount rate, future salary increases, mortality rates and future pension increases. Due to the complexity of the valuation, the underlying assumptions and its long term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. All assumptions are reviewed at each reporting date.

• Fair value of financial instruments
When the fair values of financial assets and financial liabilities recorded in the statement of financial position cannot be measured based on quoted prices in active markets, their fair value is measured using valuation techniques including the DCF model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. Judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

2.26 Standards issued but not yet effective

The standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below. The Group intends to adopt these standards, if applicable, when they become effective.

KIFRS 1109 *Financial Instruments*

The KASB issued the final version of KIFRS 1109 Financial Instruments that replaces KIFRS 1039 Financial Instruments: Recognition and Measurement and all previous versions. KIFRS 1109 brings together all three aspects of the accounting for financial instruments project: classification and measurement, impairment and hedge accounting. KIFRS 1109 is effective for annual periods beginning on or after January 1, 2018, with early application permitted. Except for hedge accounting, retrospective application is required but providing comparative information is not compulsory. For hedge accounting, the requirements are generally applied prospectively, with some limited exceptions. The Group plans to adopt the new standard on the required effective date. The impact on its consolidated financial statements is as follows:

• Classification and measurement of financial assets
If new KIFRS 1109 is applied, the Group will classify financial assets as subsequently measured at amortized cost, fair value through other comprehensive income or fair value through profit or loss on the basis of both:

1) The Group's business model for managing the financial assets and
2) The contractual cash flow characteristics of the financial assets

2. Summary of significant accounting policies (cont'd)

2.26 Standards issued but not yet effective (cont'd)

For hybrid contracts with financial asset hosts, embedded derivatives are not separated and financial assets are classified in their entirety.

Business model	Principal and interest cash flows	Estimated useful lives
Collection of contractual cash flows	Amortised cost (*1)	Fair value through profit or loss (*2)
Collection and sale of contractual cash flows	Fair value through other comprehensive income	
Sale and others	Fair value through profit or loss	

(*1) In order to reduce or eliminate an accounting mismatch, the Group may make an irrevocable election to designate assets into fair value measurement at profit or loss.
(*2) For equity instruments other than held-for-trading assets, the Group may make an irrevocable election to designate assets into fair value measurement at other comprehensive income.

The requirements for classifying the financial assets as measured at amortized cost or fair value through other comprehensive income under KIFRS 1109, are more stringent than the requirements of the current KIFRS 1039; as a result, the proportion of financial assets subject to fair value measurement at profit or loss may increase upon adoption of KIFRS 1109.

As at December 31, 2016, the Group has loans and receivables of ₩2,013,090 million, held-to-maturity financial assets of ₩72 million and available-for-sale financial assets of ₩745,311 million.

• Classification and measurement of financial liabilities
Based on the new KIFRS 1109, changes in the fair value of a financial liability designated as measured at FVTPL that arise from changes in the liability's credit risk are presented in other comprehensive income, instead of profit or loss. The changes in the liability's credit risk are recognized in profit or loss if the changes create or enlarge an accounting mismatch had it been presented in other comprehensive income.

Some of the changes in the fair value of financial liabilities designated as at FVTPL, which were recognized in profit or loss under the current KIFRS 1039, are presented in other comprehensive income; therefore, gains and losses on valuation of financial liabilities may decrease.

KIFRS 1115 *Revenue from Contracts with Customers*
KIFRS 1115 establishes a five-step model to account for revenue arising from contracts with customers. Under KIFRS 1115, revenue is recognized at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. The new revenue standard will supersede all current revenue recognition requirements under KIFRS. Either a full retrospective application or a modified retrospective application is required for annual periods beginning on or after January 1, 2018. Early adoption is permitted. The Group plans to adopt the new standard on the required effective date using the full retrospective method.

Amendments to KIFRS 1110 and KIFRS 1028: *Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*
The amendments address the conflict between KIFRS 1110 and KIFRS 1028 in dealing with the loss of control of a subsidiary that is sold or contributed to an associate or joint venture. The amendments clarify that the gain or loss resulting from the sale or contribution of assets that constitute a business, as defined in KIFRS 1103, between an investor and its associate or joint venture, is recognized in full. Any gain or loss resulting from the sale or contribution of assets that do not constitute a business, however, is recognized only to the extent of unrelated investors' interests in the associate or joint venture. The IASB has deferred the effective date of these amendments indefinitely, but an entity that early adopts the amendments must apply them prospectively. These amendments are not expected to have any impact on the Group.

2. Summary of significant accounting policies (cont'd)

2.26 Standards issued but not yet effective (cont'd)

Amendments to KIFRS 1007 *Statement of Cash Flows: Disclosure Initiative*
The amendments to KIFRS 1007 *Statement of Cash Flows* are part of the IASB's Disclosure Initiative and require an entity to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes. On initial application of the amendment, entities are not required to provide comparative information for preceding periods. These amendments are effective for annual periods beginning on or after 1 January 2017, with early application permitted. Application of the amendments will result in additional disclosures provided by the Group.

Amendments to KIFRS 10**12 *Recognition of Deferred Tax Assets for Unrealised Losses***
The amendments clarify that an entity needs to consider whether tax law restricts the sources of taxable profits against which it may make deductions on the reversal of that deductible temporary difference. Furthermore, the amendments provide guidance on how an entity should determine future taxable profits and explain the circumstances in which taxable profit may include the recovery of some assets for more than their carrying amount.

Entities are required to apply the amendments retrospectively. However, on initial application of the amendments, the change in the opening equity of the earliest comparative period may be recognized in the opening retained earnings (or in another component of equity, as appropriate), without allocating the change between opening retained earnings and other components of equity. Entities applying this relief must disclose that fact. These amendments are effective for annual periods beginning on or after 1 January 2017 with early application permitted. If an entity applies the amendments for an earlier period, it must disclose that fact. These amendments are not expected to have any impact on the Group.

Amendments to KIFRS 1102 *Classification and Measurement of Share-based Payment Transactions*
The IASB issued amendments to KIFRS 1102 *Share-based Payment* that address three main areas: the effects of vesting conditions on the measurement of a cash-settled share-based payment transaction; the classification of a share-based payment transaction with net settlement features for withholding tax obligations; and accounting where a modification to the terms and conditions of a share-based payment transaction changes its classification from cash settled to equity settled.

On adoption, entities are required to apply the amendments without restating prior periods, but retrospective application is permitted if elected for all three amendments and other criteria are met. The amendments are effective for annual periods beginning on or after 1 January 2018, with early application permitted. The Group is assessing the potential effect of the amendments on its consolidated financial statements.

2.27 Approval of the financial statements
Approval of the consolidated financial statements of the Group for the year ended December 31, 2016 were approved by the Board of Directors' meeting on January 24, 2017 for submission to the general shareholders' meeting.

3. Operating segment information

The Group has three reportable operating segments, which are organized based on each segment's manufactured goods and sales.

- Digital Module ("DM") operating segment: Camera Module, Network Module
- Linkage magnetic flux coil Capacitor Resister ("LCR") operating segment: Chip component (MLCC, Inductor, Chip Resister and others)
- Advanced Circuit Interconnection ("ACI") operating segment: Semiconductor PKG Board, High density multi-layer Board

Sales from Samsung Electronics Co., Ltd., from which the Group generates more than 10% of its total sales, amounted to ₩3,424 billion for the year ended December 31, 2016.

The following table summarizes the results of financial performance of the Group by operating segments for the years ended December 31, 2016 and 2015 (Korean won in millions):

	2016				
	DM	LCR	ACI	Adjustments	Consolidated
Total sales	₩ 5,750,676	₩ 3,727,796	₩ 2,373,909	₩ (5,819,341)	₩ 6,033,040
Inter-segment sales	2,959,443	1,815,152	1,044,746	(5,819,341)	-
Sales to external customers	2,791,233	1,912,644	1,329,163	-	6,033,040
Operating profit	66,291	147,151	(119,612)	(69,430)	24,400
Profit for the year from continuing operations	64,470	168,738	(115,677)	(94,617)	22,914

	2015				
	DM	LCR	ACI	Adjustments	Consolidated
Total sales	₩ 5,773,696	₩ 4,162,519	₩ 2,515,045	₩ (6,275,002)	₩ 6,176,258
Inter-segment sales	3,137,299	2,154,509	983,194	(6,275,002)	-
Sales to external customers	2,636,397	2,008,010	1,531,851	-	6,176,258
Operating profit	143,827	223,980	(88,284)	21,809	301,332
Profit for the year from continuing operations	173,895	230,617	(29,759)	(52,525)	322,228

Total assets and liabilities of the Group by operating segments as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	2016				
	DM	LCR	ACI	Adjustments	Consolidated
Total assets	₩ 2,127,373	₩ 3,942,738	₩ 3,519,315	₩ (1,926,797)	₩ 7,662,629
Total liabilities	1,467,922	1,728,500	1,033,041	(904,419)	3,325,044

	2015				
	DM	LCR	ACI	Adjustments	Consolidated
Total assets	₩ 2,257,016	₩ 3,323,482	₩ 3,511,520	₩ (1,822,565)	₩ 7,269,453
Total liabilities	1,419,841	1,426,566	950,521	(842,858)	2,954,070

3. Operating segment information (cont'd)

Geographic information is as follows:

	Major products	Major customers
Korea	MLCC, BGA, ISM, HDI and others	Samsung Electronics Co., Ltd., Samsung SDI Co., Ltd., LG Electronics Inc. and others
China and Southeast Asia	MLCC, BGA, ISM, HDI and others	Stats Chippac Ltd., Yosun Industrial Corp. and others
Japan	ISM and others	Shinko, Compal display and others
America	MLCC, BGA, ISM, HDI and others	Intel Corporation, Amkor Technology, Inc. and others
Europe	MLCC, BGA, ISM, HDI and others	UNIQUE, Nokia and others

The following table summarizes the results of financial performance of the Group by geographic segments for the years ended December 31, 2016 and 2015 (Korean won in millions):

	2016								
	Korea		Overseas						
	Domestic	Export	China	Southeast Asia	America	Europe	Japan	Adjustment	Consolidated
Total sales	₩ 444,833	₩ 4,372,444	₩ 3,644,463	₩ 2,439,218	₩ 258,230	₩ 89,905	₩ 603,288	₩ (5,819,341)	₩ 6,033,040
Inter-segment sales	-	1,650,027	1,822,965	1,788,493	2,878	430	554,548	(5,819,341)	-
Sales to external customers	444,833	2,722,417	1,821,498	650,725	255,352	89,475	48,740	-	6,033,040
Operating profit		(250,504)	129,735	140,642	4,362	5,285	64,310	(69,430)	24,400
Profit for the year from continuing operations		(64,052)	45,654	79,964	196	3,898	51,871	(94,617)	22,914

	2015								
	Korea		Overseas						
	Domestic	Export	China	Southeast Asia	America	Europe	Japan	Adjustment	Consolidated
Total sales	₩ 507,872	₩ 4,971,735	₩ 3,953,914	₩ 2,281,313	₩ 251,203	₩ 106,275	₩ 378,948	₩ (6,275,002)	₩ 6,176,258
Inter-segment sales	-	1,919,834	2,267,831	1,787,597	7,004	1,690	291,046	(6,275,002)	-
Sales to external customers	507,872	3,051,901	1,686,083	493,716	244,199	104,585	87,902	-	6,176,258
Operating profit		(142,567)	295,235	78,230	8,780	4,131	35,714	21,809	301,332
Profit for the year from continuing operations		116,953	241,254	67,134	7,521	3,953	(62,062)	(52,525)	322,228

Non-current assets of the Group by geographic segments as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	2016							
	Domestic	China	Southeast Asia	America	Europe	Japan	Adjustments	Consolidated
Non-current assets	₩ 3,495,818	₩ 881,384	₩ 1,429,591	₩ 1,479	₩ 290	₩ 60,293	₩ (1,018,635)	₩ 4,850,220

