

Change
Innovate
Challenge

Samsung Electro-Mechanics Co., Ltd.
Consolidated financial statements
For the years ended December 31, 2015 and 2014
With independent auditors' report



SAMSUNG
ELECTRO-MECHANICS

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Independent auditors' report

To the shareholders and board of directors of 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, 2015 and 2014, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statement 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 (KIFRS), 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 auditor considers 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.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of Samsung Electro-Mechanics Co., Ltd. (the “Company”) and its subsidiaries (collectively the “Group”) as at December 31, 2015 and 2014, and its financial performance and cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.

We have also reviewed the translation of the 2015 financial statements mentioned above into United States dollar amounts on the basis described in Note 2 to the accompanying financial statements. In our opinion, such statements have been properly translated on such basis.

Ernst & Young Han Young

February 25, 2016

This audit report is effective as at February 25, 2016, 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, 2015 and 2014**

“The accompanying consolidated financial statements have been prepared by 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, 2015 and 2014

	Notes	Korean won		US dollars (Note 2)	
		2015	2014	2015	2014
Assets					
Current assets:					
Cash and cash equivalents	4	₩ 1,035,257,116,636	₩ 688,025,403,172	\$ 883,325,185	\$ 587,052,392
Current financial assets	5	94,010,836,567	793,692,224,022	80,214,024	677,211,795
Trade and other receivables	6,25	821,191,280,044	965,492,249,003	700,675,156	823,798,850
Short-term loans receivables	7	651,985,288	687,047,791	556,301	586,218
Advanced payments		23,014,673,510	4,710,897,215	19,637,093	4,019,537
Prepaid expenses		33,629,190,019	59,849,019,150	28,693,848	51,065,716
Prepaid income taxes		39,230,822,577	29,247,489,779	33,473,398	24,955,196
Inventories, net	8	678,980,295,110	841,199,605,014	579,334,723	717,747,103
Assets classified as held for sale	29	4,005,097,736	171,082,749,465	3,417,319	145,975,042
		<u>2,729,971,297,487</u>	<u>3,553,986,684,611</u>	<u>2,329,327,047</u>	<u>3,032,411,849</u>
Non-current assets:					
Investment in associates	9	44,259,737,103	38,487,648,978	37,764,281	32,839,291
Available-for-sale financial assets	10	799,622,634,398	939,841,903,598	682,271,872	801,912,887
Long-term loans receivables	7	1,821,427,533	1,771,372,627	1,554,119	1,511,410
Property, plant and equipment	11,18	3,298,412,243,924	2,925,856,975,134	2,814,344,918	2,496,464,996
Intangible assets, net	12	91,179,994,348	103,873,724,533	77,798,630	88,629,458
Non-current financial assets	5	63,407,114,801	66,155,700,116	54,101,634	56,446,843
Long-term prepaid expenses		47,393,251,331	35,886,221,939	40,437,928	30,619,643
Long-term trade and other receivables	6	144,877,466,511	-	123,615,586	-
Deferred tax assets	22	48,507,695,766	52,751,753,579	41,388,819	45,010,029
		<u>4,539,481,565,715</u>	<u>4,164,625,300,504</u>	<u>3,873,277,787</u>	<u>3,553,434,557</u>
Total assets		<u>₩ 7,269,452,863,202</u>	<u>₩ 7,718,611,985,115</u>	<u>\$ 6,202,604,834</u>	<u>\$ 6,585,846,406</u>

(Continued)

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of financial position
as at December 31, 2015 and 2014

	Notes	Korean won		US dollars (Note 2)	
		2015	2014	2015	2014
Liabilities and equity					
Current liabilities:					
Trade and other payables	13,25	₩ 705,158,745,629	₩ 817,998,947,405	\$ 601,671,285	\$ 697,951,320
Short-term borrowings	14,18	691,132,241,023	671,079,854,044	589,703,277	572,593,732
Advances received		5,652,150,240	13,563,884,124	4,822,654	11,573,280
Current financial liabilities	5	16,275,369,066	36,960,061,461	13,886,834	31,535,889
Income taxes payables		8,678,731,378	159,925,609,102	7,405,061	136,455,298
Current portion of long-term borrowings	14	333,837,460,755	445,356,293,568	284,844,250	379,996,838
Unearned income	11	201,109,796	130,319,000	171,595	111,194
Provisions for product warranties	16	7,318,225,795	5,986,987,194	6,244,220	5,108,351
		<u>1,768,254,033,682</u>	<u>2,151,001,955,898</u>	<u>1,508,749,176</u>	<u>1,835,325,902</u>
Non-current liabilities:					
Long-term borrowings	14	1,016,625,800,137	596,680,786,013	867,428,157	509,113,299
Long-term trade and other payables	13	10,938,700,268	7,167,537,077	9,333,362	6,115,646
Net employee defined benefit liabilities	15	144,597,713,413	134,343,237,914	123,376,889	114,627,336
Deferred tax liabilities	22	13,653,397,789	186,622,388,061	11,649,657	159,234,120
		<u>1,185,815,611,607</u>	<u>924,813,949,065</u>	<u>1,011,788,065</u>	<u>789,090,401</u>
Total liabilities		<u>₩ 2,954,069,645,289</u>	<u>₩ 3,075,815,904,963</u>	<u>\$ 2,520,537,241</u>	<u>\$ 2,624,416,303</u>
Equity					
Issued capital	19	₩ 388,003,400,000	₩ 388,003,400,000	\$ 331,060,922	\$ 331,060,922
Share premium	19	1,045,201,199,091	1,045,201,199,091	891,809,897	891,809,897
Other components of equity	19	(146,701,455,500)	(969,755,640)	(125,171,890)	(827,437)
Accumulated other comprehensive income	10,19	490,069,961,984	616,548,291,638	418,148,432	526,065,095
Other capital reserves	19	2,148,465,257,472	1,811,225,257,472	1,833,161,482	1,545,414,042
Retained earnings		297,076,171,273	693,397,871,066	253,477,962	591,636,409
Equity attributable to owners of the parent		<u>4,222,114,534,320</u>	<u>4,553,406,263,627</u>	<u>3,602,486,805</u>	<u>3,885,158,928</u>
Non-controlling interests		93,268,683,593	89,389,816,525	79,580,788	76,271,175
Total equity		<u>4,315,383,217,913</u>	<u>4,642,796,080,152</u>	<u>3,682,067,593</u>	<u>3,961,430,103</u>
Total liabilities and equity		<u>₩ 7,269,452,863,202</u>	<u>₩ 7,718,611,985,115</u>	<u>\$ 6,202,604,834</u>	<u>\$ 6,585,846,406</u>

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, 2015 and 2014

	Notes	Korean won		US dollars (Note 2)	
		2015	2014	2015	2014
Continuing operations					
Sales	3,25	₩ 6,176,258,143,768	₩ 6,100,447,147,864	\$ 5,269,844,833	\$ 5,205,159,682
Cost of sales	20,25	(4,864,706,500,318)	(5,065,010,615,674)	(4,150,773,464)	(4,321,681,413)
Gross profit		1,311,551,643,450	1,035,436,532,190	1,119,071,369	883,478,269
Selling and administrative expenses	20	(1,010,220,077,989)	(970,487,563,035)	(861,962,524)	(828,061,061)
Operating profit		301,331,565,461	64,948,969,155	257,108,845	55,417,208
Finance income	21	18,854,372,863	12,085,234,862	16,087,349	10,311,634
Finance costs	21	(35,412,835,542)	(34,708,276,077)	(30,215,730)	(29,614,570)
Share of profit of associates	9,21	7,044,610,923	2,272,828,119	6,010,760	1,939,273
Other income	21	316,040,063,823	1,221,569,463,372	269,658,758	1,042,294,764
Other expenses	11,21	(241,066,623,930)	(449,929,016,803)	(205,688,246)	(383,898,479)
Profit before tax from continuing operations		366,791,153,598	816,239,202,628	312,961,736	696,449,830
Income tax expense	22	44,562,958,072	127,277,455,011	38,023,002	108,598,511
Profit for the year from continuing operations		322,228,195,526	688,961,747,617	274,938,734	587,851,319
Discontinued operations					
Loss after tax for the year from discontinued operations	29	(301,584,866,073)	(180,049,929,475)	(257,324,971)	(153,626,220)
Profit for the year		₩ 20,643,329,453	₩ 508,911,818,142	\$ 17,613,763	\$ 434,225,099
Other comprehensive income:					
<i>Other comprehensive income (loss) not to be reclassified to profit or loss in subsequent periods (net of tax):</i>					
Re-measurement losses on defined benefit plans					
	15	(12,140,575,460)	(59,159,425,916)	(10,358,853)	(50,477,326)
<i>Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods (net of tax):</i>					
Equity adjustments of investment in associates					
		(1,078,481)	(358,610,784)	(920)	(305,982)
Net gains (losses) on valuation of available-for-sale financial assets					
	10	(194,565,334,650)	42,323,917,423	(166,011,378)	36,112,558
Exchange differences on translation of foreign operations					
		67,280,002,509	(46,725,374,211)	57,406,145	(39,868,067)
Other comprehensive expense for the year, net of tax		(139,426,986,082)	(63,919,493,488)	(118,965,006)	(54,538,817)
Total comprehensive income (loss) for the year, net of tax		₩ (118,783,656,629)	₩ 444,992,324,654	\$ (101,351,243)	\$ 379,686,282

(Continued)

Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2015 and 2014

	Notes	Korean won		US dollars (Note 2)	
		2015	2014	2015	2014
Profit for the year from continuing operations attributable to:					
Equity holders of the parent		312,773,326,119	682,753,854,644	266,871,439	582,554,483
Non-controlling interests	23	9,454,869,407	6,207,892,973	8,067,295	5,296,836
		₩ 322,228,195,526	₩ 688,961,747,617	\$ 274,938,734	\$ 587,851,319
Profit for the year attributable to:					
Equity holders of the parent		11,188,460,046	502,703,925,169	9,546,468	428,928,264
Non-controlling interests	23	9,454,869,407	6,207,892,973	8,067,295	5,296,835
		₩ 20,643,329,453	₩ 508,911,818,142	\$ 17,613,763	\$ 434,225,099
Total comprehensive income (loss) for the year attributable to:					
Equity holders of the parent		(127,256,914,247)	437,193,818,700	(108,580,985)	373,032,269
Non-controlling interests		8,473,257,618	7,798,505,954	7,229,742	6,654,013
		₩ (118,783,656,629)	₩ 444,992,324,654	\$ (101,351,243)	\$ 379,686,282
Earnings per share:					
	24				
- Basic, profit for the year attributable to ordinary equity holders of the parent		₩ 146	₩ 6,481	\$.12	\$ 5.53
- Diluted, profit for the year attributable to ordinary equity holders of the parent		₩ 146	₩ 6,481	\$.12	\$ 5.53
- Basic and diluted, profit for the year attributable to preferred share holders of the parent		₩ 196	₩ 6,531	\$.17	\$ 5.57
Earnings per share for continuing operations:					
- Basic, profit from continuing operations attributable to ordinary equity holders of the parent		₩ 4,120	₩ 8,803	\$ 3.52	\$ 7.51
- Diluted, profit from continuing operations attributable to ordinary equity holders of the parent		₩ 4,120	₩ 8,803	\$ 3.52	\$ 7.51
- Basic and diluted, profit from continuing operations attributable to preferred share holders of the parent		₩ 4,170	₩ 8,853	\$ 3.56	\$ 7.55