	2015							
	Domestic	China	Southeast Asia	America	Europe	Japan	Adjustments	Consolidated
Non-current assets	₩ 3,412,377	₩ 801,554	₩ 1,140,424	₩ 1,810	₩ 4,893	₩ 89,069	₩ (910,645)	₩ 4,539,482

4. Cash and cash equivalents

Cash and cash equivalents as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
Cash at banks and on hand	₩	30,224	₩	35,739
Short-term deposits		795,780,463		1,035,221,378
Total	₩	795,810,687	₩	1,035,257,117

5. Financial assets and liabilities

Financial assets and liabilities as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Current	Non-current	Current	Non-current
Financial assets:				
Financial instruments	₩ 309,009,993	₩ 24,500	₩ 89,053,971	₩ 24,500
Held-to-maturity investments	39,350	32,790	246,215	71,085
Accrued income	2,693,175	-	3,656,360	-
Business guarantee deposits	923,036	-	1,054,291	-
Lease guarantee deposits	-	52,766,236	-	63,311,530
Total	₩ 312,665,554	₩ 52,823,526	₩ 94,010,837	₩ 63,407,115
Financial liabilities:				
Withholdings	₩ 16,224,239	₩ -	₩ 14,133,968	₩ -
Withholding deposits	2,295,205	-	2,141,401	-
Total	₩ 18,519,444	₩ -	₩ 16,275,369	₩ -

Restricted deposits as at December 31, 2016 and 2015 consist of the following (Korean won in thousands):

	Financial institution	2016	2015	Description
Short-term financial instruments	Woori Bank	₩ 39,009,993	₩ 39,053,972	Financial support reserve for strategic alliances
Long-term financial instruments	Woori Bank and 7 other banks	24,500	24,500	Overdraft facilities
Total		₩ 39,034,493	₩ 39,078,472	

Held-to-maturity investments as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Fair value	Book value	Fair value	Book value
Within 1 year	₩ 39,350	₩ 39,350	₩ 246,215	₩ 246,215
After 1 year but less than 5 years	32,790	32,790	71,085	71,085
Total	₩ 72,140	₩ 72,140	₩ 317,300	₩ 317,300

5. Financial assets and liabilities (cont'd)

Financial assets measured at amortized cost using the effective interest rate method as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016			2015		
	Effective interest rate (%)	Book value		Effective interest rate (%)	Book value	
Long-term guarantee deposits	2.22 ~ 2.97	₩	52,766,236	2.22 ~ 4.38	₩	63,311,530

6. Trade and other receivables

Trade and other receivables as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016				2015			
	Current		Non-current		Current		Non-current	
Trade receivables	₩	647,683,392	₩	-	₩	684,457,233	₩	-
Allowance for doubtful accounts		(175,108)		-		(378,112)		-
Other receivables		136,804,882		68,410,695		138,205,262		145,823,152
Allowance for doubtful accounts		(2,614,465)		(944,685)		(1,093,103)		(945,685)
Total	₩	781,698,701	₩	67,466,010	₩	821,191,280	₩	144,877,467

The changes in allowance for doubtful accounts for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
As at January 1	₩	2,416,900	₩	4,029,894
Allowance for doubtful accounts - trade		175,982		-
Allowance (Reversal) for doubtful accounts - others		1,481,738		(170,056)
Write-off		(340,362)		(1,442,938)
As at December 31	₩	3,734,258	₩	2,416,900

As at December 31, 2016 and 2015, the aging analysis of trade and other receivables is as follows (Korean won in thousands):

	2016		2015	
Neither past due nor impaired	₩	837,705,366	₩	953,561,847
Past due but not impaired:				
< 30 days		9,958,747		9,748,875
30 ~ 180 days		1,465,210		1,395,260
181 ~ 365 days		16,875		108,995
> 365 days		18,513		1,253,770
Sub total		11,459,345		12,506,900
Total	₩	849,164,711	₩	966,068,747

6. Trade and other receivables (cont'd)

The Group disposed of its trade receivables in 2016 and 2015 in accordance with a factoring agreement entered into with various financial institutions. The Group did not derecognize the trade receivables, as the financial institutions hold recourse rights and the Group retains the related risk and rewards. The financial liability was recognized as short-term borrowings on the statements of financial position for the years ended December 31, 2016 and 2015 (Note 13).

Trade receivables factored with recourse as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Book value of trade receivables disposed	₩ 216,183,305	₩ 214,529,321
Book value of related borrowings	216,183,305	214,529,321

7. Inventories

Inventories as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016			2015		
	Acquisition cost	Valuation allowance	Book value	Acquisition cost	Valuation allowance	Book value
Merchandise	₩ 100,375,430	₩ (6,087,575)	₩ 94,287,855	₩ 141,647,015	₩ (6,531,601)	₩ 135,115,414
Finished goods	297,597,135	(29,060,434)	268,536,701	254,708,626	(32,253,509)	222,455,117
Work-in-process	208,705,402	(11,467,356)	197,238,046	147,737,982	(11,320,810)	136,417,172
Components	32,755,708	-	32,755,708	13,155,143	-	13,155,143
Raw materials	171,300,223	(6,740,363)	164,559,860	115,011,973	(4,578,384)	110,433,589
Supplies	42,323,785	-	42,323,785	33,338,219	-	33,338,219
Materials in-transit	27,456,826	-	27,456,826	28,065,641	-	28,065,641
Total	₩ 880,514,509	₩ (53,355,728)	₩ 827,158,781	₩ 733,664,599	₩ (54,684,304)	₩ 678,980,295

The reversal of write-down amounting to ₩1,328,577 thousand was recognized for the year ended December 31, 2016 and losses on valuation amounting to ₩6,599,241 thousand was recognized for the year ended December 31, 2015. Scrapped inventories amounted to ₩40,228,784 thousand and ₩47,818,453 thousand for the years ended December 31, 2016 and 2015, respectively.

Inventories primarily consist of telecommunication, PC and AV components and other electronic components, and have been insured against fire and other casualty losses for up to ₩ 1,095,698,608 thousand as at December 31, 2016.

8. Investment in associates

Investment in associates as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	Stemco Co., Ltd.		Samsung Economic Research Institute	
	2016	2015	2016	2015
Number of shares	1,440,000	1,440,000	2,856,000	2,856,000
Equity interest	30.00%	30.00%	23.80%	23.80%
Acquisition cost	₩ 7,200,000	₩ 7,200,000	₩ 14,280,000	₩ 14,280,000
Shareholder portion	₩ 28,926,145	₩ 22,541,229	₩ 18,417,346	₩ 21,718,508
Book value	₩ 28,926,145	₩ 22,541,229	₩ 18,417,346	₩ 21,718,508
Domicile	Korea	Korea	Korea	Korea
Fiscal year end	December 31	December 31	December 31	December 31
Principal activities	Manufacturing and trading of semiconductor parts	Manufacturing and trading of semiconductor parts	Research and development, human resource development	Research and development, human resource development

The following table summarizes the financial position of associates as at December 31, 2016 and 2015, and the results of their financial performance for the years then ended (Korean won in thousands):

	Stemco Co., Ltd.		Samsung Economic Research Institute	
	2016	2015	2016	2015
Current assets	₩ 55,345,228	₩ 49,198,811	₩ 59,708,137	₩ 62,897,900
Non-current assets	121,783,166	124,963,491	48,965,954	68,693,670
Total assets	₩ 177,128,394	₩ 174,162,302	₩ 108,674,091	₩ 131,591,570
Current liabilities	₩ 64,383,295	₩ 72,632,609	₩ 21,245,500	₩ 22,303,316
Non-current liabilities	16,324,616	26,392,263	10,044,783	18,034,018
Total liabilities	₩ 80,707,911	₩ 99,024,872	₩ 31,290,283	₩ 40,337,334
Total equity	₩ 96,420,483	₩ 75,137,430	₩ 77,383,808	₩ 91,254,236
Sales	₩ 236,899,578	₩ 170,848,877	₩ 156,717,534	₩ 165,781,758
Profit for the year	28,354,976	17,925,382	179,321	240,267
Other comprehensive income (expense)	(74,923)	(449,476)	(14,049,749)	-
Total comprehensive income (expense)	28,280,053	17,475,906	(13,870,428)	240,267

8. Investment in associates (cont'd)

Details of changes in the carrying amount of equity method investments for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	Jan. 1, 2016	Share of profit or loss in investee	Equity adjustments of investment in associates	Dividends income	Dec. 31, 2016
Stemco Co., Ltd.	₩ 22,541,229	₩ 8,506,493	₩ (22,477)	₩ (2,099,100)	₩ 28,926,145
Samsung Economic Research Institute	21,718,508	42,678	(3,343,840)	-	18,417,346
Total	₩ 44,259,737	₩ 8,549,171	₩ (3,366,317)	₩ (2,099,100)	₩ 47,343,491

	Jan. 1, 2015	Share of profit or loss in investee	Equity adjustments of investment in associates	Dividends income	Dec. 31, 2015
Stemco Co., Ltd.	₩ 16,959,745	₩ 6,987,427	₩ (134,843)	₩ (1,271,100)	₩ 22,541,229
Samsung Economic Research Institute	21,527,904	57,184	133,420	-	21,718,508
Total	₩ 38,487,649	₩ 7,044,611	₩ (1,423)	₩ (1,271,100)	₩ 44,259,737

Details of changes in the book value of investment in associates based on their net assets as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016			
	Net assets (A)	Ownership (B)	Shareholder portion (A*B)	Book Value
Stemco Co., Ltd.	₩ 96,420,483	30.00%	₩ 28,926,145	₩ 28,926,145
Samsung Economic Research Institute	77,383,808	23.80%	18,417,346	18,417,346
Total	₩ 173,804,291		₩ 47,343,491	₩ 47,343,491

	2015			
	Net assets (A)	Ownership (B)	Shareholder portion (A*B)	Book Value
Stemco Co., Ltd.	₩ 75,137,430	30.00%	₩ 22,541,229	₩ 22,541,229
Samsung Economic Research Institute	91,254,236	23.80%	21,718,508	21,718,508
Total	₩ 166,391,666		₩ 44,259,737	₩ 44,259,737

9. Available-for-sale financial assets

Available-for-sale financial assets as at December 31, 2016 and 2015 consist of the following (Korean won in thousands):

	2016						2015
					Cumulative impairment loss		
	Acquisition cost	Fair value	Book value	Unrealized gain	Before 2016	2016	Book Value
Marketable securities	₩ 70,982,677	₩ 716,469,286	₩ 716,469,286	₩ 645,486,609	₩ -	₩ -	₩ 775,283,184
Non-marketable securities	34,708,252	29,247,130	28,842,084	5,726,320	(11,633,153)	(1,352,522)	24,339,450
Total	₩ 105,690,929	₩ 745,716,416	₩ 745,311,370	₩ 651,212,929	₩ (11,633,153)	₩ (1,352,522)	₩ 799,622,634

9. Available-for-sale financial assets (cont'd)

Marketable securities as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016						2015	
	Number of shares	Equity interst	Acquisition cost	Fair value	Book value	Unrealized gain	Book Value	Domicile
Samsung Heavy Industries Co., Ltd.	8,928,807	2.29%	₩ 60,676,051	₩ 82,591,465	₩ 82,591,465	₩ 21,915,414	₩ 59,767,908	Korea
Samsung C&T Corporation (*1)	5,000,000	2.61%	10,000,000	627,500,000	627,500,000	617,500,000	700,000,000	Korea
iMarketkorea Inc.	613,252	1.71%	306,626	6,377,821	6,377,821	6,071,195	15,515,276	Korea
Total			₩ 70,982,677	₩ 716,469,286	₩ 716,469,286	₩ 645,486,609	₩ 775,283,184	

(*1) On September 1, 2015, Cheil Industries Inc merged with Samsung C&T Corporation and changed its name to Samsung C&T Corporation.

Non-marketable securities as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016							2015	
						Cumulative impairment loss			
	Number of shares	Equity interst (%)	Acquisition Cost	Proportionate net asset value	Book value	Before 2016	2016	Book value	Domicile
Samsung Venture Investment Co., Ltd. (*2)	1,020,000	17.00	5,100,000	7,821,360	7,821,360	-	-	7,501,080	Korea
SOLUM Co., Ltd.	4,650,000	14.81	2,325,000	2,383,169	2,325,000	-	-	2,325,000	Korea
Cosmotech Co., Ltd	779,486	1.69	1,459,230	-	-	(1,459,230)	-	-	Korea
KMAC fund	8,000	1.00	40,000	402,521	40,000	-	-	40,000	Korea
Intellectual Discovery	36,060	0.32	250,004	49,153	-	-	(250,004)	250,004	Korea
Korea Orbcom Ltd.	16,000	3.42	600,000	-	-	(600,000)	-	-	Korea
IMA	347,696	8.69	4,028,477	3,567,758	4,028,477	-	-	4,028,477	Hongkong
DTI Inc.	333,333	2.77	564,799	-	-	(564,799)	-	-	US
Solidus Biosciences Inc. (*1)	-	-	-	-	-	-	-	1	US
Inkel Co., Ltd.	40	0.00	200	230	200	-	-	200	Korea
Cosmolink Co.,Ltd.	58,067	2.18	6,451,253	495,892	-	(5,348,735)	(1,102,518)	1,102,518	Korea
Postech Social Corporation Fund	10	1.67	100,000	-	100,000	-	-	100,000	Korea
SEMCNS Co., Ltd	4,000,000	10.00	2,000,000	2,000,000	2,000,000	-	-	-	Korea
Image Next	-	-	-	-	-	-	-	1,000,000	Korea
Power by Proxi	5,481,855	12.47	4,292,800	7,297,760	7,297,760	-	-	7,297,760	New Zealand
SBI VentureFund No4 Investment LPS	-	-	2,280,682	2,280,682	2,280,682	-	-	694,410	Japan
DS Asia Holdings	3,208,399	1.80	2,267,202	-	-	(2,267,202)	-	-	Hongkong
Corephotonics	10,206	1.95	2,948,605	2,948,605	2,948,605	-	-	-	Israel
Total			₩ 34,708,252	₩ 29,247,130	₩ 28,842,084	₩ (10,239,966)	₩ (1,352,522)	₩24,339,450	

(*1) Solidus Biosciences Inc. was liquidated during the current period.

(*2) Valuations on the investments in Samsung Venture Investment Co., Ltd. were performed by an independent professional appraiser, using fair values calculated using the discounted future cash flows method, guideline public company method, various financial ratios and other relevant information. The discount rate used for calculating fair value ranged 22.31% and risk-free interest rate was 1.75%.

9. Available-for-sale financial assets (cont'd)

When determining the fair value of respective securities, the Group considered various factors including macro economics, business environment and business model of the investees obtained from information and data available at the valuation date. The Group assumed that the business structure of the investees would not be changed during the period of estimation.

Other non-marketable securities were recorded at acquisition cost due to a lack of comparable market prices or inability to reliably measure fair value.

Details of changes in accumulated other comprehensive income arising from valuation of available-for-sale financial assets for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016				
	January 1	Increase (decrease)	Disposal	Current year tax effect	December 31
Marketable securities					
Samsung Heavy Industries Co., Ltd.	₩ 17,900,174	₩ (1,699,593)	₩ -	₩ 411,302	₩ 16,611,883
Samsung C&T Corporation	523,020,000	(72,500,000)	-	17,545,000	468,065,000
Samsung Fine Chemicals Co., Ltd.	745,834	-	(983,948)	238,114	-
iMarketkorea Inc.	11,528,157	(9,137,455)	-	2,211,264	4,601,966
Sub total	553,194,165	(83,337,048)	(983,948)	20,405,680	489,278,849
Non-marketable securities					
Samsung Venture Investment Co., Ltd.	1,820,018	320,280	-	(77,507)	2,062,791
Power by Proxi	2,974,910	-	-	-	2,974,910
Sub total	4,794,928	320,280	-	(77,507)	5,037,701
Total	₩ 557,989,093	₩ (83,016,768)	₩ (983,948)	₩ 20,328,173	₩ 494,316,550

	2015				
	January 1	Increase (decrease)	Disposal	Current year tax effect	December 31
Marketable securities					
Samsung Heavy Industries Co., Ltd.	₩ 55,897,139	₩ (50,127,923)	₩ -	₩ 12,130,958	₩ 17,900,174
Samsung C&T Corporation	591,240,000	(90,000,000)	-	21,780,000	523,020,000
Samsung Fine Chemicals Co., Ltd.	(532,236)	1,686,108	-	(408,038)	745,834
iMarketkorea Inc.	12,969,176	(1,901,081)	-	460,062	11,528,157
Sub total	659,574,079	(140,342,896)	-	33,962,982	553,194,165
Non-marketable securities					
Samsung General Chemicals Co., Ltd.	91,680,564	-	(120,950,611)	29,270,047	-
Samsung Venture Investment Co., Ltd.	1,329,835	646,680	-	(156,497)	1,820,018
Power by Proxi	-	2,974,910	-	-	2,974,910
Sub total	93,010,399	3,621,590	(120,950,611)	29,113,550	4,794,928
Total	₩ 752,584,478	₩ (136,721,306)	₩ (120,950,611)	₩ 63,076,532	₩ 557,989,093

10. Property, plant and equipment

Changes in the book value of property, plant and equipment for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016						
	January 1	Additions	Disposals	Transfers	Depreciation	Others (*)	December 31
Acquisition cost:							
Land	₩ 213,975,694	₩ -	₩ (9,325,783)	₩ -	₩ -	₩ 586,275	₩ 205,236,186
Buildings	1,620,964,055	673,203	(13,068,652)	198,095,962	-	15,568,714	1,822,233,282
Structures	105,385,024	607,427	(240,133)	21,564,721	-	1,323,888	128,640,927
Machinery	4,535,207,657	36,825,186	(443,318,321)	732,103,715	-	100,754,150	4,961,572,387
Vehicles	7,182,895	782,078	(1,212,805)	120,054	-	42,329	6,914,551
Equipment	290,382,234	9,869,949	(23,157,222)	20,436,135	-	(227,353)	297,303,743
Construction-in-progress	517,615,904	648,423,974	(21,563)	(604,178,160)	-	(17,200,266)	544,639,889
Machinery-in-transit	40,629,741	387,514,637	-	(368,142,427)	-	358,794	60,360,745
Total	₩ 7,331,343,204	₩ 1,084,696,454	₩ (490,344,479)	₩ -	₩ -	₩ 101,206,531	₩ 8,026,901,710
Accumulated depreciation and impairment:							
Land	₩ (1,784,780)	₩ -	₩ 1,547,314	₩ -	₩ -	₩ (164,369)	₩ (401,835)
Buildings	(444,951,326)	-	10,015,984	-	(50,233,291)	(13,999,700)	(499,168,333)
Structures	(44,099,436)	-	114,731	-	(5,576,549)	(637,048)	(50,198,302)
Machinery	(3,329,958,609)	-	391,890,611	-	(494,946,237)	(101,104,003)	(3,534,118,238)
Vehicles	(5,502,188)	-	1,193,625	-	(871,492)	(14,626)	(5,194,681)
Equipment	(206,563,755)	-	20,839,651	-	(37,780,439)	196,393	(223,308,150)
Construction-in-progress	(70,866)	-	-	-	-	-	(70,866)
Machinery-in-transit	-	-	-	-	-	-	-
Total	₩ (4,032,930,960)	₩ -	₩ 425,601,916	₩ -	₩ (589,408,008)	₩ (115,723,353)	₩ (4,312,460,405)
Net book value:							
Land	₩ 212,190,914	₩ -	₩ (7,778,469)	₩ -	₩ -	₩ 421,906	₩ 204,834,351
Buildings	1,176,012,729	673,203	(3,052,668)	198,095,962	(50,233,291)	1,569,014	1,323,064,949
Structures	61,285,588	607,427	(125,402)	21,564,721	(5,576,549)	686,840	78,442,625
Machinery	1,205,249,048	36,825,186	(51,427,710)	732,103,715	(494,946,237)	(349,853)	1,427,454,149
Vehicles	1,680,707	782,078	(19,180)	120,054	(871,492)	27,703	1,719,870
Equipment	83,818,479	9,869,949	(2,317,571)	20,436,135	(37,780,439)	(30,960)	73,995,593
Construction-in-progress	517,545,038	648,423,974	(21,563)	(604,178,160)	-	(17,200,266)	544,569,023
Machinery-in-transit	40,629,741	387,514,637	-	(368,142,427)	-	358,794	60,360,745
Total	₩ 3,298,412,244	₩ 1,084,696,454	₩ (64,742,563)	₩ -	₩ (589,408,008)	₩ (14,516,822)	₩ 3,714,441,305

10. Property, plant and equipment (cont'd)

	2015						
	January 1	Additions	Disposals	Transfers	Depreciation	Others (*)	December 31
Acquisition cost:							
Land	₩ 217,444,705	₩ -	₩ -	₩ -	₩ -	₩ (3,469,011)	₩ 213,975,694
Buildings	1,443,767,766	329,695	(42,070,390)	207,410,351	-	11,526,633	1,620,964,055
Structures	104,238,727	799,999	(3,737,524)	3,508,887	-	574,935	105,385,024
Machinery	4,496,757,073	25,296,597	(686,060,778)	649,637,165	-	49,577,600	4,535,207,657
Vehicles	7,603,899	542,909	(1,353,361)	349,046	-	40,402	7,182,895
Equipment	345,309,505	17,739,893	(90,804,931)	15,472,784	-	2,664,983	290,382,234
Construction-in-progress	373,593,796	717,706,300	(333,092)	(457,439,715)	-	(115,911,385)	517,615,904
Machinery-in-transit	19,363,910	439,673,750	(938,235)	(418,938,518)	-	1,468,834	40,629,741
Total	₩ 7,008,079,381	₩ 1,202,089,143	₩ (825,298,311)	₩ -	₩ -	₩ (53,527,009)	₩ 7,331,343,204
Accumulated depreciation and impairment:							
Land	₩ -	₩ -	₩ -	₩ -	₩ -	₩ (1,784,780)	₩ (1,784,780)
Buildings	(420,342,107)	-	382,946	-	(24,569,015)	(423,150)	(444,951,326)
Structures	(40,625,101)	-	110,666	-	(775,071)	(2,809,930)	(44,099,436)
Machinery	(3,378,132,081)	-	488,467,512	-	(413,383,555)	(26,910,485)	(3,329,958,609)
Vehicles	(5,926,286)	-	1,190,571	-	(690,208)	(76,265)	(5,502,188)
Equipment	(230,388,754)	-	82,352,400	-	(38,552,036)	(19,975,365)	(206,563,755)
Construction-in-progress	(6,808,077)	-	-	-	-	6,737,211	(70,866)
Machinery-in-transit	-	-	-	-	-	-	-
Total	₩ (4,082,222,406)	₩ -	₩ 572,504,095	₩ -	₩ (477,969,885)	₩ (45,242,764)	₩ (4,032,930,960)
Net book value:							
Land	₩ 217,444,705	₩ -	₩ -	₩ -	₩ -	₩ (5,253,791)	₩ 212,190,914
Buildings	1,023,425,659	329,695	(41,687,444)	207,410,351	(24,569,015)	11,103,483	1,176,012,729
Structures	63,613,626	799,999	(3,626,858)	3,508,887	(775,071)	(2,234,995)	61,285,588
Machinery	1,118,624,992	25,296,597	(197,593,266)	649,637,165	(413,383,555)	22,667,115	1,205,249,048
Vehicles	1,677,613	542,909	(162,790)	349,046	(690,208)	(35,863)	1,680,707
Equipment	114,920,751	17,739,893	(8,452,531)	15,472,784	(38,552,036)	(17,310,382)	83,818,479
Construction-in-progress	366,785,719	717,706,300	(333,092)	(457,439,715)	-	(109,174,174)	517,545,038
Machinery-in-transit	19,363,910	439,673,750	(938,235)	(418,938,518)	-	1,468,834	40,629,741
Total	₩ 2,925,856,975	₩ 1,202,089,143	₩ (252,794,216)	₩ -	₩ (477,969,885)	₩ (98,769,773)	₩ 3,298,412,244

(*) Others represent impairment loss, amortization of government subsidy, foreign exchange rate adjustments, transfers to inventories and others.