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, 2015 and 2014

	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, 2014	₩ 388,003,400,000	₩ 1,045,417,699,005	₩ (1,633,914,346)	₩ 622,898,972,191	₩ 1,622,395,257,472	₩ 496,980,112,013	₩ 4,174,061,526,335	₩ 83,965,912,631	₩ 4,258,027,438,966
Profit for the year	-	-	-	-	-	502,703,925,169	502,703,925,169	6,207,892,973	508,911,818,142
Other comprehensive income:									
Re-measurement losses on defined benefit plans	-	-	-	-	-	(59,159,425,916)	(59,159,425,916)	-	(59,159,425,916)
Equity adjustments of investment in associates	-	-	-	(358,610,784)	-	-	(358,610,784)	-	(358,610,784)
Net gains on valuation of available-for-sale financial assets	-	-	-	42,323,917,423	-	-	42,323,917,423	-	42,323,917,423
Exchange differences on translation of foreign operations	-	-	-	(48,315,987,192)	-	-	(48,315,987,192)	1,590,612,981	(46,725,374,211)
Total comprehensive income	-	-	-	(6,350,680,563)	-	443,544,499,253	437,193,818,700	7,798,505,954	444,992,324,654
Dividends	-	-	-	-	-	(58,296,740,200)	(58,296,740,200)	(2,374,602,060)	(60,671,342,260)
Appropriation of retained earnings	-	-	-	-	188,830,000,000	(188,830,000,000)	-	-	-
Disposal of treasury shares	-	(216,499,914)	823,403,500	-	-	-	606,903,586	-	606,903,586
Exercise of stock options	-	-	(159,244,794)	-	-	-	(159,244,794)	-	(159,244,794)
At December 31, 2014	₩ 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
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)	-	(62,887,505,750)
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)
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

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Samsung Electro-Mechanics Co., Ltd. and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2015 and 2014

	US dollars (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, 2014	\$ 331,060,922	\$ 891,994,624	\$ (1,394,125)	\$ 531,483,765	\$ 1,384,296,295	\$ 424,044,464	\$ 3,561,485,945	\$ 71,643,270	\$ 3,633,129,215
Profit for the year	-	-	-	-	-	428,928,264	428,928,264	5,296,835	434,225,099
Other comprehensive income:									
Re-measurement losses on defined benefit plans	-	-	-	-	-	(50,477,326)	(50,477,326)	-	(50,477,326)
Equity adjustments of investment in associates	-	-	-	(305,982)	-	(305,982)	(305,982)	-	(305,982)
Net gains on valuation of available-for-sale financial assets	-	-	-	36,112,558	-	-	36,112,558	-	36,112,558
Exchange differences on translation of foreign operations	-	-	-	(41,225,246)	-	-	(41,225,246)	1,357,179	(39,868,067)
Total comprehensive income	-	-	-	(5,418,670)	-	378,450,938	373,032,268	6,654,014	379,686,282
Dividends	-	-	-	-	-	(49,741,246)	(49,741,246)	(2,026,109)	(51,767,355)
Appropriation of retained earnings	-	-	-	-	161,117,747	(161,117,747)	-	-	-
Disposal of treasury shares	-	(184,727)	702,562	-	-	-	517,835	-	517,835
Exercise of stock options	-	-	(135,874)	-	-	-	(135,874)	-	(135,874)
At December 31, 2014	\$ 331,060,922	\$ 891,809,897	\$ (827,437)	\$ 526,065,095	\$ 1,545,414,042	\$ 591,636,409	\$ 3,885,156,928	\$ 76,271,175	\$ 3,961,430,103
As at January 1, 2015	\$ 331,060,922	\$ 891,809,897	\$ (827,437)	\$ 526,065,095	\$ 1,545,414,042	\$ 591,636,409	\$ 3,885,156,928	\$ 76,271,175	\$ 3,961,430,103
Profit for the year	-	-	-	-	-	9,546,468	9,546,468	8,067,295	17,613,763
Other comprehensive income:									
Re-measurement losses on defined benefit plans	-	-	-	-	-	(10,210,789)	(10,210,789)	(148,064)	(10,358,853)
Equity adjustments of investment in associates	-	-	-	(920)	-	-	(920)	-	(920)
Net losses on valuation of available-for-sale financial assets	-	-	-	(166,037,017)	-	-	(166,037,017)	25,639	(166,011,378)
Exchange differences on translation of foreign operations	-	-	-	58,121,274	-	-	58,121,274	(715,129)	57,406,145
Total comprehensive income (loss)	-	-	-	(107,916,663)	-	(664,321)	(108,580,984)	7,229,741	(101,351,243)
Dividends	-	-	-	-	-	(49,746,686)	(49,746,686)	(3,920,128)	(53,666,814)
Appropriation of retained earnings	-	-	-	-	287,747,440	(287,747,440)	-	-	-
Acquisition of treasury shares	-	-	(124,344,453)	-	-	-	(124,344,453)	-	(124,344,453)
At December 31, 2015	\$ 331,060,922	\$ 891,809,897	\$ (125,171,890)	\$ 418,148,432	\$ 1,833,161,482	\$ 253,477,962	\$ 3,602,486,805	\$ 79,560,788	\$ 3,682,067,593

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, 2015 and 2014

	Notes	Korean won		US dollars (Note 2)	
		2015	2014	2015	2014
Operating activities					
Cash flows from operating activities	26 ₩	804,597,162,924	₩ 398,640,644,484	\$ 686,516,351	\$ 340,137,069
Interest received		14,949,428,849	9,575,826,429	12,755,485	8,170,500
Income tax paid		(282,429,272,210)	(35,573,037,624)	(240,980,608)	(30,352,421)
Net cash flows from operating activities		537,117,319,563	372,643,433,289	458,291,228	317,955,148
Investing activities					
Increase (Decrease) in other financial assets, net		703,164,163,491	(775,476,692,574)	599,969,423	(661,669,533)
Proceeds from investments in subsidiaries		2,998,761,158	-	2,558,670	-
Proceeds from disposal of available-for-sale financial assets		55,998,722,560	1,261,831,448,757	47,780,480	1,076,647,994
Acquisition of available-for-sale financial assets		(3,019,410,000)	-	(2,576,288)	-
Proceeds from disposal of property, plant and equipment		185,763,404,651	14,990,234,505	158,501,199	12,790,302
Acquisition of property, plant and equipment		(1,196,229,279,233)	(859,883,961,800)	(1,020,673,446)	(733,689,387)
Proceeds from disposal of intangible assets		31,640,453,635	1,373,671,034	26,996,974	1,172,074
Acquisition of intangible assets		(9,345,919,246)	(20,944,190,900)	(7,974,334)	(17,870,470)
Dividends received		7,853,970,510	5,915,491,800	6,701,340	5,047,348
Net cash flows used in investing activities		(221,175,132,474)	(372,193,999,178)	(188,715,982)	(317,571,672)
Financing activities					
Proceeds from short-term borrowings		190,978,881,264	92,096,726,986	162,951,264	78,580,825
Repayment of short-term borrowings		(175,572,804,864)	(239,447,413,102)	(149,806,147)	(204,306,666)
Repayment of current portion of long-term borrowings		(458,475,734,887)	(90,642,757,258)	(391,190,900)	(77,340,237)
Proceeds from long-term borrowings		722,899,526,350	344,410,254,975	616,808,470	293,865,405
Repayment of long-term borrowings		-	(31,196,460,210)	-	(26,618,140)
Acquisition of treasury shares		(145,731,699,860)	-	(124,344,454)	-
Exercise of stock options		-	402,050,000	-	343,046
Interest paid		(40,868,222,467)	(39,161,696,231)	(34,870,497)	(33,414,417)
Dividends paid		(62,971,452,329)	(58,296,275,760)	(53,729,908)	(49,740,850)
Net cash flows from / (used in) financing activities		30,258,493,207	(21,835,570,600)	25,817,828	(18,631,034)
Net increase (decrease) in cash and cash equivalents		346,200,680,296	(21,386,136,489)	295,393,074	(18,247,558)
Cash and cash equivalents at January 1		688,025,403,172	738,482,641,045	587,052,392	630,104,643
Net foreign exchange difference		1,031,033,168	(29,071,101,384)	879,719	(24,804,693)
Cash and cash equivalents at December 31		₩ 1,035,257,116,636	₩ 688,025,403,172	\$ 883,325,185	\$ 587,052,392

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 and Sejong Special Self-Governing City. 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, 2015 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%	Manufacturing and trading	Thailand
Dongguan Samsung Electro-Mechanics Co., Ltd. (*1)	73,534,869	-	100.00%	Manufacturing and trading	China
Tianjin Samsung Electro-Mechanics Co., Ltd. (*1)	103,345,689	-	81.71%	Manufacturing and trading	China
Samsung Electro-Mechanics Philippines, Corp.	53,917,212	4,046,711	100.00%	Manufacturing and trading	Philippines
Samsung High-Tech Electro-Mechanics(Tianjin) Co., Ltd. (*1)	38,972,998	-	95.00%	Manufacturing and trading	China
Kunshan Samsung Electro-Mechanics Co., Ltd. (*1)	141,477,200	-	100.00%	Manufacturing and trading	China
Samsung Electro-Mechanics Vietnam Co., Ltd. (*1)	64,620,500	-	100.00%	Manufacturing and trading	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)	233,520	-	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. (*4)	99,559,277	309,891	100.00%	Research and development	Japan
Batino Realty Corporation	2,704	1,000	39.80%	Real estate	Philippines
Samsung Venture Investment Co., Ltd.(SVIC#19) (*1)	10,441,000	-	99.00%	Investment	Korea

1. Organization and business (cont'd)

1.2 Consolidated subsidiaries (cont'd)

(*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.