Acquisition cost is deemed to be the acquisition date fair value when the assets are purchased at no cost or at a price lower than the fair value through government subsidy. Government subsidy which is used for the acquisition of assets is accounted for as a deduction from the acquisition cost of the acquired assets, and is offset against the depreciation of the acquired assets during such assets' useful lives. Government subsidy amounting to ₩153,948 thousand was offset against the depreciation expenses in 2016.

10. Property, plant and equipment (cont'd)

As at December 31, 2016, the Group recorded government subsidy with an obligation for repayment amounting to ₩180,671 thousand as long-term other payables. Of the government subsidy with no repayment obligation as at December 31, 2016, ₩327,393 thousand was offset against the related expenses and the remaining unutilized portion amounting to ₩321 thousand was recorded as unearned income.

Borrowing costs incurred amounting to ₩451,723 thousand and ₩5,979,591 thousand for the years ended December 31, 2016 and 2015, respectively, which were directly attributable to the acquisition and construction of qualifying property, plant and equipment, are capitalized as part of the cost of those assets.

The details of changes in accumulated impairment losses for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016				
	January 1	Additions	Disposals	Others	December 31
Land	₩ 1,784,780	₩ -	₩ -	₩ -	₩ 1,784,780
Buildings	5,614,878	-	-	-	5,614,878
Machinery	139,052,737	18,645,551	(14,342,668)	(194,040)	143,161,580
Equipment	358,179	877,049	(81,025)	570,797	1,725,000
Construction-in-progress	70,866	-	(70,866)	-	-
Total	₩ 146,881,440	₩ 19,522,600	₩ (14,494,559)	₩ 376,757	₩ 152,286,238

In 2016, the Group recognized an impairment loss of ₩19,522,600 thousand on individual Machinery related to the ACI operating segment in other expenses in the consolidated statement of comprehensive income.

	2015				
	January 1	Additions	Disposals	Others	December 31
Land	₩ -	₩ 1,784,780	₩ -	₩ -	₩ 1,784,780
Buildings	4,940,287	18,097,221	-	(17,422,630)	5,614,878
Structures	-	2,442,739	-	(2,442,739)	-
Machinery	208,105,996	50,514,752	(70,045,235)	(49,522,776)	139,052,737
Equipment	414,610	10,968,682	(14,199,838)	3,174,725	358,179
Construction-in-progress	7,024,438	141,379	-	(7,094,951)	70,866
Total	₩ 220,485,331	₩ 83,949,553	₩ (84,245,073)	₩ (73,308,371)	₩ 146,881,440

The Company revalued certain property, plant and equipment in accordance with the *Korean Asset Revaluation Act* on January 1, 1981 and July 1, 1998. The revalued amounts are recorded as deemed cost at the revaluation date in accordance with KIFRS 1101. The difference between the revaluation amount and book value prior to revaluation is recorded as revaluation surplus in retained earnings, and may not be utilized for cash dividends.

Property, plant and equipment are insured against fire and other casualty losses for up to ₩8,241,561,399 thousand and ₩6,593,883,311 thousand as at December 31, 2016 and 2015, respectively.

11. Intangible assets

Changes in the book value of intangible assets for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016					
Acquisition cost:	January 1	Additions	Disposals	Amortization	Others (*)	December 31
Patent/industrial proprietary rights (**)	₩ 120,511,110	₩ 7,014,476	₩ (532,628)	₩ -	₩ 6,933,466	₩ 133,926,424
Land usage rights	7,749,427	-	-	-	(226,647)	7,522,780
Software	108,191,460	15,941,908	(3,026,258)	-	45,429	121,152,539
Goodwill	64,162,099	-	-	-	-	64,162,099
Others	33,728,459	51,504	(2,061,843)	-	(3,881)	31,714,239
Total	₩ 334,342,555	₩ 23,007,888	₩ (5,620,729)	₩ -	₩ 6,748,367	₩ 358,478,081
Accumulated amortization and impairment:						
Patent/industrial proprietary rights (**)	₩ (108,207,139)	₩ -	₩ 127,163	₩ (2,200,761)	₩ (6,933,466)	₩ (117,214,203)
Land usage rights	(1,196,422)	-	-	(197,011)	36,414	(1,357,019)
Software	(70,349,126)	-	2,250,310	(16,517,049)	305,262	(84,310,603)
Goodwill	(64,162,099)	-	-	-	-	(64,162,099)
Others	752,225	-	-	-	(432)	751,793
Total	₩ (243,162,561)	₩ -	₩ 2,377,473	₩ (18,914,821)	₩ (6,592,222)	₩ (266,292,131)
Net book value:						
Patent/industrial proprietary rights (**)	₩ 12,303,971	₩ 7,014,476	₩ (405,465)	₩ (2,200,761)	₩ -	₩ 16,712,221
Land usage rights	6,553,005	-	-	(197,011)	(190,233)	6,165,761
Software	37,842,334	15,941,908	(775,948)	(16,517,049)	350,691	36,841,936
Goodwill	-	-	-	-	-	-
Others	34,480,684	51,504	(2,061,843)	-	(4,313)	32,466,032
Total	₩ 91,179,994	₩ 23,007,888	₩ (3,243,256)	₩ (18,914,821)	₩ 156,145	₩ 92,185,950

11. Intangible assets (cont'd)

	2015					
Acquisition cost:	January 1	Additions	Disposals	Amortization	Others (*)	December 31
Patent/industrial proprietary rights (**)	₩ 108,302,688	₩ 8,209,541	₩ (1,551,101)	₩ -	₩ 5,549,982	₩ 120,511,110
Land usage rights	7,676,917	-	-	-	72,510	7,749,427
Software	88,123,942	25,154,953	(5,197,105)	-	109,670	108,191,460
Goodwill	64,162,099	-	-	-	-	64,162,099
Others	36,015,920	153,542	(669,984)	-	(1,771,019)	33,728,459
Total	₩ 304,281,566	₩ 33,518,036	₩ (7,418,190)	₩ -	₩ 3,961,143	₩ 334,342,555
Accumulated amortization and impairment:						
Patent/industrial proprietary rights (**)	₩ (75,209,198)	₩ -	₩ 178,446	₩ (2,045,660)	₩ (31,130,727)	₩ (108,207,139)
Land usage rights	(985,631)	-	-	(202,520)	(8,271)	(1,196,422)
Software	(59,015,914)	-	3,920,983	(13,897,168)	(1,357,027)	(70,349,126)
Goodwill	(64,162,099)	-	-	-	-	(64,162,099)
Others	(1,034,999)	-	-	-	1,787,224	752,225
Total	₩ (200,407,841)	₩ -	₩ 4,099,429	₩ (16,145,348)	₩ (30,708,801)	₩ (243,162,561)
Net book value:						
Patent/industrial proprietary rights (**)	₩ 33,093,490	₩ 8,209,541	₩ (1,372,655)	₩ (2,045,660)	₩ (25,580,745)	₩ 12,303,971
Land usage rights	6,691,286	-	-	(202,520)	64,239	6,553,005
Software	29,108,028	25,154,953	(1,276,122)	(13,897,168)	(1,247,357)	37,842,334
Goodwill	-	-	-	-	-	-
Others	34,980,921	153,542	(669,984)	-	16,205	34,480,684
Total	₩ 103,873,725	₩ 33,518,036	₩ (3,318,761)	₩ (16,145,348)	₩ (26,747,658)	₩ 91,179,994

(*) Others represent impairment loss, amortization of government subsidy and adjustments resulting from foreign exchange differences.
(**) Industrial proprietary rights obtained through business combination include license contracts, customer lists and know-how, which were measured at fair value at acquisition date in 2012.

Research and development costs incurred and charged to operations for the years ended December 31, 2016 and 2015 amounted to ₩401,601,618 thousand and ₩441,018,828 thousand, respectively.

Impairment tests for intangible assets with indefinite useful lives
The Group conducted impairment tests on membership and on intangible assets with indefinite useful lives and did not recognize any impairment loss.

A membership's recoverable amount is the higher of a membershp's fair value less costs of disposal and its value in use. The Group used net fair value if it was available. If it was not available, the Group reasonably estimated value in use and determined recoverable amounts.

12. Trade and other payables

Trade and other payables as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Current	Non-current	Current	Non-current
Trade payables	₩ 395,772,391	₩ -	₩ 272,433,166	₩ -
Other payables	223,946,300	699,129	212,494,713	2,461,823
Accrued expenses	205,369,081	804,581	216,066,902	8,476,877
Dividends payables	6,548,891	-	4,163,965	-
Total	₩ 831,636,663	₩ 1,503,710	₩ 705,158,746	₩ 10,938,700

Trade and other payables measured at amortized cost using the effective interest rate method as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Effective interest rate (%)	Book value	Effective interest rate (%)	Book value
Long-term other payables	3.81 ~ 4.31	₩ 699,129	3.81 ~ 4.31	₩ 2,461,824

13. Borrowings and leases

Short-term borrowings as at December 31, 2016 and 2015 consist of the following (Korean won in thousands):

Financial institution	Description	Annual interest rate (%) as at Dec. 31, 2016	2016	2015
Woori Bank and 6 other banks	Discount of commercial paper	LIBOR + 0.45 ~ 0.55	₩ 216,183,305	₩ 214,529,321
Citibank and 13 other banks	Subsidiaries' borrowings	1.15 ~ 4.35	626,112,953	476,602,920
Total			₩ 842,296,258	₩ 691,132,241

The Group entered into a factoring agreement with recourse for its trade receivables with Woori Bank, Shinhan Bank, KEB Hana Bank, Kookmin Bank, Nonghyup Bank, ANZ, BOA and others. Factored receivables not overdue as at December 31, 2016 are accounted for as short-term borrowings (Note 6).

Long-term borrowings denominated in Korean won and in foreign currency as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

Financial institution	Description	Annual interest rate (%) as at Dec. 31, 2016	2016	2015
Korea Development Bank	Facility borrowings	2.22	₩ 300,000,000	₩ 300,000,000
Mizuho Bank and 5 other banks	Subsidiaries' borrowings	1.92 ~ 4.51	1,301,333,157	1,050,463,261
SubTotal			1,601,333,157	1,350,463,261
Less current portion of borrowings			(323,626,685)	(333,837,461)
Total			₩ 1,277,706,472	₩ 1,016,625,800

13. Borrowings and leases (cont'd)

91 commercial operating lease arrangements were entered into, which include office leases with THE 5TH RADIO COMPONENTS FACTORY OF TIANJIN. Future minimum lease payables under such operating leases as at December 31, 2016 are as follows (Korean won in thousands):

		Minimum lease payables (*)
Within 1 year	₩	11,440,860
After 1 year but less than 5 years		19,232,277
More than 5 years		27,854
Total	₩	30,700,991

(*) Minimum lease payables are denominated in various currencies and are translated using the average exchange rate during the year ended December 31, 2016.