(*4) Shares of Samsung Electro-Mechanics Nakhonratchasima Co., Ltd. which was wholly owned by Samsung Electro-Mechanics Japan Advanced Technology Co., Ltd. was disposed during the current year, and consequently, was excluded from consolidated financial statements.

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.

Samsung Electro-Mechanics Hong Kong Co., Ltd. was liquidated during the current year, and excluded from consolidation.

The summary of the consolidated subsidiaries' financial position as at December 31, 2015 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.	₩ 162,651,586	₩ 45,979,092	₩ 528,085,299	₩ 13,054,735
Dongguan Samsung Electro-Mechanics Co., Ltd.	287,209,635	142,249,534	1,011,596,296	24,655,348
Tianjin Samsung Electro-Mechanics Co., Ltd.	567,794,629	245,824,296	1,070,793,597	27,672,491
Samsung Electro-Mechanics Philippines, Corp.	408,095,688	251,549,757	625,411,879	5,188,651
Samsung High-Tech Electro-Mechanics (Tianjin) Co., Ltd.	342,839,914	200,721,784	1,258,701,963	30,221,910
Kunshan Samsung Electro-Mechanics Co., Ltd.	434,763,238	326,052,465	235,151,365	(40,034,584)
Samsung Electro-Mechanics Vietnam Co., Ltd.	966,210,960	918,987,531	313,818,064	(16,240,238)
Samsung Electro-Mechanics America, Inc.	59,078,853	44,603,164	338,494,371	1,591,614
Samsung Electro-Mechanics GmbH	38,304,285	15,286,801	193,623,619	1,116,690
Calamba Premier Realty Corporation	8,642,416	6,874,278	-	(106,102)
Samsung Hungary Electro-Mechanics Private Limited Liability Company	5,500,198	1,146,147	723,214	55,092

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 Pte Ltd.	55,160,930	38,227,635	340,548,820	2,905,490
Samsung Electro-Mechanics (Shenzhen) Co., Ltd.	137,715,464	129,344,477	633,816,782	(1,545)
Samsung Electro-Mechanics do Brasil Intermediacoes de Negocios Ltda.	143,343	8,090	780,680	19,611
Samsung Electro-Mechanics Japan Co., Ltd.	13,400,615	9,931,929	45,835,610	(8,517)
Samsung Electro-Mechanics Japan Advanced Technology Co., Ltd.	133,045,297	174,378,615	333,111,019	(93,197,741)
Batino Realty Corporation	5,099,597	4,641,278	-	46,684
Samsung Venture Investment Co., Ltd. (SVIC#19)	9,015,391	99,617	-	384,694
Total	₩ 3,634,672,039	₩ 2,555,906,490	₩ 6,930,492,578	₩ (42,675,717)

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 2015 and 2014 financial statements are translated to US dollars at US\$1:₩1,172.0, the exchange rate in effect on December 31, 2015. 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, 2015. 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.

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

2.3 Business combinations and goodwill (cont'd)

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.

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.

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

2.4 Investment in associates (cont'd)

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.

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 statement of financial position based on current/non-current classification.

An asset as current when it is:

- Expected to be realized or intended to be sold or consumed in 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 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.

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

2.6 Foreign currency translation (cont'd)

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.

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:

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

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

- 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 through 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.

- 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.

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

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

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.

• 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	10

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.

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

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

- 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.

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.

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

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

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.

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.

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

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

- 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.

2.9 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	28
Investment in unquoted equity shares	10
Financial instruments (including those carried at amortized cost)	28

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 to 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.

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

2.9 Fair value measurement (cont'd)

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.

2.11 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 sale 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 will 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 sale. Assets and liabilities classified as held for sale or for distribution are presented separately as current items in the statement of financial position.

The consolidated statement of comprehensive income for the year ended December 31, 2014, presented for comparative purpose, was restated to present discontinued operations.

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

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.

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.

Finance leases, which transfer to the Group substantially all the risks and benefits incidental to ownership of the leased item, are capitalized at the commencement of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. Lease payments are apportioned between finance charges and reduction of the lease liability so as to achieve a constant rate of interest on the remaining balance of the liability.

Leased assets are depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term.

Operating lease payments are recognized as an operating expense in the consolidated statement of comprehensive income 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

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses. Amortization of the asset begins when development is complete and the asset is available for use. It is amortized over the period of expected future benefit. During the period of development, the asset is tested for impairment annually.

- **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.

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

2.15 Intangible assets (cont'd)

- Patents, licenses, software and membership

The patents have been granted for a period of 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.

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

	Amortization methods	Estimated useful lives
Development costs	amortized using straight-line method over their expected sales period	5 years
Patents	amortized using straight-line method over the licensed period	10 years
Industrial proprietary rights	"	5 years
Other intangible assets	"	5 years
Software	amortized using 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.

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

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

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.

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, where appropriate, the risks specific to the liability.

The initial estimates for provisions are revised annually and accrued at the end of each reporting period based on the latest estimates. A previously recognized provision is reversed when the possibility of the outflow of resources embodying economic benefits is no longer required to settle the obligation. Such reversal is recognized in the consolidated statement of comprehensive income. When discounting is used, the increase in the provision due to the passage of time is recognized as a borrowing costs.

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

2.17 Provisions (cont'd)

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

2.18 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.

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. Summary of significant accounting policies (cont'd)

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 recognized, together with a corresponding increase in equity, over the period in which the performance and/or service conditions are fulfilled. 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. In the consolidated statement of comprehensive income, expense or credit for a period represents the movement in cumulative expense recognized as of the beginning and end of that period.

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. However, if a new award is substituted for the cancelled award, and designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award, as described in the previous paragraph. All cancellations of equity-settled transaction awards are treated equally. The dilutive effect of outstanding options is reflected as additional share dilution in the computation of diluted earnings per share.

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.

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

2.21 Revenue recognition (cont'd)

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

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.

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

2.22 Taxes (cont'd)

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.

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

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, 2015. The nature and the impact of each new standard and amendment are described below:

Amendments to KIFRS 1019 Defined Benefit Plans: Employee Contributions

KIFRS 1019 requires an entity to consider contributions from employees or third parties when accounting for defined benefit plans. Where the contributions are linked to service, they should be attributed to periods of service as a negative benefit. These amendments clarify that, if the amount of the contributions is independent of the number of years of service, an entity is permitted to recognize such contributions as a reduction in the service cost in the period in which the service is rendered, instead of allocating the contributions to the periods of service. This amendment is effective for annual periods beginning on or after July 1, 2014. This amendment is not relevant to the Group, since none of the entities within the Group has defined benefit plans with contributions from employees or third parties.

Annual Improvements 2010-2012 Cycle

The Group has applied these improvements for the first time in these consolidated financial statements. They include:

- **KIFRS 1103 Business Combinations**

The amendment is applied prospectively and clarifies that all contingent consideration arrangements classified as liabilities (or assets) arising from a business combination should be subsequently measured at fair value through profit or loss whether or not they fall within the scope of KIFRS 1039. This is consistent with the Group's current accounting policy and, thus, this amendment did not impact the Group's accounting policy.

- **KIFRS 1108 Operating Segments**

The amendments are applied retrospectively and clarify that:

- An entity must disclose the judgments made by management in applying the aggregation criteria in paragraph 12 of KIFRS 1108, including a brief description of operating segments that have been aggregated and the economic characteristics (e.g., sales and gross margins) used to assess whether the segments are 'similar'
- The reconciliation of segment assets to total assets is only required to be disclosed if the reconciliation is reported to the chief operating decision maker, similar to the required disclosure for segment liabilities

The Group has not applied the aggregation criteria in KIFRS1108.12, this amendment did not impact the Group's accounting policy.

- **KIFRS 1016 Property, Plant and Equipment and KIFRS 1038 Intangible Assets**

The amendment is applied retrospectively and clarifies in KIFRS 1016 and KIFRS 1038 that the asset may be revalued by reference to observable data by either adjusting the gross carrying amount of the asset to market value or by determining the market value of the carrying value and adjusting the gross carrying amount proportionately so that the resulting carrying amount equals the market value. In addition, the accumulated depreciation or amortization is the difference between the gross and carrying amounts of the asset. This amendment did not have any impact to the revaluation adjustments recorded by the Group during the current period.

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

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

• KIFRS 1024 Related Party Disclosures

The amendment is applied retrospectively and clarifies that a management entity (an entity that provides key management personnel services) is a related party subject to the related party disclosures. In addition, an entity that uses a management entity is required to disclose the expenses incurred for management services. This amendment is not relevant for the Group as it does not receive any management services from other entities.

Annual Improvements 2011-2013 Cycle

These improvements are effective from July 1, 2014 and the Group has applied these amendments for the first time in these consolidated financial statements. They include:

• KIFRS 1103 Business Combinations

The amendment is applied prospectively and clarifies for the scope exceptions within KIFRS 1103 that:

- Joint arrangements, not just joint ventures, are outside the scope of KIFRS 1103
- This scope exception applies only to the accounting in the financial statements of the joint arrangement itself.

The Group is not a joint arrangement, and thus this amendment is not relevant for the Group and its subsidiaries

• KIFRS 1113 Fair Value Measurement

The amendment is applied prospectively and clarifies that the portfolio exception in KIFRS 1113 can be applied not only to financial assets and financial liabilities, but also to other contracts within the scope of KIFRS 1039. The Group does not apply the portfolio exception in KIFRS 1113.

• KIFRS 1040 Investment Property

The description of ancillary services in KIFRS 1040 differentiates between investment property and owner-occupied property (i.e., property, plant and equipment). The amendment is applied prospectively and clarifies that KIFRS 1103, and not the description of ancillary services in KIFRS 1040, is used to determine if the transaction is the purchase of an asset or a business combination. In previous periods, the Group has relied on KIFRS 1103, not KIFRS 1040, in determining whether an acquisition is of an asset or is a business acquisition. Thus, this amendment did not impact the accounting policy of the Group.

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	27
Financial risk management and policies	27
Sensitivity analysis and disclosure	27

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

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

- **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 described 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.

- **Impairment of non-financial assets**

An impairment exists when the carrying value of an asset or cash generating unit exceeds its recoverable amount, which is the higher of its fair value less costs to sell and its value in use. The fair value less costs to sell calculation is based on available data from binding sales transactions in an arm's length transaction of similar assets or observable market prices less incremental costs for disposing of the asset. The value in use calculation is based on a discounted cash flow model.