14. Defined benefit liabilities

The Group has a defined benefit pension plan for its employees, for which the present value of defined benefits liabilities is calculated using the projected unit credit method by an independent actuary firm.

Changes in defined benefit liabilities (assets) for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Changes in defined benefit liabilities(assets):				
At January 1	₩	144,597,713	₩	134,343,238
Contributions by employer		(69,971,250)		(70,119,798)
Retirement benefits paid		(5,185,970)		(17,828,430)
Pension cost charged to profit or loss		60,956,730		86,571,565
Succession of defined benefit liabilities		1,421,083		(7,335,152)
Re-measurement losses (gains) in OCI		(147,049,816)		18,714,713
Exchange differences		(116,114)		251,577
At December 31		(15,347,624)		144,597,713
Defined benefit liabilities (assets) in the statement of financial position:				
Present value of defined benefit obligation		404,234,883		533,923,362
Fair value of plan assets		(419,582,507)		(389,325,649)
Total	₩	(15,347,624)	₩	144,597,713

Re-measurement gains on defined benefit plans (net of tax) of ₩111,421,092 thousand (2015: ₩(-)12,140,575 thousand) was recognized as other comprehensive income.

14. Defined benefit liabilities (cont'd)

Expenses recorded in relation to the defined benefit pension plan for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Current service cost	₩ 61,789,920	₩ 85,823,055
Prior service cost	(3,709,921)	(3,974,733)
Interest cost on benefit obligation	16,726,689	19,892,573
Expected return on plan assets	(13,849,958)	(15,169,330)
Total	₩ 60,956,730	₩ 86,571,565

Changes in the present value of the defined benefit obligation for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
At January 1	₩ 533,923,362	₩ 493,544,126
Benefits paid	(52,552,528)	(65,774,461)
Current service cost	61,789,920	85,823,055
Interest cost	16,726,689	19,892,573
Succession of defined benefit obligation	1,421,083	(7,335,152)
Past service cost	(3,709,921)	(3,974,733)
Re-measurement losses based on changes of demographic assumptions	-	4,859,459
Re-measurement losses (gains) based on changes of financial assumptions	(147,338,941)	16,465,161
Re-measurement gains based on changes of experience adjustments	(5,946,704)	(9,854,874)
Exchange differences	(78,077)	278,208
At December 31	₩ 404,234,883	₩ 533,923,362

Changes in the fair value of plan assets for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
At January 1	₩ 389,325,649	₩ 359,200,888
Contributions by employer	69,971,250	70,119,798
Benefits paid	(47,366,559)	(47,946,031)
Expected return on plan assets	13,849,958	15,169,330
Re-measurement losses	(6,235,831)	(7,244,967)
Exchange differences	38,040	26,631
At December 31	₩ 419,582,507	₩ 389,325,649

The Group has funded 104% of its defined benefit obligation with Samsung Life Insurance Co., Ltd. The Group's employees are individually nominated as the vested beneficiaries of the defined benefit plan assets. Contributions related to the defined benefit obligation are expected to be ₩85,000 million for the next fiscal year.

14. Defined benefit liabilities (cont'd)

The major categories of the fair value of total plan assets as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Cash and cash equivalents	₩ 418,831,611	₩ 388,444,408
Others	750,896	881,241
Total	₩ 419,582,507	₩ 389,325,649

The principal assumptions used in actuarial calculation as at December 31, 2016 and 2015 are as follows:

	2016	2015
Discount rate	3.80%	3.70%
Future salary increases	2.38%	5.40%

The following table demonstrates a sensitivity analysis on the effect of changes in the principal assumptions used in actuarial calculation on the present value of defined benefit obligation as at December 31, 2016 and 2015, respectively (Korean won in thousands):

Effect of changes in the discount rate

	2016		2015	
	1% decrease	1% increase	1% decrease	1% increase
Impact on defined benefit liabilities	₩ 40,481,570	₩ (34,712,114)	₩ 64,817,871	₩ (54,662,309)

Effect of changes in future salaries

	2016		2015	
	1% decrease	1% increase	1% decrease	1% increase
Impact on defined benefit liabilities	₩ (35,478,751)	₩ 40,659,378	₩ (54,325,264)	₩ 63,029,519

The Group operates a defined contribution pension plan for its employees. The defined benefit obligation consists of fixed contributions to the pension plan. Future retirement benefits are based on the contributions of the Group and investment gains from plan assets. Plan assets are managed in a seperate fund by independent trustees. For the years ended December 31, 2016 and 2015, defined contribution pension plan expenses amounted to ₩ 3,681,907 thousand and ₩2,419,131 thousand, respectively.

15. Provisions for product warranties

Provisions for warranty-related costs are recognized when the product is sold to the customers. Initial recognition is based on past experience on the level of repairs and returns. It is expected that most of these costs will be incurred in the next financial year.

16. Commitments and contingencies

16-1 Significant lines of credit

Significant lines of credit with financial institutions as at December 31, 2016 are as follows (Korean won in thousands and US dollar):

	Credit line (US$)		Credit line (₩)		Description
Woori Bank and 2 other banks		-	₩	89,500,000	Overdraft
Woori Bank and 2 other banks	US$	8,500,000 (Equivalent to ₩ 10,272,250)		-	Import letter of credit
KEB Hana Bank		-	₩	1,000,000	Local letter of credit
Woori Bank and 5 other banks	US$	530,000,000 (Equivalent to ₩ 640,505,000)	₩	150,000,000	Receivables factoring

The Group provided security deposits for its bank overdraft facilities (Note 5).

16-2 Litigation

As at December 31, 2016, the Group is a defendant in a class action lawsuit filed by Cygnus and other entities in Canada in connection with alleged price-fixing for capacitors. Total claims against the Group are currently undeterminable and the outcome of the proceedings cannot be reasonably estimated as at the end of the reporting period.

17. Issued capital

The Company is authorized to issue 200,000 thousand ordinary shares with a par value per share of ₩5,000. As at December 31, 2016, the Company holds 77,600,680 ordinary shares (including 2,906,984 preferred shares amounting to ₩388,003,400 thousand, which were issued through a series of stock issuances since the Company's incorporation in 1973.

Under the Articles of Incorporation, the Company is authorized to issue 20,000 thousand shares of non-voting preferred shares. The non-voting preferred shares issued on or before February 27, 1997, are non-cumulative and entitled to an additional cash dividend of 1% of par value of ordinary shares. As at December 31, 2016, 2,906,984 of non-cumulative and non-voting preferred shares have been issued and outstanding.

In addition, the Company may issue cumulative, participating and non-voting preferred shares with a dividend rate of more than 1% of par value of ordinary shares with the approval of the Board of Directors or committee members entrusted by the Board of Directors. If the dividend rate of the ordinary shares exceeds that for preferred shares, such preferred shares are entitled to participate in cash dividend at the same dividend rate of ordinary shares. No such preferred share has been issued as at December 31, 2016.

In addition, the Company is authorized to issue to investors, other than current stockholders, convertible bonds and bonds with warrants for a norminal value of up to ₩1,500,000 million and ₩700,000 million, respectively. Convertible bonds amounting to ₩1,200,000 million shall be convertible to ordinary shares and the remaining ₩300,000 million shall be convertible to preferred shares. Bonds with warrants amounting to ₩450,000 million shall entitle the bondholders to purchase ordinary shares and the remaining ₩250,000 million shall entitle the bondholders to purchase preferred shares. No such convertible bonds or bonds with warrants have been issued as at December 31, 2016.

17. Issued capital (cont'd)

The Company has a stock option plan under which options to purchase shares of ordinary shares may be granted to key employees with the approval of the stockholders within the limit specified by the Korean Commercial Code. These stock options vest after a two-year vesting period and are exercisable within eight years from the day when the stockholders approved the grants. As at December 31, 2016, there is no stock option granted to the employees exercisable into ordinary shares.

Company's share premium of December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Paid-in capital in excess of par value	₩	931,477,700	₩	931,477,700
Consideration for stock warrants		12,160,470		12,160,470
Gains on disposal of treasury stock		16,769,322		16,769,322
Exercise of stock option		1,201,580		1,201,580
Others		83,592,127		83,592,127
Total	₩	1,045,201,199	₩	1,045,201,199

Other components of equity as at December 31, 2016 and 2015 consist solely of treasury stock.

As at December 31, 2016, the Company's treasury stock comprising of 2,000,000 ordinary shares and 53,430 preferred shares were repurchased by the Company to stabilize its stock price, which are expected to dispose depending on the stock price.

Accumulated other comprehensive income as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Equity adjustments of investment in associates	₩	433,487	₩	3,229,550
Gains on valuation of available-for-sale financial assets		494,316,550		557,989,093
Exchange differences on translations of foreign operations		(74,888,824)		(71,148,681)
Total	₩	419,861,213	₩	490,069,962

Other capital reserves of the Company as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Legal reserve (*)	₩	86,520,491	₩	82,720,491
Business rationalization reserve		31,537,766		31,537,766
Capital expenditure reserve		7,895,000		7,895,000
Others		2,089,412,000		2,026,312,000
Total	₩	2,215,365,257	₩	2,148,465,257

(*) In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends is required to be appropriated as a legal reserve until the reserve equals 50% of paid-in capital. The legal reserve may not be utilized for cash dividends but may only be used to offset a deficit, if any, or be transferred to capital.

17. Issued capital (cont'd)

Details of dividends declared for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
Attributable to ordinary shares				
(2016: ₩500 per share, 2015: ₩500 per share)	₩	36,346,848	₩	36,346,848
Attributable to preferred shares				
(2016: ₩550 per share, 2015: ₩550 per share)		1,569,455		1,569,455
Total	₩	37,916,303	₩	37,916,303

18. Operating profit

Details of cost of sales and operating expenses for the years ended December 31, 2016 and 2015 by nature of expense are as follows (Korean won in thousands):

	2016		2015	
Changes in inventories, etc.	₩	(66,074,901)	₩	84,787,363
Use of raw materials and supplies		2,045,142,247		1,989,584,895
Employee benefit expense		1,366,615,786		1,369,785,891
Depreciation and amortization of intangible assets		608,322,829		489,687,070
Outsourcing expenses		200,544,480		237,383,475
Commissions		121,652,497		76,502,767
Other expenses		1,732,438,009		1,627,195,117
Total	₩	6,008,640,947	₩	5,874,926,578

Details of employee benefit expenses for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
Salaries expenses	₩	974,922,024	₩	1,027,151,813
Pension costs		136,587,167		82,247,442
Employee welfare benefits		255,106,595		260,386,636
Total	₩	1,366,615,786	₩	1,369,785,891

Depreciation and amortization of intangible assets for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
Depreciation	₩	589,408,008	₩	474,725,263
Amortization of intangible assets		18,914,821		14,961,807
Total	₩	608,322,829	₩	489,687,070

18. Operating profit (cont'd)

Details of selling and administrative expenses for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Salaries and payroll expenses	₩	204,612,167	₩	207,636,318
Bonuses and other benefits		23,897,679		33,163,737
Pension costs		86,270,418		29,787,649
Employee welfare benefits		57,496,768		73,188,170
Commissions		50,238,582		40,294,222
Supplies expenses		38,979,418		54,692,876
Repairs expenses		11,297,756		10,977,236
Allowance for doubtful accounts - trade		175,982		-
Depreciation		39,295,121		38,382,961
Sample expenses		9,508,690		11,034,451
Freight expenses		22,568,093		24,382,332
Travel expenses		14,917,692		16,267,253
Research and development expense		288,525,148		303,945,048
IT expenses		43,392,098		42,034,570
Other expenses		111,188,761		124,433,255
Total	₩	1,002,364,373	₩	1,010,220,078