- **Share-based payment transactions**

The Group measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the grant date. Estimating fair value for share-based payment transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the share option, volatility and dividend yield and making assumptions about them.

- **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. Summary of significant accounting policies (cont'd)

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.

KIFRS 1115 Revenue 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 1016 and KIFRS 1038: Clarification of Acceptable Methods of Depreciation and Amortization

The amendments clarify the principle in KIFRS 1016 and KIFRS 1038 that revenue reflects a pattern of economic benefits that are generated from operating a business (of which the asset is 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 amortize intangible assets. The amendments are effective prospectively for annual periods beginning on or after January 1, 2016, with early adoption permitted. These amendments are not expected to have any impact to the Group given that the Group has not used a revenue-based method to depreciate its non-current assets.

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. These amendments must be applied prospectively and are effective for annual periods beginning on or after January 1, 2016, with early adoption permitted. 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 1001 Disclosure Initiative

The amendments to KIFRS 1001 Presentation of Financial Statements 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 are effective for annual periods beginning on or after January 1, 2016, with early adoption permitted. These amendments are not expected to have any impact on the Group.

Amendments to KIFRS 1110, KIFRS 1112 and KIFRS 1028 Investment Entities: Applying the Consolidation Exception

The amendments address issues that have arisen in applying the investment entities exception under KIFRS 1110. The amendments to KIFRS 1110 clarify that the exemption from presenting consolidated financial statements applies to a parent entity that is a subsidiary of an investment entity, when the investment entity measures all of its subsidiaries at fair value.

Furthermore, the amendments to KIFRS 1110 clarify that only a subsidiary of an investment entity that is not an investment entity itself and that provides support services to the investment entity is consolidated. All other subsidiaries of an investment entity are measured at fair value. The amendments to KIFRS 1028 allow the investor, when applying the equity method, to retain the fair value measurement applied by the investment entity associate or joint venture to its interests in subsidiaries. These amendments must be applied retrospectively and are effective for annual periods beginning on or after January 1, 2016, with early adoption permitted. These amendments are not expected to have any impact on the Group.

Annual Improvements 2012-2014 Cycle

These improvements are effective for annual periods beginning on or after January 1, 2016. They include:

- KIFRS 1105 Non-current Assets Held for Sale and Discontinued Operations
- KIFRS 1107 Financial Instruments: Disclosures
- KIFRS 1019 Employee Benefits
- KIFRS 1034 Interim Financial Reporting

These amendments are not expected to have any impact on the Group.

2.27 Approval of the financial statements

Approval of the consolidated financial statements of the Group for the year ended December 31, 2015 were approved by the Board of directors' meeting on January 28, 2016 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, Wireless charging Module
- Linkage magnetic flux coil Capacitor Resistor ("LCR") operating segment: Chip component (MLCC, EMC, TSVC 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 ₩3,818 billion for the year ended December 31, 2015.

The following table summarizes the results of financial performance of the Group by operating segments for the years ended December 31, 2015 and 2014 (Korean won in millions):

	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

	2014				
	DM	LCR	ACI	Adjustments	Consolidated
Total sales	₩ 5,621,458	₩ 3,852,256	₩ 2,325,306	₩ (5,698,573)	₩ 6,100,447
Inter-segment sales	3,040,972	1,977,133	680,468	(5,698,573)	-
Sales to external customers	2,580,486	1,875,123	1,644,838	-	6,100,447
Operating profit	89,431	89,423	(48,847)	(65,058)	64,949
Profit for the year from continuing operations	390,897	247,822	77,072	(26,829)	688,962

Total assets and liabilities of the Group by operating segments as at December 31, 2015 and 2014 are as follows (Korean won in millions):

	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

	2014				
	DM	LCR	ACI	Adjustments	Consolidated
Total assets	₩ 2,445,183	₩ 3,248,595	₩ 3,912,431	₩ (1,887,597)	₩ 7,718,612
Total liabilities	1,980,823	1,116,341	865,341	(886,689)	3,075,816

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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, 2015 and 2014 (Korean won in millions):

	2015								Consolidated
	Korea		Overseas						
	Domestic	Export	China	Southeast Asia	America	Europe	Japan	Adjustment	
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

	2014								Consolidated
	Korea		Overseas						
	Domestic	Export	China	Southeast Asia	America	Europe	Japan	Adjustment	
Total sales	₩ 390,957	₩ 4,412,910	₩ 4,121,699	₩ 1,841,594	₩ 427,935	₩ 401,309	₩ 202,616	₩ (5,698,573)	₩ 6,100,447
Inter-segment sales	-	1,893,393	2,313,386	1,467,171	6,199	1,903	16,521	(5,698,573)	-
Sales to external customers	390,957	2,519,517	1,808,313	374,423	421,736	399,406	186,095	-	6,100,447
Operating profit		(174,949)	228,642	54,826	8,768	8,706	4,014	(65,058)	64,949
Profit for the year from continuing operations		660,424	101,945	2,206	3,210	3,919	(55,913)	(26,829)	688,962

Non-current assets of the Group by geographic segments as at December 31, 2015 and 2014 are as follows (Korean won in millions):

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

	2014							
	Korea		Overseas					
	Domestic	Export	China	Southeast Asia	America	Europe	Japan	Adjustments
Non-current assets	₩ 3,454,009	₩ 917,866	₩ 577,140	₩ 2,072	₩ 6,676	₩ 103,951	₩ (897,089)	₩ 4,164,625

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4. Cash and cash equivalents

Cash and cash equivalents as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
Cash at banks and on hand	₩	35,739	₩	30,960
Short-term deposits		1,035,221,378		687,994,443
Total	₩	1,035,257,117	₩	688,025,403

5. Financial assets and liabilities

Financial assets and liabilities as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Current	Non-current	Current	Non-current
Financial assets:				
Financial instruments	₩ 89,053,971	₩ 24,500	₩ 789,011,216	₩ 27,500
Held-to-maturity investments	246,215	71,085	30,055	313,710
Accrued income	3,656,360	-	3,697,331	-
Business guarantee deposits	1,054,291	-	953,622	-
Lease guarantee deposits	-	63,311,530	-	65,814,490
Total	₩ 94,010,837	₩ 63,407,115	₩ 793,692,224	₩ 66,155,700
Financial liabilities:				
Withholdings	₩ 14,133,968	₩ -	₩ 33,597,408	₩ -
Withholding deposits	2,141,401	-	3,362,653	-
Total	₩ 16,275,369	₩ -	₩ 36,960,061	₩ -

Restricted deposits as at December 31, 2015 and 2014 consist of the following (Korean won in thousands):

	Financial institution	2015		2014		Description
Short-term financial Instruments	Woori Bank	₩	39,053,972	₩	39,011,216	Financial support reserve for strategic alliances
Long-term financial instruments	8 banks including Woori Bank		24,500		27,500	Overdraft facilities
Total		₩	39,078,472	₩	39,038,716	

Held-to-maturity investments as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Fair value	Book value	Fair value	Book value
Within 1 year	₩ 246,215	₩ 246,215	₩ 30,055	₩ 30,055
After 1 year but less than 5 years	71,085	71,085	313,710	313,710
Total	₩ 317,300	₩ 317,300	₩ 343,765	₩ 343,765

5. Financial assets and liabilities (cont'd)

Financial assets measured at amortized cost using the effective interest rate method as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Effective interest rate (%)	Book value	Effective interest rate (%)	Book value
Long-term guarantee deposits	2.22 ~ 4.38	₩ 63,311,530	2.78 ~ 3.94	₩ 65,814,490

6. Trade and other receivables

Trade and other receivables as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Current	Non-current	Current	Non-current
Trade receivables	₩ 684,457,233	₩ -	₩ 901,814,442	₩ -
Allowance for doubtful accounts	(378,112)	-	(1,689,014)	-
Other receivables	138,205,262	145,823,152	66,762,016	945,685
Allowance for doubtful accounts	(1,093,103)	(945,685)	(1,395,195)	(945,685)
Total	₩ 821,191,280	₩ 144,877,467	₩ 965,492,249	₩ -

The changes in allowance for doubtful accounts for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
As at January 1,	₩ 4,029,894	₩ 1,617,746
Allowance for doubtful accounts - trade	-	1,318,353
Allowance (Reversal) for doubtful accounts - others write-off	(170,056)	2,611,329
	(1,442,938)	(1,517,534)
As at December 31,	₩ 2,416,900	₩ 4,029,894

As at December 31, 2015 and 2014, the aging analysis of trade and other receivables is as follows (Korean won in thousands):

	2015	2014
Neither past due nor impaired	₩ 953,561,847	₩ 948,201,830
Past due but not impaired:		
< 30 days	9,748,875	14,947,712
30~180 days	1,395,260	1,385,612
181~365 days	108,995	26,402
> 365 days	1,253,770	930,693
Sub total	12,506,900	17,290,419
Total	₩ 966,068,747	₩ 965,492,249

6. Trade and other receivables (cont'd)

The Group disposed of its trade receivables in 2015 and 2014 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, 2015 and 2014 (Note 14).

Trade receivables factored with recourse as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
Book value of trade receivables disposed	₩	214,529,321	₩	269,824,686
Book value of related borrowings		214,529,321		269,824,686

7. Short-term and long-term loans receivables

Short-term and long-term loans receivables as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	Interest rate as at 2015.12.31 (%)	2015		2014	
		Current	Non-current	Current	Non-current
Overseas employees loans receivables	-	₩ 651,985	₩ 1,821,428	₩ 687,048	₩ 1,771,373

8. Inventories

Inventories as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015			2014		
	Acquisition cost	Valuation allowance	Book value	Acquisition cost	Valuation allowance	Book value
Merchandises	₩ 141,647,015	₩ (6,531,601)	₩ 135,115,414	₩ 116,352,290	₩ (3,514,460)	₩ 112,837,830
Finished goods	254,708,626	(32,253,509)	222,455,117	291,120,779	(27,817,261)	263,303,518
Work-in-process	147,737,982	(11,320,810)	136,417,172	202,638,322	(10,244,694)	192,393,628
Components	13,155,143	-	13,155,143	16,100,732	-	16,100,732
Raw materials	115,011,973	(4,578,384)	110,433,589	187,840,002	(6,508,648)	181,331,354
Supplies	33,338,219	-	33,338,219	25,174,650	-	25,174,650
Materials in-transit	28,065,641	-	28,065,641	50,057,893	-	50,057,893
Total	₩ 733,664,599	₩ (54,684,304)	₩ 678,980,295	₩ 889,284,668	₩ (48,085,063)	₩ 841,199,605

Losses on valuation amounting to ₩6,599,241 thousand was recognized for the year ended December 31, 2015 and the reversal of write-down amounting to ₩35,987,741 thousand was recognized for the year ended December 31, 2014. Scrapped inventories amounted to ₩47,818,453 thousand and ₩54,882,471 thousand for the years ended December 31, 2015 and 2014, 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 ₩1,021,114,829 thousand as at December 31, 2015.