19. Non-operating profit and expenses

19-1 Finance income

Finance income consists solely of interest income and details for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Loans and receivables:				
Cash and cash equivalents	₩	9,328,492	₩	10,405,166
Other financial assets		8,578,963		8,445,237
Held-to-maturity investments		38,439		3,970
Total	₩	17,945,894	₩	18,854,373

19-2 Finance costs

Finance costs consist solely of interest costs and details for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Financial liabilities carried at amortized cost:				
Borrowings	₩	48,586,706	₩	34,939,517
Other financial liabilities		413,632		473,319
Total	₩	49,000,338	₩	35,412,836

19. Non-operating profit and expenses (cont'd)

19-3 Share of profit in associates

Details of share of profit in associates for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Share of profit in associates	₩ 8,549,171	₩ 7,044,611

19-4 Other income

Details of other income for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Dividend income	₩ 2,844,082	₩ 6,194,340
Gain on disposal of available-for-sale financial investments	983,948	108,640,901
Reversal of allowance for other doubtful accounts	-	170,056
Commission income	618,571	232,732
Gain on disposal of property, plant and equipment	15,973,893	15,278,120
Gain on disposal of intangible assets	32,248,856	9,826,197
Gain on foreign currency transactions	208,101,534	158,473,292
Gain on foreign currency translation	21,257,577	11,056,291
Others	51,049,895	6,168,135
Total	₩ 333,078,356	₩ 316,040,064

19-5 Other expenses

Details of other expenses for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Allowance for doubtful accounts - others	₩ 1,672,100	₩ -
Loss on disposal of trade receivables	2,486,913	2,103,518
Loss on disposal of property, plant and equipment	12,878,469	13,963,351
Impairment loss on property, plant and equipment	19,522,600	3,311,000
Loss on disposal of intangible assets	558,499	116,596
Impairment loss on intangible assets	-	1,322
Loss on foreign currency transactions	197,627,972	150,686,282
Loss on foreign currency translation	24,848,346	24,704,763
Impairment loss on available-for- sale financial assets, net	1,352,522	542,200
Donations	5,991,587	14,866,515
Others	35,950,983	30,771,077
Total	₩ 302,889,991	₩ 241,066,624

20. Income tax expense

The major components of income tax expense for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Current income tax	₩	66,784,474	₩	116,586,268
Deferred income tax from temporary differences and tax credits		(57,616,223)		(100,171,542)
Income tax expense from continuing operations	₩	9,168,251	₩	44,562,958
Income tax expense from discontinued operations		-		(28,148,232)

Details of deferred income taxes charged directly to equity as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

		2016		2015
Deferred income tax				
Equity adjustments of investment in associates	₩	570,254	₩	344
Net losses on valuation of available-for-sale financial assets		20,328,173		63,076,532
Exchange differences on translation of foreign operations		(11,778,578)		(1,097,624)
Re-measurement losses (gain) on defined benefit plans		(35,628,724)		6,574,138
Total	₩	(26,508,875)	₩	68,553,390

A reconciliation of provision for income taxes applicable to income before income taxes at the Korea statutory tax rate to provision for income taxes at the effective tax rate of the Group is summarized as follows (Korean won in thousands):

		2016		2015
Profit before tax	₩	32,082,609	₩	37,058,056
Profit before tax from continuing operations		32,082,609		366,791,154
Losses before tax from discontinued operations		-		(329,733,098)
Tax at the statutory income tax rate		32,074,432		16,896,740
Adjustments:				
Income not taxable for tax purposes		(19,392,419)		(5,376,609)
Expenses not deductible for tax purposes		12,214,396		33,918,387
Effect of deferred income tax arising from temporary difference not recognized		4,693,865		(40,156)
Tax credits		(22,333,782)		(33,951,853)
Others		1,911,759		4,968,217
Income tax expense	₩	9,168,251	₩	16,414,726
Income tax expense from continuing operations		9,168,251		44,562,958
Taxable income from discontinued operations		-		(28,148,232)
Effective income tax rate		28.6%		44.3%

20. Income tax expense (cont'd)

Significant changes in tax credit carryforwards, cumulative temporary differences and deferred income tax assets and liabilities for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016							
	January 1		Recognized to income		Recognized directly to equity		December 31	
Loss on valuation of inventories	₩	9,888,911	₩	3,500,075	₩	-	₩	13,388,986
Property, plant and equipment		31,010,002		6,293,571		-		37,303,573
Defined benefit liabilities		23,824,212		(961,581)		(35,628,724)		(12,766,093)
Accurual expenses		29,617,220		(12,165,705)		-		17,451,515
Investment in subsidiaries		(42,639,943)		6,328,693		(11,778,578)		(48,089,828)
Equity adjustments of investment in associates		(1,387,718)		-		570,254		(817,464)
Valuation of available-for-sale financial assets		(128,010,469)		196,099		20,328,173		(107,486,197)
Unused tax credit carryforwards from prior years		45,437,143		45,481,612		-		90,918,755
Deficit carried forward		-		24,194,264		-		24,194,264
Others		67,114,940		(15,250,805)		-		51,864,135
Total	₩	34,854,298	₩	57,616,223	₩	(26,508,875)	₩	65,961,646
Deferred income tax assets		48,507,696						68,640,276
Deferred income tax liabilities		(13,653,398)						(2,678,630)

	2015							
	January 1		Recognized to income		Recognized directly to equity		December 31	
Loss on valuation of inventories	₩	11,974,322	₩	(2,085,411)	₩	-	₩	9,888,911
Property, plant and equipment		60,446,994		(29,436,992)		-		31,010,002
Defined benefit liabilities		18,595,180		(1,345,106)		6,574,138		23,824,212
Accurual expenses		33,853,940		(4,236,720)		-		29,617,220
Investment in subsidiaries		(60,122,153)		18,579,834		(1,097,624)		(42,639,943)
Equity adjustments of investment in associates		(1,388,062)		-		344		(1,387,718)
Valuation of available-for-sale financial assets		(191,009,479)		(77,522)		63,076,532		(128,010,469)
Unused tax credit carryforwards from prior years		6,216,514		39,220,629		-		45,437,143
Others		(12,437,890)		79,552,830		-		67,114,940
Total	₩	(133,870,634)	₩	100,171,542	₩	68,553,390	₩	34,854,298
Deferred income tax assets		52,751,754						48,507,696
Deferred income tax liabilities		(186,622,388)						(13,653,398)

20. Income tax expense (cont'd)

Deferred income tax assets and liabilities are measured using the enacted tax rates and laws that will be in effect when the temporary differences are expected to reverse.

The Group did not recognize deferred tax liabilities associated with the taxable temporary difference of ₩53,458,249 thousand resulting from investment in subsidiaries and associates as the Group does not expect that those temporary differences will reverse in the forseeable future.

Based on the Group's assessment of future taxable income, the Group's management concluded that it is probable that the recognized deferred income tax assets will be realized in future periods.

21. Earnings per share

Earnings per share was calculated by dividing net profit by the number of ordinary shares, and diluted earnings per share was calculated by dividing net profit by the weighted average number of dilutive potential ordinary shares. Preferred shares are participating preferred shares, having right to participate in division of profits, therefore their earning per share were computed as well.

The Company's basic earnings per share for the years ended December 31, 2016 and 2015 are computed as follows (Korean won in thousands, except per share amounts):

	2016		2015	
	Profit for the year	Profit for the year from continuing operations	Profit for the year	Profit for the year from continuing operations
Profit for the year attributable to equity holders of the parent	₩ 14,707,366	₩ 14,707,366	₩ 11,188,460	₩ 312,773,326
Preferred shares dividend	(692,812)	(692,812)	(558,048)	(2,282,843)
Additional dividends attributable to preferred shares	-	-	-	(9,616,124)
Profit for the year attributable to ordinary equity holders of the parent	14,014,554	14,014,554	10,630,412	300,874,359
Weighted-average number of shares of ordinary shares outstanding (*)	72,693,696	72,693,696	73,029,949	73,029,949
Basic earnings per share	₩ 193	₩ 193	₩ 146	₩ 4,120

(*) Weighted-average number of shares of ordinary shares outstanding is calculated as follows:

	2016	2015
Weighted-average number of shares of ordinary shares as at January 1	74,693,696	74,693,696
Treasury stock	(2,000,000)	(1,663,747)
	72,693,696	73,029,949

21. Earnings per share (cont'd)

The Company's diluted earnings per share for the years ended December 31, 2016 and 2015 are computed as follows (Korean won in thousands, except per share amounts):

	2016		2015	
	Profit for the year	Profit for the year from continuing operations	Profit for the year	Profit for the year from continuing operations
Profit for the year attributable to ordinary equity holders of the parent	₩ 14,014,554	₩ 14,014,554	₩ 10,630,412	₩ 300,874,359
Weighted-average number of shares of ordinary shares outstanding (*)	72,693,696	72,693,696	73,029,949	73,029,949
Diluted earnings per share	₩ 193	₩ 193	₩ 146	₩ 4,120

(*) Weighted-average number of shares of ordinary shares outstanding adjusted for the effect of dilution is calculated as follows:

	2016	2015
Weighted-average number of shares of ordinary shares as at January 1	72,693,696	73,029,949
Potential dilutive shares	-	-
	72,693,696	73,029,949

There are no ordinary shares that are potentially anti-dilutive as at December 31, 2016.

The Company's basic (diluted) earnings per share attributable to preferred shares for the years ended December 31, 2016 and 2015 are computed as follows (Korean won in thousands, except per share amounts):

	2016		2015	
	Profit for the year	Profit for the year from continuing operations	Profit for the year	Profit for the year from continuing operations
Profit for the year attributable to preferred shares holders of the parent	₩ 692,812	₩ 692,812	₩ 558,048	₩ 11,898,967
Weighted-average number of shares of preferred shares outstanding	2,853,554	2,853,554	2,853,554	2,853,554
Basic (diluted) earnings per share	₩ 243	₩ 243	₩ 196	₩ 4,170

22. Related party transactions

Samsung Electronics Co., Ltd. has significant influence on the Company. Related parties of the Company as at December 31, 2016 are as follows:

Related party	Category
Samsung Electronics Co., Ltd.	Company with significant influence
Samsung Economic Research Institute	Associate
Stemco Co., Ltd.	Associate
Samsung SDS Co., Ltd. and other affiliates (*)	Others

(*) Includes subsidiaries and associates of Samsung Electronics Co., Ltd.

Outstanding balances resulted from the transactions among the Company and its related parties as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Receivables	Payables	Receivables	Payables
Company with significant influence				
Samsung Electronics Co., Ltd.	₩ 53,697,244	₩ 54,110,875	₩ 122,936,075	₩ 27,027,684
Associate				
Samsung Economic Research Institute	-	1,194,163	-	1,165,116
Others (*)	151,564,710	77,180,952	188,071,460	41,515,672
Total	₩ 205,261,954	₩ 132,485,990	₩ 311,007,535	₩ 69,708,472

(*) Plan assets deposited with Samsung Life Insurance in addition to receivables from others described above amounts to ₩ 418,831,611 thousand, ₩388,444,408 thousand as at December 31, 2016 and 2015, respectively (Note 14).

Significant transactions among the Company and its related parties for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016			
	Sales	Purchases	Acquisition of tangible asset	Dividends
Company with significant influence				
Samsung Electronics Co., Ltd.	₩ 854,705,951	₩ 206,416,084	₩ 48,744	₩ -
Associate				
Samsung Economic Research Institute	-	4,194,977	-	-
Stemco Co., Ltd.	-	-	-	2,099,100
Others	2,535,162,217	353,157,174	83,672,191	-
Total	₩ 3,389,868,168	₩ 563,768,235	₩ 83,720,935	₩ 2,099,100

22. Related party transactions (cont'd)

	2015			
	Sales	Purchases	Acquisition of tangible asset	Dividends
Company with significant influence				
Samsung Electronics Co., Ltd.	₩ 1,129,291,480	₩ 196,907,674	₩ 684,915	₩ -
Associate				
Samsung Economic Research Institute	-	4,584,670	-	-
Stemco Co., Ltd.	-	-	-	1,271,100
Others	2,939,507,877	260,228,477	129,313,831	-
Total	₩ 4,068,799,357	₩ 461,720,821	₩ 129,998,746	₩ 1,271,100

The Company has no collateral or guarantees provided to or received from related parties as at December 31, 2016.