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9. Investment in associates

Investment in associates as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	Stemco Co., Ltd.		Samsung Economic Research Institute	
	2015	2014	2015	2014
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	₩ 22,541,229	₩ 16,959,745	₩ 21,718,508	₩ 21,527,904
Book value	₩ 22,541,229	₩ 16,959,745	₩ 21,718,508	₩ 21,527,904
Domicile	Korea	Korea	Korea	Korea
Fiscal year end	December 31	December 31	December 31	December 31
Principal activities	Manufacturing and trading	Manufacturing and trading	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, 2015 and 2014, and the results of their financial performance for the years then ended (Korean won in thousands):

	Stemco Co., Ltd.		Samsung Economic Research Institute	
	2015	2014	2015	2014
Current assets	₩ 49,198,811	₩ 52,994,376	₩ 62,897,900	₩ 63,791,889
Non-current assets	124,963,491	91,819,115	68,693,670	69,906,577
Total assets	₩ 174,162,302	₩ 144,813,491	₩ 131,591,570	₩ 133,698,466
Current liabilities	₩ 72,632,609	₩ 64,325,681	₩ 22,303,316	₩ 26,103,124
Non-current liabilities	26,392,263	23,955,327	18,034,018	17,141,962
Total liabilities	₩ 99,024,872	₩ 88,281,008	₩ 40,337,334	₩ 43,245,086
Total equity	₩ 75,137,430	₩ 56,532,483	₩ 91,254,236	₩ 90,453,380
Sales	₩ 170,848,877	₩ 167,116,564	₩ 165,781,758	₩ 171,834,978
Profit (loss) for the year	17,925,382	8,118,543	240,267	(683,761)
Other comprehensive income / (expense)	(449,476)	(4,912,503)	-	4,204,412
Total comprehensive income	17,475,906	3,206,040	240,267	3,520,651

Details of changes in the carrying amount of equity method investments for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	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

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9. Investment in associates (cont'd)

	Jan. 1, 2014	Share of profit or loss in investee	Equity adjustments of investment in associates	Dividends income	Dec. 31, 2014
Stemco Co., Ltd.	₩ 16,431,433	₩ 2,435,563	₩ (1,473,751)	₩ (433,500)	₩ 16,959,745
Samsung Economic Research Institute	20,689,989	(162,735)	1,000,650	-	21,527,904
Total	₩ 37,121,422	₩ 2,272,828	₩ (473,101)	₩ (433,500)	₩ 38,487,649

Details of changes in the book value of investment in associates based on their net assets as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	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

	2014			
	Net assets (A)	Ownership (B)	Shareholder portion (A*B)	Book Value
Stemco Co., Ltd.	₩ 56,532,483	30.00%	₩ 16,959,745	₩ 16,959,745
Samsung Economic Research Institute	90,453,380	23.80%	21,527,904	21,527,904
Total	₩ 146,985,863		₩ 38,487,649	₩ 38,487,649

10. Available-for-sale financial assets

Available-for-sale financial assets as at December 31, 2015 and 2014 consist of the following (Korean won in thousands):

	2015					2014	
	Acquisition cost	Fair value	Book value	Unrealized Gain	Cumulative impairment loss Before 2015	2015	Book Value
Marketable securities	₩ 46,459,528	₩ 775,283,184	₩ 775,283,184	₩ 728,823,656	₩ -	₩ -	₩ 919,500,179
Non-marketable securities	31,717,884	23,542,515	24,339,450	5,406,040	(12,784,474)	(542,200)	20,341,725
Total	₩ 78,177,412	₩ 798,825,699	₩ 799,622,634	₩ 734,229,696	₩ (12,784,474)	₩ (542,200)	₩ 939,841,904

Marketable securities as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015						2014	
	Number of shares	Equity interest	Acquisition cost	Fair value	Book value	Unrealized gain	Book Value	Domicile
Samsung Heavy Industries Co., Ltd.	5,508,563	2.38%	₩ 36,152,902	₩ 59,767,908	₩ 59,767,908	₩ 23,615,006	₩ 109,895,832	Korea
Samsung C&T Corporation (*1)	5,000,000	2.64%	10,000,000	700,000,000	700,000,000	690,000,000	790,000,000	Korea
Samsung Fine Chemicals Co., Ltd. (*2)	66,911	0.26%	-	-	-	-	2,187,990	Korea
iMarketkorea Inc.	613,252	1.71%	306,626	15,515,276	15,515,276	15,208,650	17,416,357	Korea
Total			₩ 46,459,528	₩ 775,283,184	₩ 775,283,184	₩ 728,823,656	₩ 919,500,179	

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

(*1) Samsung Everland Inc. changed its name to Cheil Industries Inc. on July 4, 2014, and its shares were classified as marketable securities, since it was listed on the Korea Stock Exchange in 2014. On September 1, 2015, the entity merged Samsung C&T Corporation and changed its name to Samsung C&T Corporation.

(*2) Samsung Fine Chemicals Co., Ltd. was classified as assets held for sale in 2015 (Note 29).

Non-marketable securities as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015							2014		Domicile
	Number of shares	Equity interest (%)	Acquisition Cost	Proportionate net asset value	Book value	Cumulative impairment loss		Book value		
						Before 2015	2015			
Samsung Lions Co., Ltd. (*1)	25,000	12.50	₩ -	₩ -	₩ -	₩ -	₩ (542,200)	₩ 673,200	Korea	
Samsung Venture Investment Co., Ltd. (*2)	1,020,000	17.00	5,100,000	7,501,080	7,501,080	-	-	6,854,400	Korea	
SOLUM Co., Ltd.	4,650,000	15.00	2,325,000	2,383,169	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	352,602	40,000	-	-	40,000	Korea	
Intellectual Discovery	36,060	0.48	250,004	97,001	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	3,636,252	4,028,477	-	-	4,028,477	Hongkong	
DTI Inc.	333,333	2.77	564,799	-	-	(564,799)	-	-	US	
Solidus Biosciences Inc.	57,030	17.72	1,393,188	1	1	(1,393,187)	-	1	US	
Inkel Co., Ltd.	40	0.00	200	329	200	-	-	200	Korea	
Cosmolink Co.,Ltd.	58,067	2.18	6,451,253	579,911	1,102,518	(5,348,735)	-	1,102,518	Korea	
Postech Social Corporation Fund	10	1.67	100,000	-	100,000	-	-	100,000	Korea	
Empower Co., Ltd.	22,223	3.91	1,000,035	-	-	(1,000,035)	-	-	Korea	
FITO Co., Ltd.	-	-	-	-	-	-	-	1,000,125	Korea	
Image Next	100,000	8.73	1,000,000	1,000,000	1,000,000	-	-	2,000,000	Korea	
Power by Proxi SBI VentureFund No4	5,481,855	12.47	4,292,800	7,297,760	7,297,760	-	-	4,292,800	New Zealand	
Investment LPS	-	-	694,410	694,410	694,410	-	-	-	Japan	
DS Asia Holdings	3,208,399	1.80	2,418,488	-	-	(2,418,488)	-	-	Hongkong	
Total			<u>₩31,717,884</u>	<u>₩ 23,542,515</u>	<u>₩24,339,450</u>	<u>₩(12,784,474)</u>	<u>₩(542,200)</u>	<u>₩20,341,725</u>		

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

(*1) Samsung Lions Co., Ltd. was classified as assets held for sale in 2015 (Note 29).

(*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 12.37% and risk-free interest rate was 2.00%.

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, 2015 and 2014 are as follows (Korean won in thousands):

	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

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

	2014				
	January 1	Increase (decrease)	Disposal	Current year tax effect	December 31
Marketable securities					
Samsung Heavy Industries Co., Ltd.	₩ 131,473,523	₩ (99,704,991)	₩ -	₩ 24,128,607	₩ 55,897,139
Samsung C&T Corporation	150,813,423	581,037,700	-	(140,611,123)	591,240,000
Samsung Fine Chemicals Co., Ltd.	68,778	(792,895)	-	191,881	(532,236)
Samsung Life insurance Co., Ltd.	31,090,825	-	(41,016,920)	9,926,095	-
iMarketkorea Inc.	11,737,337	1,625,118	-	(393,279)	12,969,176
Sub total	<u>325,183,886</u>	<u>482,164,932</u>	<u>(41,016,920)</u>	<u>(106,757,819)</u>	<u>659,574,079</u>
Non-marketable securities					
Samsung SDS Co., Ltd.	257,405,581	-	(339,585,200)	82,179,619	-
Samsung General Chemicals Co., Ltd.	126,744,074	(46,257,929)	-	11,194,419	91,680,564
Samsung Venture Investment Co., Ltd.	927,019	531,420	-	(128,604)	1,329,835
Sub total	<u>385,076,674</u>	<u>(45,726,509)</u>	<u>(339,585,200)</u>	<u>93,245,434</u>	<u>93,010,399</u>
Total	<u>₩ 710,260,560</u>	<u>₩ 436,438,423</u>	<u>₩ (380,602,120)</u>	<u>₩ (13,512,385)</u>	<u>₩ 752,584,478</u>

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11. Property, plant and equipment

Changes in the book value of property, plant and equipment for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015						December 31
	January 1	Additions	Disposals	Transfers	Depreciation	Others(*)	
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