In relation to key management compensation of the Group for the year ended December 31, 2016, the Group recognized expenses for short-term benefits, including short-term incentives of ₩ 2,656,550 thousand and long-term benefits, including other long-term employee benefits and pension benefits of ₩ 558,000 thousand. Key management consists of registered executive officers who have authority and responsibility in the planning, operations and control of the business of the Group.

23. Supplementary consolidated cash flow information

Cash flows from operating activities for the years ended December 31, 2016 and 2015 are as follows (Korean won):

	2016	2015
Profit for the year	₩ 22,914,358,716	₩ 20,643,329,453
Adjustments to reconcile profit before tax to net cash flows		
Loss (gain) on valuation of inventories	(1,328,577,000)	6,599,241,432
Loss on scrap of inventories	40,228,784,258	47,818,452,878
Pension costs	60,956,730,216	86,571,565,231
Allowance for doubtful accounts - trade	175,981,727	-
Depreciation	589,408,007,978	477,969,884,978
Amortization of intangible assets	18,914,821,182	16,145,348,378
Provisions for product warranties	(2,461,163,547)	8,392,332,082
Gain on foreign exchange translation	(21,257,577,418)	(21,245,698,380)
Allowance (reversal) for doubtful accounts - other receivables	1,672,099,507	(170,056,404)
Gain on disposal of property, plant and equipment	(15,973,893,183)	(36,920,039,569)
Gain on disposal of intangible assets	(32,248,856,457)	(29,087,630,294)
Loss on foreign currency translation	24,848,345,548	24,704,763,010
Loss on disposal of trade receivables	2,486,913,140	2,103,518,007

23. Supplementary consolidated cash flow information (cont'd)

	2016	2015
Loss on disposal of property, plant and equipment	₩ 12,878,468,601	₩ 15,213,656,213
Loss on disposal of intangible assets	558,498,606	116,595,817
Impairment loss on property, plant and equipment	19,522,599,888	83,949,553,087
Impairment loss on intangible assets	-	27,304,259,687
Finance costs	49,000,338,038	38,639,921,266
Finance income	(17,945,893,672)	(20,150,627,124)
Dividend income	(2,844,081,500)	(6,582,526,193)
Share of profit in associates	(8,549,171,284)	(7,044,610,923)
Gain on disposal of available-for-sale financial assets	(983,948,336)	(108,640,900,502)
Impairment loss on available-for-sale financial assets	1,352,522,109	542,200,000
Income tax expense	9,168,250,627	16,414,726,537
Sub total	727,579,199,028	622,643,929,214
Working capital adjustments:		
Other financial assets	(210,493,707)	2,253,601,461
Trade receivables	48,248,229,150	222,667,439,257
Other receivables	83,077,631,878	(13,550,144,311)
Advance payments	(9,562,379,499)	(17,575,073,291)
Prepaid expenses	725,791,355	26,219,829,131
Inventories	(173,953,915,130)	201,965,410,780
Long-term prepaid expenses	(2,846,413,883)	(18,562,981,742)
Short-term and long-term loans	(170,547,742)	(342,398,716)
Trade payables	108,690,691,935	(125,628,535,995)
Other payables	(32,852,601,657)	3,897,686,715
Advances received	2,844,107,897	(7,911,752,635)
Other financial liabilities	2,245,181,594	(20,681,751,451)
Unearned income	8,728,187,175	70,790,796
Long-term trade and other payables	(9,434,990,353)	3,771,163,191
Retirement benefits paid	(5,185,969,707)	(17,828,429,522)
Contributions by employer	(69,971,249,944)	(70,119,797,662)
Succession of defined benefit liabilities	1,421,083,340	(7,335,151,749)
Sub total	(48,207,657,298)	161,309,904,257
Cash flows from operating activities	₩ 702,285,900,446	₩ 804,597,162,924

23. Supplementary consolidated cash flow information (cont'd)

Significant transactions not involving cash flows for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016	2015
Write-off of trade and other receivables	₩ 378,112	₩ 1,584,289
Reclassification of construction-in-progress	604,178,160	457,439,715
Reclassification of machinery-in-transit	368,142,427	418,938,518
Transfer of current portion of long-term borrowings	240,708,685	341,474,824
Decrease of gain on valuation of available-for-sale financial assets	(63,672,543)	(194,565,335)
Other receivables of disposal of available-for-sale financial assets	-	48,826,492
Long-term other receivables of disposal of available-for-sale financial assets	-	49,548,066
Transfer of current portion of long-term other receivables	91,937,354	-
Disposal of unappropriated retained earning	66,900,000	337,240,000
Re-measurement gain on defined benefit plans	111,421,092	12,140,575
Classification as assets held for sale	-	4,005,098

24. Financial risk management objectives and policies

The Group's principal financial liabilities, comprise borrowings and trade and other payables. The main purpose of these financial liabilities is to finance the Group's operations and to provide guarantees to support its operations. Also the Group has various financial assets including trade receivables, cash and short-term deposits that arrive directly from its operations.

The Group is exposed to market risk, credit risk and liquidity risk. The Group's senior management oversees the management of these risks. It is the Group's policy that no trading in derivatives for speculative purposes shall be undertaken.

Market risk

Market risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market prices. Market prices comprise three types of risk: interest rate risk, currency risk and other price risk, such as equity price risk.

The sensitivity analyses in the following sections relate to the position as at December 31, 2016 and 2015.

(1) Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's long-term debt obligations with floating interest rates. The Group manages its interest rate risk by having a balanced portfolio of fixed and variable rate loans and borrowings.

Borrowings with floating interest rates amounts to ₩1,500,222,215 thousand and ₩1,244,245,154 thousand as at December 31, 2016 and 2015, respectively. The following table demonstrates a sensitivity analysis to a reasonably possible change in interest rates on that portion of borrowings. With all other variables held constant, the effect of changes in interest rates of floating rate borrowings on profit before tax is as follows (Korean won in thousands):

24. Financial risk management objectives and policies (cont'd)

	2016		2015	
	100bp increase	100bp decrease	100bp increase	100bp decrease
Impact on interest costs	₩ (15,002,222)	₩ 15,002,222	₩ (12,442,452)	₩ 12,442,452

(2) Foreign currency risk

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Group's exposure to the risk of changes in foreign exchange rates relates primarily to the Group's operating activities and the Group's net investments in foreign subsidiaries. The book values of monetary assets and liabilities which are not presented in functional currency as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Assets	Liabilities	Assets	Liabilities
USD	₩ 782,091,165	₩ 1,029,356,961	₩ 936,291,258	₩ 1,013,503,428
EUR	7,825,894	2,151,920	9,152,718	8,065,801
JPY	423,057	35,828,683	10,456,311	23,461,805
PHP	11,562,500	16,980,009	10,407,712	16,915,267
HKD	-	236,938	-	2,814,081
SGD	644,323	622,251	674,973	892,428
Others	33,488,052	11,029,886	6,971,333	3,560,764
Total	₩ 836,034,991	₩ 1,096,206,648	₩ 973,954,305	₩ 1,069,213,574

The Group manages its foreign currency risk periodically. The following table demonstrates a sensitivity analysis of a reasonably possible change in the foreign currency exchange rates, with all other variables held constant, on the Group's profit before tax as at December 31, 2016 and 2015. (Korean won in thousands):

	2016		2015	
	5% increase	5% decrease	5% increase	5% decrease
USD	₩ (12,363,290)	₩ 12,363,290	₩ (3,860,608)	₩ 3,860,608
EUR	283,699	(283,699)	54,346	(54,346)
JPY	(1,770,281)	1,770,281	(650,274)	650,274
PHP	(270,875)	270,875	(325,377)	325,377
HKD	(11,847)	11,847	(140,704)	140,704
SGD	1,104	(1,104)	(10,872)	10,872
Others	1,122,908	(1,122,908)	170,529	(170,529)
Total	₩ (13,008,582)	₩ 13,008,582	₩ (4,762,960)	₩ 4,762,960

The sensitivity analyses were conducted on monetary assets and liabilities which are presented in foreign currency other than functional currency as of the reporting date.

24. Financial risk management objectives and policies (cont'd)

(3) Other price risk

The Group's marketable available-for-sale equity securities are susceptible to market price risk arising from the fluctuation in the price of the securities. The following table demonstrates a sensitivity analysis of a reasonably possible change in the price of marketable equity securities on the financial statements of the Group as at December 31, 2016 (Korean won in thousands):

		5% increase		5% decrease
Other comprehensive income before tax	₩	35,823,464	₩	(35,823,464)
Income tax effect		(8,669,278)		8,669,278
Other comprehensive income after tax	₩	27,154,186	₩	(27,154,186)

Credit risk

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss of the Group. The Group is exposed to credit risk from its operating activities (primarily for trade receivables) and from its financing activities.

(1) Trade receivables and other receivables

Customer credit risk is managed by each business unit subject to the Group's established policy, procedures and control relating to customer credit risk management. Credit quality of the customer is assessed based on an extensive credit rating scorecard and individual credit limits are defined in accordance with this assessment. Outstanding customer receivables are regularly monitored. The maximum exposure to credit risk at the reporting date is as follows (Korean won in thousands):

		2016		2015
Trade receivables	₩	647,508,284	₩	684,079,120
Other receivables		134,190,417		137,101,391
Long-term other receivables		67,466,010		144,877,467

The Group evaluates the impairment of trade receivables and other receivables at every reporting date. In addition, the Group entered into guarantee insurance contracts with Korea Trade Insurance Corporation and other insurance corporations for the credit risk of foreign customers.

(2) Other assets

Credit risks associated with the Group's other assets which consist of cash, short-term deposits and short-term and long-term loans arise from the default by the counterparties. Maximum exposure to credit risks will be the book value of the related assets. The Group deposits its surplus funds in Woori Bank and other financial institutions whose credit ratings are high, therefore credit risk related to financial institutions is considered limited.

Liquidity risk

Liquidity risk refers to the risk that the Group may default on the contractual obligations that become due. The Group manages its risk to a shortage of funds using a recurring liquidity planning tool. The Group matches the financial liabilities with the financial assets taking into account the maturity dates and cash flow from operating activities of those financial assets.

24. Financial risk management objectives and policies (cont'd)

The table below summarises the maturity profile of the Group's financial liabilities based on contractual undiscounted payments (Korean won in thousands):

The financial liabilities is undiscounted nominal amount. The remaining maturities indicates the earliest timing when the creditors can request repayment.

	2016			
	Less than 3 months	3 to 12 months	1 to 5 years	Total
Trade and other payables	₩ 831,636,663	₩ -	₩ 1,503,710	₩ 833,140,373
Short-term borrowings	649,916,415	192,379,843	-	842,296,258
Current portion of long-term borrowings	54,382,500	269,244,185	-	323,626,685
Long-term borrowings	-	-	1,277,706,472	1,277,706,472
Other financial liabilites	16,224,239	2,295,205	-	18,519,444
Total	₩ 1,552,159,817	₩ 463,919,233	₩ 1,279,210,182	₩ 3,295,289,232

	2015			
	Less than 3 months	3 to 12 months	1 to 5 years	Total
Trade and other payables	₩ 705,158,746	₩ -	₩ 10,938,700	₩ 716,097,446
Short-term borrowings	347,754,109	343,378,132	-	691,132,241
Current portion of long-term borrowings	-	333,837,461	-	333,837,461
Long-term borrowings	-	-	1,016,625,800	1,016,625,800
Other financial liabilites	14,133,968	2,141,401	-	16,275,369
Total	₩ 1,067,046,823	₩ 679,356,994	₩ 1,027,564,500	₩ 2,773,968,317

Capital management

The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios in order to support its business and maximize shareholder value.

The Group manages its capital structure and makes adjustments to it in light of changes in economic conditions. To maintain the sound capital structure, the Group may adjust the dividend payment to shareholders, reduce capital stock, or issue new shares.

No changes were made in the objectives, policies or processes for managing capital during the years ended December 31, 2016 and 2015.

The Group monitors a gearing ratio, which is net debt divided by total capital, which is equity plus total equity and net debt. Net debt refers to interest bearing borrowings, less cash and cash equivalents.

24. Financial risk management objectives and policies (cont'd)

The gearing ratios as at the reporting date are computed as follows (Korean won in thousands):

	2016	2015
Trade and other payables	₩ 833,140,373	₩ 716,097,446
Borrowings	2,443,629,415	2,041,595,502
Other financial liabilities	18,519,444	16,275,369
Less: Cash and cash equivalent	(795,810,687)	(1,035,257,117)
Net debt	2,499,478,545	1,738,711,200
Total equity	4,337,585,298	4,315,383,218
Total capital (Net debt and shareholder's equity)	₩ 6,837,063,843	₩ 6,054,094,418
Gearing ratio	36.56%	28.72%

25. Fair value

Details of book values and fair values of financial assets and liabilities as at December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016		2015	
	Book value	Fair value	Book value	Fair value
Fanancial assets:				
Loans and receivables				
Cash and cash equivalents	₩ 795,810,687	₩ 795,810,687	₩ 1,035,257,117	₩ 1,035,257,117
Trade and other receivables	849,164,711	849,164,711	966,068,747	966,068,747
Short-term and long-term loans	2,697,613	2,697,613	2,473,413	2,473,413
Other financial assets	365,416,940	365,416,940	157,100,651	157,100,651
Available-for-sale financial assets	745,311,370	745,311,370	799,622,634	799,622,634
Held-to-maturity investments	72,140	72,140	317,300	317,300
Assets classified as held for sale	-	-	4,005,098	4,005,098
Total financial assets	₩ 2,758,473,461	₩ 2,758,473,461	₩ 2,964,844,960	₩ 2,964,844,960
Financial liabilities:				
Financial liabilities carried at amortized cost				
Trade and other payables	₩ (833,140,373)	₩ (833,140,373)	₩ (716,097,446)	₩ (716,097,446)
Other financial liabilities	(18,519,444)	(18,519,444)	(16,275,369)	(16,275,369)
Short-term borrowings	(842,296,258)	(842,296,258)	(691,132,241)	(691,132,241)
Current portion of long-term borrowings	(323,626,685)	(323,626,685)	(333,837,461)	(333,837,461)
Long-term borrowings	(1,277,706,472)	(1,277,706,472)	(1,016,625,800)	(1,016,625,800)
Total financial liabilities	₩ (3,295,289,232)	₩ (3,295,289,232)	₩ (2,773,968,317)	₩ (2,773,968,317)

25. Fair value (cont'd)

Fair value measurement

The Group has measured and disclosed the fair value measurement hierarchy of the Group's assets and liabilities as level 1, level 2 and level 3 as below table. There have been no transfers between level 1 and level 2.

Fair value on the statement of financial position:

As at December 31, 2016 and 2015, the Group held the following assets and liabilities carried at fair value on the statement of financial position (Korean won in thousands):

	2016			
	Level 1	Level 2	Level 3	Total
Assets that are measured at fair value				
Available-for-sale financial assets	₩ 716,469,286	₩ -	₩ 28,842,084	₩ 745,311,370
Assets for which the fair value have been disclosed				
Cash and cash equivalents	30,224	795,780,463	-	795,810,687
Trade and other receivables	-	-	849,164,711	849,164,711
Short-term and long-term loans	-	-	2,697,613	2,697,613
Other financial assets	-	270,000,000	95,416,940	365,416,940
Held-to-maturity investments	-	-	72,140	72,140
Liabilities for which the fair value have been disclosed				
Trade and other payables	-	-	(833,140,373)	(833,140,373)
Other financial liabilities	-	-	(18,519,444)	(18,519,444)
Short-term borrowings	-	(842,296,258)	-	(842,296,258)
Current portion of long-term borrowings	-	(323,626,685)	-	(323,626,685)
Long-term borrowings	-	(1,277,706,472)	-	(1,277,706,472)

	2015			
	Level 1	Level 2	Level 3	Total
Assets that are measured at fair value				
Available-for-sale financial assets	₩ 775,283,184	₩ -	₩ 24,339,450	₩ 799,622,634
Assets classified as held for sale	-	-	4,005,098	4,005,098
Assets for which the fair value have been disclosed				
Cash and cash equivalents	35,739	1,035,221,378	-	1,035,257,117
Trade and other receivables	-	-	966,068,747	966,068,747
Short-term and long-term loans	-	-	2,473,413	2,473,413
Other financial assets	-	50,000,000	107,100,651	157,100,651
Held-to-maturity investments	-	-	317,300	317,300
Liabilities for which the fair value have been disclosed				
Trade and other payables	-	-	(716,097,446)	(716,097,446)
Other financial liabilities	-	-	(16,275,369)	(16,275,369)
Short-term borrowings	-	(691,132,241)	-	(691,132,241)
Current portion of long-term borrowings	-	(333,837,461)	-	(333,837,461)
Long-term borrowings	-	(1,016,625,800)	-	(1,016,625,800)

25. Fair value (cont'd)

Details of assets and liabilities carried at fair value measured at level 3 are as follows (Korean won in thousands):

	2016		2015	
	Available-for-sale financial assets	Assets classified as held for distribution	Available-for-sale financial assets	Assets classified as held for distribution
At January 1	₩ 24,339,450	₩ 4,005,098	₩ 20,341,725	₩ 171,082,749
Reclassified from level 1	-	-	-	2,187,990
Total profit or loss for the period				
Gains and losses are included in the profit for the year	(1,352,522)	-	(542,200)	-
Gains and losses are included in the comprehensive income	320,280	-	3,651,640	1,686,108
Purchase	6,534,876	-	3,019,410	-
Selling (*)	(1,000,000)	(4,005,098)	(2,000,125)	(171,082,749)
Reclassification	-	-	(131,000)	131,000
At December 31	₩ 28,842,084	₩ -	₩ 24,339,450	₩ 4,005,098

(*) Investments in Samsung Lions Co., Ltd. and Samsung Fine Chemicals Co., Ltd., which were classified as assets held for sale in 2015, were disposed of during the year ended December 31, 2016.

Details of gains and losses arising from financial insturments by categories for the years ended December 31, 2016 and 2015 are as follows (Korean won in thousands):

	2016				
	Loans and receivables	Available-for-sale financial assets	Held-to-maturity investments	Financial liabilities carried at amortized cost	Total
Interest income	₩ 17,907,455	₩ -	₩ 38,439	₩ -	₩ 17,945,894
Dividend income	-	2,844,082	-	-	2,844,082
Gain on foreign currency transactions	104,575,361	-	-	103,526,173	208,101,534
Gain on foreign currency translation	17,951,160	-	-	3,306,417	21,257,577
Gain on disposal of available-for-sale financial assets	-	983,948	-	-	983,948
Interest expenses	-	-	-	(49,000,338)	(49,000,338)
Loss on foreign currency transactions	(83,444,696)	-	-	(114,183,276)	(197,627,972)
Loss on foreign currency translation	(2,746,639)	-	-	(22,101,707)	(24,848,346)
Loss on disposal of trade receivables	(2,486,913)	-	-	-	(2,486,913)
Allowance for doubtful accounts - trade	(175,982)	-	-	-	(175,982)
Allowance for doubtful accounts - others	(1,481,738)	-	-	-	(1,481,738)
Impairment loss on available-for-sale financial assets	-	(1,352,522)	-	-	(1,352,522)
Loss on valuation of available-for-sale financial assets (Other comprehensive income)	-	(63,672,543)	-	-	(63,672,543)
Total	₩ 50,098,008	₩ (61,197,035)	₩ 38,439	₩ (78,452,731)	₩ (89,513,319)

25. Fair value (cont'd)

	2015				
	Loans and receivables	Available-for-sale financial assets	Held-to-maturity investments	Financial liabilities carried at amortized cost	Total
Interest income	₩ 18,850,403	₩ -	₩ 3,970	₩ -	₩ 18,854,373
Dividend income	-	6,194,340	-	-	6,194,340
Gain on foreign currency transactions	81,805,344	-	-	76,667,948	158,473,292
Gain on foreign currency translation	8,659,179	-	-	2,397,112	11,056,291
Reversal for doubtful accounts – others	170,056	-	-	-	170,056
Gain on disposal of available-for-sale financial assets	-	108,640,901	-	-	108,640,901
Interest expenses	-	-	-	(35,412,836)	(35,412,836)
Loss on foreign currency transactions	(74,373,640)	-	-	(76,312,642)	(150,686,282)
Loss on foreign currency translation	(7,412,507)	-	-	(17,292,256)	(24,704,763)
Loss on disposal of trade receivables	(2,103,518)	-	-	-	(2,103,518)
Impairment loss on available-for-sale financial assets	-	(542,200)	-	-	(542,200)
Loss on valuation of available-for-sale financial assets (Other comprehensive income)	-	(194,565,335)	-	-	(194,565,335)
Total	₩ 25,595,317	₩ (80,272,294)	₩ 3,970	₩ (49,952,674)	₩ (104,625,681)

26. Assets classified as held for sale and Discontinued operations

On June 26, 2015, the Board of Directors of the Company elected to suspend the production and sales of HDD motors and dispose the assets as discontinued operations in order to concentrate on its core businesses. During the current reporting period, the Company disposed the assets and recognized any impairment of the assets.

On July 14, 2015, the Company elected to dispose the assets of Power, Tuner, ESL business segments to SOLUM Co., Ltd., an employee buyout, in order to concentrate on its core businesses. The disposal was completed in 2015.

The discontinued operation is presented separately from the continuing operations in the statement of comprehensive income for the period ended December 31, 2015 presented for comparative purposes.

26. Assets classified as held for sale and Discontinued operations (cont'd)

Details of profit for the year from discontinued operations for the year ended December 31, 2015 are as follows (Korean won in thousands):

		2015
Sales	₩	528,433,324
Cost of sales		(659,203,239)
Gross profit or losses		(130,769,915)
Selling and administrative expenses		(151,333,106)
Operating losses		(282,103,021)
Finance income		1,296,254
Finance costs		(3,227,086)
Other income		125,313,578
Impairment loss on property, plant and equipment		(80,638,553)
Impairment loss on intangible assets		(27,302,938)
Other expenses		(63,071,332)
Loss before tax		(329,733,098)
Taxable income		(28,148,232)
Loss for the year from discontinued operations	₩	(301,584,866)

Details of net cash flows from discontinued operations for the year ended December 31, 2015 are as follows (Korean won in thousands):

		2015
Operation activities	₩	143,053,946
Investing activities		71,134,436
Financing activities		(213,972,797)
Net foreign exchange difference		524,108
Net cash flows from discontinued operations	₩	739,693

In 2016, the Group disposed of its equity interests in Samsung Fine Chemicals Co., Ltd. and Samsung Lions Co., Ltd. amounting ₩3,874,098 thousand and ₩131,000 thousand, respectively, which were classified as held for sale in the prior period. As a result, the Group recognized other income of ₩983,948 thousand in the consolidated statement of comprehensive income (Note 19-4).