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

		2014						
		January 1	Additions	Disposals	Transfers	Depreciation	Others(*)	December 31
Acquisition cost:								
Land	₩	206,948,829	₩ -	₩ -	₩ 10,758,174	₩ -	₩ (262,298)	₩ 217,444,705
Buildings		1,247,453,709	3,848,003	(97,646)	167,319,743	-	25,243,957	1,443,767,766
Structures		93,037,352	1,339,965	(272,053)	9,296,424	-	837,039	104,238,727
Machinery		4,223,779,932	85,716,073	(213,627,852)	344,120,344	-	56,768,576	4,496,757,073
Vehicles		8,044,407	343,121	(883,483)	33,997	-	65,857	7,603,899
Equipment		313,661,607	30,214,115	(23,510,345)	20,716,633	-	4,227,495	345,309,505
Construction-in-progress		185,975,761	710,898,439	(616,257)	(479,416,908)	-	(43,247,239)	373,593,796
Machinery-in-transit		53,237,671	30,688,169	-	(72,828,407)	-	8,266,477	19,363,910
Total	₩	6,332,139,268	₩ 863,047,885	₩ (239,007,636)	₩ -	₩ -	₩ 51,899,864	₩ 7,008,079,381
Accumulated depreciation and impairment:								
Land	₩	-	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
Buildings		(378,360,994)	-	69,937	-	(38,046,360)	(4,004,690)	(420,342,107)
Structures		(35,927,876)	-	134,435	-	(4,554,906)	(276,754)	(40,625,101)
Machinery		(2,754,316,206)	-	187,264,737	-	(557,867,264)	(253,213,348)	(3,378,132,081)
Vehicles		(5,707,805)	-	775,680	-	(968,938)	(25,223)	(5,926,286)
Equipment		(207,991,384)	-	19,916,730	-	(40,505,525)	(1,808,575)	(230,388,754)
Construction-in-progress		-	-	-	-	-	(6,808,077)	(6,808,077)
Machinery-in-transit		-	-	-	-	-	-	-
Total	₩	(3,382,304,265)	₩ -	₩ 208,161,519	₩ -	₩ (641,942,993)	₩ (266,136,667)	₩ (4,082,222,406)
Net book value:								
Land	₩	206,948,829	₩ -	₩ -	₩ 10,758,174	₩ -	₩ (262,298)	₩ 217,444,705
Buildings		869,092,715	3,848,003	(27,709)	167,319,743	(38,046,360)	21,239,267	1,023,425,659
Structures		57,109,476	1,339,965	(137,618)	9,296,424	(4,554,906)	560,285	63,613,626
Machinery		1,469,463,726	85,716,073	(26,363,115)	344,120,344	(557,867,264)	(196,444,772)	1,118,624,992
Vehicles		2,336,602	343,121	(107,803)	33,997	(968,938)	40,634	1,677,613
Equipment		105,670,223	30,214,115	(3,593,615)	20,716,633	(40,505,525)	2,418,920	114,920,751
Construction-in-progress		185,975,761	710,898,439	(616,257)	(479,416,908)	-	(50,055,316)	366,785,719
Machinery-in-transit		53,237,671	30,688,169	-	(72,828,407)	-	8,266,477	19,363,910
Total	₩	2,949,835,003	₩ 863,047,885	₩ (30,846,117)	₩ -	₩ (641,942,993)	₩ (214,236,803)	₩ 2,925,856,975

(*) 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 ₩361,383 thousand was offset against the depreciation expenses in 2015.

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

As at December 31, 2015, the Group recorded government subsidy with an obligation for repayment amounting to ₩1,825,542 thousand as Long-term other payables. Government subsidy with no repayment obligation as at December 31, 2015, of which ₩591,083 thousand was offset against the related expenses and the remaining unutilized portion amounting to ₩320 thousand was recorded as unearned income.

Borrowing costs incurred amounting to ₩5,979,591 thousand and ₩4,836,844 thousand for the years ended December 31, 2015 and 2014, 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, 2015 and 2014 are as follows (Korean won in thousands):

	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)	3,478,536	661,990
Construction-in-progress	7,024,438	141,379	-	(7,094,951)	70,866
Total	₩ 220,485,331	₩ 83,949,553	₩ (84,245,073)	₩ (73,004,560)	₩ 147,185,251

The Group recognized ₩80,638,553 thousand of impairment losses on property, plant and equipment due to the discontinued operations, and ₩3,311,000 thousand of impairment losses on property, plant and equipment due to the relocation of certain product lines during the current reporting period. The Group measured the recoverable amounts of the property, plant and equipment at fair value after deducting costs of disposal, and impairment losses were included in loss from discontinued operations and other expenses in the consolidated statements of comprehensive income.

	2014				
	January 1	Additions	Disposals	Others	December 31
Buildings	₩ 5,382,892	₩ -	₩ -	₩ (442,605)	₩ 4,940,287
Machinery	3,640,887	206,677,888	(6,411,962)	4,199,183	208,105,996
Equipment	185,884	201,972	-	26,754	414,610
Construction-in-progress	-	6,808,077	-	216,361	7,024,438
Total	₩ 9,209,663	₩ 213,687,937	₩ (6,411,962)	₩ 3,999,693	₩ 220,485,331

As at December 31, 2014, due to lower demand of certain products amongst the Group's CGUs than initially forecasted and expected decrease in production resulting from the relocation of certain production lines, the Group expects a decrease in financial performance of such CGUs and accordingly, reassessed the recoverable amount based on the value in use of such assets.

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

The discount rate used to calculate the value in use and expected impairment loss for each CGU are as follow. (Korean won in millions):

Operating segment	CGU	Impairment loss	Recoverable amount	Rate of discount
DM	MD	₩ 38,130	₩ 289,825	9.43%
	ISM	35,182	558,816	9.29%
	Power Module	8,348	162,460	9.16%
LCR	Chip Resistor	21,841	16,320	9.18%
	HCS	13,215	37,736	10.11%
ACI	FCB	38,936	75,930	9.80%
	HDI	19,459	650,069	9.56%
	Total	₩ 175,111	₩ 1,791,156	

For the year ended December 31, 2014, the Group recognized additional impairment losses on individual machineries due to the relocation of certain production lines. The Group estimated the recoverable amount of an individual asset at fair value deducting for additional costs on disposal. The impairment losses aggregated by each operation segment are as follow. (Korean won in millions):

Operating segment	Impairment loss
DM	₩ 15,066
LCR	21,603
ACI	1,908
Total	₩ 38,577

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 ₩6,593,883,311 thousand and ₩6,795,713,393 thousand as at December 31, 2015 and 2014, respectively.

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12. Intangible assets

Changes in the book value of intangible assets for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015						December 31
	January 1	Additions	Disposals	Amortization	Others(*)		
Acquisition cost:							
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	

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12. Intangible assets (cont'd)

	2014					
	January 1	Additions	Disposals	Amortization	Others(*)	December 31
Acquisition cost:						
Patent/industrial proprietary rights(**)	₩ 112,167,177	₩ 5,178,976	₩ -	₩ -	₩ (9,043,465)	₩ 108,302,688
Land usage rights	7,558,817	-	-	-	118,100	7,676,917
Software	69,829,096	20,383,853	(2,238,866)	-	149,859	88,123,942
Goodwill	64,162,099	-	-	-	-	64,162,099
Others	38,706,091	469,263	(1,311,258)	-	(1,848,176)	36,015,920
Total	₩ 292,423,280	₩ 26,032,092	₩ (3,550,124)	₩ -	₩ (10,623,682)	₩ 304,281,566
Accumulated amortization and impairment:						
Patent/industrial proprietary rights(**)	₩ (17,695,710)	₩ -	₩ -	₩ (7,516,783)	₩ (49,996,705)	₩ (75,209,198)
Land usage rights	(773,943)	-	-	(192,902)	(18,786)	(985,631)
Software	(49,219,050)	-	2,110,853	(10,587,427)	(1,320,290)	(59,015,914)
Goodwill	-	-	-	-	(64,162,099)	(64,162,099)
Others	-	-	-	-	(1,034,999)	(1,034,999)
Total	₩ (67,688,703)	₩ -	₩ 2,110,853	₩ (18,297,112)	₩ (116,532,879)	₩ (200,407,841)
Net book value:						
Patent/industrial proprietary rights(**)	₩ 94,471,467	₩ 5,178,976	₩ -	₩ (7,516,783)	₩ (59,040,170)	₩ 33,093,490
Land usage rights	6,784,874	-	-	(192,902)	99,314	6,691,286
Software	20,610,046	20,383,853	(128,013)	(10,587,427)	(1,170,431)	29,108,028
Goodwill	64,162,099	-	-	-	(64,162,099)	-
Others	38,706,091	469,263	(1,311,258)	-	(2,883,175)	34,980,921
Total	₩ 224,734,577	₩ 26,032,092	₩ (1,439,271)	₩ (18,297,112)	₩ (127,156,561)	₩ 103,873,725

(*) 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, 2015 and 2014 amounted to ₩441,018,828 thousand and ₩564,010,742 thousand, respectively.

Impairment of intangible assets

As the Group expected that the future economic benefits arising from industrial property rights and software from the DM operating segment would not meet expectations, it recognized an impairment loss of ₩27,304 million during the current reporting period. The recoverable amounts of assets were measured at fair value after deducting the costs of disposal, and the impairment loss was included in loss from discontinued operations and other expenses in the consolidated statements of comprehensive income.

During the year ended December 31, 2014, as demand for certain products in connection with the Group's industrial property rights decreased below expectations, the Group revalued the asset's future expected financial performance results and recognized an impairment loss amounting to ₩56,069 million as other expenses on the consolidated statement of comprehensive income. The recoverable amount of ₩26,200 million based on value in use, was calculated based on expected future cash flows discounted using a discount rate of 12.43%.

12. Intangible assets (cont'd)

Impairment tests for intangible assets with indefinite useful lives

The Group conducted impairment tests on membership and on intangible assets with indefinite useful lives. Impairment losses recognized for intangible assets with indefinite useful lives amounted to ₩2,823 million in 2014. A membership's recoverable amount is the higher of a membership'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.

Goodwill amounting to ₩64,162 million is attributed to the CGU in the DM operating segment, it recognized impairment loss of ₩64,162 million in 2014.

The recoverable amount of the MD cash generating unit has been determined based on values from cash flow projections from financial performance forecast approved by senior management covering the next four-year period. Cash flows have been projected taking into consideration expected sales growth for the next four-year period based on product demand, regional inflation rates, capacity and operating rate of MD cash generating unit. Cash flows beyond the four-year period are extrapolated using a 0% growth rate and the rate does not exceed the long-term average market growth rate.

The discount rate applied to the cash flow projection is 9.43%. The discount rate is calculated based on weighted average cost of capital (WACC) reflecting risk factors related to cash generating unit.

An impairment test on the MD CGU resulted in an impairment loss of ₩102,292 million as the asset's book value exceeded the recoverable amount. The impairment loss recognized is allocated to goodwill in the amount of ₩64,162 million and tangible assets in the amount of ₩38,130 million.

The above impairment loss is included in other expenses of the consolidated statements of comprehensive income.

Assumptions used to calculate value in use are as follows.

Main assumptions	Determinable factors of main assumptions
Risk-free interest rate	Average interest rate of US government bonds with a 10-year maturity for the past 6 months
Rate of operation	Average rate of operation at the end of September, 2014 is kept.
Labor cost per employee	Estimated annual wage growth rate of a country presented by EIU (Economist Intelligence Unit)

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13. Trade and other payables

Trade and other payables as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Current	Non-current	Current	Non-current
Trade payables	₩ 272,433,166	₩ -	₩ 391,168,251	₩ -
Other payables	212,494,713	2,461,823	207,603,921	2,218,296
Accrued expenses	216,066,902	8,476,877	214,988,863	4,949,241
Dividends payables	4,163,965	-	4,237,912	-
Total	₩ 705,158,746	₩ 10,938,700	₩ 817,998,947	₩ 7,167,537

Trade and other payables measured at amortized cost using the effective interest rate method as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Effective interest rate (%)	Book value	Effective interest rate (%)	Book value
Long-term other payables	3.81 ~ 4.31	₩ 2,461,824	3.81 ~ 4.31	₩ 2,218,296

14. Borrowings and leases

Short-term borrowings as at December 31, 2015 and 2014 consist of the following (Korean won in thousands):

Financial institution	Description	Annual interest rate (%) as at Dec. 31, 2015	2015	2014
Woori Bank and 4 other banks	Discount of commercial paper	LIBOR + 0.45 ~ 0.55	₩ 214,529,321	₩ 269,824,686
Citibank and 13 other banks	Subsidiaries' borrowings	0.50 ~ 4.37	476,602,920	401,255,168
Total			₩ 691,132,241	₩ 671,079,854

The Group entered into a factoring agreement with recourse for its trade receivables with Woori Bank, Shinhan Bank, KEB Hana Bank, Kookmin Bank and Nonghyup Bank. Factored receivables not overdue as at December 31, 2015 are accounted for as short-term borrowings (Note 6).

Long-term borrowings denominated in Korean won and in foreign currency as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

Financial institution	Description	Annual interest rate (%) as at Dec. 31, 2015	2015	2014
Korea Development Bank	Facility borrowings	2.22	₩ 300,000,000	₩ 300,000,000
Mizuho Bank and 5 other banks	Subsidiaries' borrowings	1.53 ~ 4.30	1,050,463,261	742,037,080
SubTotal			1,350,463,261	1,042,037,080
Less current portion of borrowings			(333,837,461)	(445,356,294)
Total			₩ 1,016,625,800	₩ 596,680,786

14. Borrowings and leases (cont'd)

Assets under capital leases as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
Finance lease assets	₩	-	₩	299,445
Accumulated depreciation		-		(246,347)
Net book value	₩	-	₩	53,098

Details of capital lease obligations as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015				2014			
	Minimum lease payments		Present value of Minimum lease payments		Minimum lease payments		Present value of Minimum lease payments	
Within 1 year	₩	-	₩	-	₩	51,422	₩	51,422
After 1 year but less than 5 years		-		-		8,734		8,734
Total	₩	-	₩	-	₩	60,156	₩	60,156

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, 2015 are as follows (Korean won in thousands):

	Minimum lease payables (*)	
Within 1 year	₩	7,376,414
After 1 year but less than 5 years		22,205,897
Total	₩	29,582,311

(*) Minimum lease payables are denominated in various currencies and are translated using the average exchange rate during the year ended December 31, 2015.

15. 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 liability for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Changes in defined benefit liability:		
At January 1	₩ 134,343,238	₩ 233,152,946
Contributions by employer	(70,119,798)	(240,120,170)
Retirement benefits paid	(17,828,430)	(17,964,737)
Pension cost charged to profit or loss	86,571,565	84,760,641
Succession of defined benefit liability	(7,335,152)	(2,444,980)
Re-measurement losses in OCI	18,714,713	77,105,429
Exchange differences	251,577	(145,891)
At December 31	144,597,713	134,343,238
Defined benefit liability in the statement of financial position:		
Present value of defined benefit obligation	533,923,362	493,544,126
Fair value of plan assets	(389,325,649)	(359,200,888)
Total	₩ 144,597,713	₩ 134,343,238

Re-measurement losses on defined benefit plans amounting to ₩12,140,575 thousand (prior year: ₩59,159,426 thousand), net of tax amounting to ₩6,574,138 thousand (prior year: ₩17,946,003 thousand) is deducted from ₩18,714,713 thousand (prior year: ₩77,105,429 thousand), were recorded as other comprehensive income on the consolidated statements of comprehensive income.

Expenses recorded in relation to the defined benefit pension plan for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Current service cost	₩ 85,823,055	₩ 58,905,507
Prior service cost	(3,974,733)	13,764,717
Interest cost on benefit obligation	19,892,573	18,452,267
Expected return on plan assets	(15,169,330)	(6,361,850)
Total	₩ 86,571,565	₩ 84,760,641

15. Defined benefit liabilities (cont'd)

Changes in the present value of the defined benefit obligation for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
At January 1	₩ 493,544,126	₩ 356,142,761
Benefits paid	(65,774,461)	(26,166,132)
Current service cost	85,823,055	58,905,507
Interest cost	19,892,573	18,452,267
Succession of defined benefit obligation	(7,335,152)	(2,444,980)
Past service cost	(3,974,733)	13,764,717
Re-measurement losses based on changes of demographic assumptions	4,859,459	-
Re-measurement losses based on changes of financial assumptions	16,465,161	75,078,293
Re-measurement losses based on changes of experience adjustments	(9,854,874)	-
Exchange differences	278,208	(188,307)
At December 31	<u>₩ 533,923,362</u>	<u>₩ 493,544,126</u>

Changes in the fair value of plan assets for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
At January 1	₩ 359,200,888	₩ 122,989,815
Contributions by employer	70,119,798	240,120,170
Benefits paid	(47,946,031)	(8,201,395)
Expected return on plan assets	15,169,330	6,361,850
Re-measurement losses	(7,244,967)	(2,027,136)
Exchange differences	26,631	(42,416)
At December 31	<u>₩ 389,325,649</u>	<u>₩ 359,200,888</u>

The Group has funded 74% 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 ₩92,000 million for the next fiscal year.

The major categories of the fair value of total plan assets as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Cash and cash equivalents	₩ 388,444,408	₩ 358,269,958
Others	881,241	930,930
Total	<u>₩ 389,325,649</u>	<u>₩ 359,200,888</u>

15. Defined benefit liabilities (cont'd)

The principal assumptions used in actuarial calculation as at December 31, 2015 and 2014 are as follows:

	2015	2014
Discount rate	3.70%	1.00% ~ 5.10%
Future salary increases	5.40%	4.96% ~ 8.00%

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, 2015 and 2014, respectively (Korean won in thousands):

Effect of changes in the discount rate

	2015		2014	
	1% decrease	1% increase	1% decrease	1% increase
Impact on defined benefit liabilities	64,817,871	(54,662,309)	55,413,380	(46,999,578)

Effect of changes in future salaries

	2015		2014	
	1% decrease	1% increase	1% decrease	1% increase
Impact on defined benefit liabilities	(54,325,264)	63,029,519	(46,821,292)	54,042,441

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 separate fund by independent trustees. For the years ended December 31, 2015 and 2014, defined contribution pension plan expenses amounted to ₩2,419,131 thousand and ₩1,421,815 thousand, respectively. As at December 31, 2015 and 2014, other payables related to the defined contribution pension plan amounted to ₩2,280,518 thousand and ₩2,477,810 thousand, respectively.

16. 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.

17. Emission allowances and liabilities

The annual quantities of the allocated emission allowances as at December 31, 2015 are as follows (KAU in unit, Korean Allowance Unit):

	2015	2016	2017	2015 ~ 2017 Total
Allocated emission allowances	401,125	393,231	385,383	1,179,739

Changes in emission allowances during the current reporting period are as follows (KAU in unit):

	2015		2016		2017		Total	
	Quantity	Book value	Quantity	Book value	Quantity	Book value	Quantity	Book value
Beginning	-	-	-	-	-	-	-	-
Free allocation	401,125	-	393,231	-	385,383	-	1,179,739	-
Ending	401,125	-	393,231	-	385,383	-	1,179,739	-

Estimated greenhouse gas emissions in 2015 were 419,894 KAU. As at December 31, 2015, the Group has an additional 244,290 ton of CO₂ equivalent as a result of early reduction from 2010 to 2013, and expects no shortage of emission allowances after approval by government.

As at December 31, 2015, the group has not emission allowances provided as collateral or emission liabilities reconized.

18. Commitments and contingencies

18-1 Significant lines of credit

Significant lines of credit with financial institutions as at December 31, 2015 are as follows (Korean won in thousands and US dollar in unit):

	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 ₩ 9,962,000)	-	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 ₩ 621,160,000)	₩ 150,000,000	Receivables factoring

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

18. Commitments and contingencies (cont'd)

18-2 Litigation

As at December 31, 2015, the Group is a defendant in involved in a class action lawsuit filed by Chip-Tech, LTD. and other entities in the US and 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.

In accordance with an agreement in September 1999 for the institutional creditors (the "Creditors") of Samsung Motors Inc. (SMI), the Creditors filed a lawsuit against the Company and 28 other Samsung Group affiliates (collectively the "Samsung Affiliates") in December 2005 for the settlement of the Creditors outstanding claims where the Samsung Affiliates are held jointly liable to indemnify the Creditors for SMI's debt owing to the Creditors amounting to ₩2,450 billion and related interest thereon. On January 29, 2015, the Supreme Court ruled that Samsung Affiliates were liable for ₩600 billion and related interest of 6% per annum thereon (principal claim amount was unchanged as originally decided by the Seoul High Court and annual interest rate increased by 1% basis point). The Seoul High Court ordered Samsung Affiliates to pay ₩620.4 billion (including the related interest) to the Creditors in January 2011, which was agreed-upon and paid by the Samsung Affiliates. However, in accordance with and appeal filed with the Supreme Court, the Samsung Affiliates have been ordered to pay an additional amount of ₩4.1 billion representing the increased annual interest rate.

18-3 Collateralized assets

Certain fixed assets (land and buildings) of the Group amounting to ₩2,628,628 thousand are pledged as collateral in connection with the borrowings as at December 31, 2015.

19. 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, 2015, 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, 2015, 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, 2015.

19. Issued capital (cont'd)

In addition, the Company is authorized to issue to investors, other than current stockholders, convertible bonds and bonds with warrants for a nominal 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, 2015.

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, 2015, there is no stock option granted to the employees exercisable into ordinary shares.

Company's share premium of December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
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, 2015 and 2014 consist solely of treasury stock.

As at December 31, 2015, 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, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
Equity adjustments of investment in associates	₩	3,229,550	₩	3,230,629
Gains on valuation of available-for-sale financial assets		557,989,093		752,584,478
Exchange differences on translations of foreign operations		(71,148,681)		(139,266,815)
Total	₩	490,069,962	₩	616,548,292

19. Issued capital (cont'd)

Other capital reserves of the Company as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
Legal reserve (*)	₩	82,720,491	₩	76,880,491
Business rationalization reserve		31,537,766		31,537,766
Capital expenditure reserve		7,895,000		7,895,000
Others		2,026,312,000		1,694,912,000
Total	₩	2,148,465,257	₩	1,811,225,257

(*) 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.

Details of dividends declared for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
Attributable to ordinary shares (2015 : ₩500 per share, 2014 : ₩750 per share)	₩	36,346,848	₩	56,020,272
Attributable to preferred shares (2015 : ₩550 per share, 2014 : ₩800 per share)		1,569,455		2,282,843
Total	₩	37,916,303	₩	58,303,115

20. Operating Profit

Details of cost of sales and operating expenses for the years ended December 31, 2015 and 2014 by nature of expense are as follows (Korean won in thousands):

	2015		2014	
Changes in inventories, etc.	₩	84,787,363	₩	42,621,726
Use of raw materials and supplies		1,989,584,895		2,310,154,231
Employee benefit expense		1,369,785,891		1,369,326,085
Depreciation and amortization of intangible assets		489,687,070		648,425,264
Outsourcing expenses		237,383,475		303,252,089
Commissions		76,502,767		71,932,980
Other expenses		1,627,195,117		1,289,785,804
Total	₩	5,874,926,578	₩	6,035,498,179

20. Operating Profit (cont'd)

The details of employee benefit expenses for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Salaries expenses	₩ 1,027,151,813	₩	1,066,637,866
Pension costs	82,247,442		83,338,826
Employee welfare benefits	260,386,636		219,349,393
Total	₩ 1,369,785,891	₩	1,369,326,085

Depreciation and amortization of intangible assets for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Depreciation	₩ 474,725,263	₩	637,949,766
Amortization of intangible assets	14,961,807		10,475,498
Total	₩ 489,687,070	₩	648,425,264

Details of selling and administrative expenses for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Salaries and payroll expenses	₩ 207,636,318	₩	201,579,502
Bonuses and other benefits	33,163,737		18,161,665
Pension costs	29,787,649		34,366,791
Employee welfare benefits	73,188,170		58,127,417
Commissions	40,294,222		40,871,067
Supplies expenses	54,692,876		30,063,995
Repairs expenses	10,977,236		8,355,585
Depreciation	38,382,961		32,880,346
Sample expenses	11,034,451		14,394,866
Freight expenses	24,382,332		30,943,942
Travel expenses	16,267,253		20,111,943
Research and development expense	303,945,048		340,238,506
IT expenses	42,034,570		36,195,847
Other expenses	124,433,255		104,196,091
Total	₩ 1,010,220,078	₩	970,487,563

21. Non-operating profit and expenses

21-1 Finance income

Finance income consists solely of interest income and details for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Loans and receivables			
Cash and cash equivalents	₩ 10,405,166	₩	10,256,206
Other financial assets	8,445,237		1,826,256
Held-to-maturity investments	3,970		2,773
Total	₩ 18,854,373	₩	12,085,235

21-2 Finance costs

Finance costs consist solely of interest costs and details for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Financial liabilities carried at amortized cost			
Borrowings	₩ 34,939,517	₩	33,684,295
Other financial liabilities	473,319		1,023,981
Total	₩ 35,412,836	₩	34,708,276

21-3 Share of profit (loss) in associates

Details of share of profit (loss) in associates for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Share of profit in associates	₩ 7,044,611	₩	2,435,563
Share of loss in associates	-		(162,735)
Total	₩ 7,044,611	₩	2,272,828

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

21-4 Other income

Details of other income for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Dividend income	₩ 6,194,340	₩ 4,973,947
Gain on disposal of available-for-sale financial investments (*)	108,640,901	1,093,598,440
Reversal of allowance for other doubtful accounts	170,056	-
Commission income	232,732	1,531,061
Gain on disposal of property, plant and equipment	15,278,120	638,253
Gain on disposal of intangible assets	9,826,197	43,823
Gain on foreign currency transactions	158,473,292	100,455,884
Gain on foreign currency translation	11,056,291	9,884,237
Others	6,168,135	10,443,818
Total	₩ 316,040,064	₩ 1,221,569,463

(*) Includes gain on disposal of share, Samsung General Chemicals Co., Ltd. amounting to ₩108,640,901 thousand (Note 29).

21-5 Other expenses

Details of other expenses for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Allowance for other doubtful accounts	₩ -	₩ 2,611,329
Loss on disposal of trade receivables	2,103,518	2,172,594
Loss on disposal of property, plant and equipment	13,963,351	9,157,279
Impairment loss on property, plant and equipment (*)	3,311,000	164,423,362
Loss on disposal of intangible assets	116,596	-
Impairment loss on intangible assets (*)	1,322	67,945,490
Loss on foreign currency transactions	150,686,282	105,901,485
Loss on foreign currency translation	24,704,763	7,627,829
Impairment loss on available-for-sale financial assets, net	542,200	3,314,193
Donations	14,866,515	9,325,772
Compensation costs (**)	-	44,142,672
Others	30,771,077	33,307,012
Total	₩ 241,066,624	₩ 449,929,017

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

(*) Impairment losses on property, plant and equipment and intangible assets are attributable to results of impairment testing on the Group's cash generating units and individual assets (Notes 11 and 12).

(**) For the year ended December 31, 2014, compensation costs consist of accrued expenses related to costs expected to be incurred in connection with the overseas relocation of certain production facilities and business units approved during the current year.

22. Income tax expense

The major components of income tax expense for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Current income tax	₩ 116,586,268	₩ 180,220,693
Deferred income tax from temporary differences and tax credits	(100,171,542)	(49,889,208)
Deferred income tax recognized directly to equity	-	45,609
Income tax expense from continuing operations	₩ 44,562,958	₩ 127,277,455
Income tax gain (expense) from discontinued operations	(28,148,232)	3,099,639

Details of deferred income taxes charged directly to equity as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Income tax expense		
Gain on disposal of treasury stock	₩ -	₩ 45,609
Deferred income tax		
Equity adjustments of investment in associates	344	(242,157)
Net gain (loss) on valuation of available-for-sale financial assets	63,076,532	(13,512,385)
Exchange differences on translation of foreign operations	(1,097,624)	(17,074,150)
Re-measurement gain on defined benefit plans	6,574,138	17,946,003
Total	₩ 68,553,390	₩ (12,837,080)

22. Income tax expense (cont'd)

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):

	2015	2014
Profit before tax	₩ 37,058,056	₩ 639,288,913
Profit before tax from continuing operations	366,791,154	816,239,203
Losses before tax from discontinued operations	(329,733,098)	(176,950,290)
Tax at the statutory income tax rate	16,896,740	103,114,945
Adjustments:		
- Income not taxable for tax purposes	(5,376,609)	(682,259)
- Expenses not deductible for tax purposes	33,918,387	12,825,602
- Effect of deferred income tax arising from temporary difference not recognized	(40,156)	46,787,720
- Tax credits	(33,951,853)	(17,117,367)
- Others	4,968,217	(14,551,547)
Income tax expense	₩ 16,414,726	₩ 130,377,094
Income tax expense from continuing operations	44,562,958	127,277,455
Income tax expense from discontinued operations	(28,148,232)	3,099,639
Effective income tax rate	44.3%	20.4%

Significant changes in tax credit carryforwards, cumulative temporary differences and deferred income tax assets and liabilities for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	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
Provisions	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)

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22. Income tax expense (cont'd)

	2014			
	January.1	Recognized to income	Recognized directly to equity	December. 31
Loss on valuation of inventories	₩ 16,744,700	₩ (4,770,378)	₩ -	₩ 11,974,322
Property, plant and equipment	12,680,237	47,766,757	-	60,446,994
Defined benefit liabilities	41,879,992	(41,230,815)	17,946,003	18,595,180
Provisions	10,319,236	23,534,704	-	33,853,940
Investment in subsidiaries	(52,188,814)	9,140,811	(17,074,150)	(60,122,153)
Equity adjustments of investment in associates	(1,145,905)	-	(242,157)	(1,388,062)
Valuation of available-for-sale financial assets	(222,774,730)	45,277,636	(13,512,385)	(191,009,479)
Unused tax credit carryforwards from prior years	8,100,264	(1,883,750)	-	6,216,514
Deficit carryforwards	24,420,661	(24,420,661)	-	-
Others	(8,958,403)	(3,525,096)	45,609	(12,437,890)
Total	<u>₩ (170,922,762)</u>	<u>₩ 49,889,208</u>	<u>₩ (12,837,080)</u>	<u>₩ (133,870,634)</u>
Deferred income tax assets	18,950,208			52,751,754
Deferred income tax liabilities	(189,872,970)			(186,622,388)

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 foreseeable 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.

23. Profit attributable to non-controlling interests

Details of profit attributable to non-controlling interests for the year ended December 31, 2015 are as follows (Korean won in thousands):

	Non-controlling ownership	Profit (loss)	Attributable to non-controlling interests
Samsung Electro-Mechanics Thailand Co., Ltd.	25.00%	₩ 11,324,462	₩ 2,831,115
Tianjin Samsung Electro-Mechanics Co., Ltd.	18.29%	29,684,903	5,429,369
Samsung High-Tech Electro-Mechanics (Tianjin) Co., Ltd.	5.00%	24,526,150	1,226,307
Calamba Premier Realty Corp.	60.20%	(106,102)	(63,873)
Batino Realty Corporation	60.20%	46,684	28,104
Sansung Venture Investment Co.,Ltd. (SVIC#19)	1.00%	384,694	3,847
Total		<u>₩ 65,860,791</u>	<u>₩ 9,454,869</u>

24. 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, 2015 and 2014 are computed as follows (Korean won in thousands, except per share amounts):

	2015		2014	
	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	₩ 11,188,460	₩ 312,773,326	₩ 502,703,925	₩ 682,753,855
Preferred shares dividend	(558,048)	(2,282,843)	(2,282,843)	(2,282,843)
Additional dividends attributable to preferred shares	-	(9,616,124)	(16,353,310)	(22,978,868)
Profit for the year attributable to ordinary equity holders of the parent	10,630,412	300,874,359	484,067,772	657,492,144
Weighted-average number of shares of ordinary shares outstanding (*)	73,029,949	73,029,949	74,691,939	74,691,939
Basic earnings per share	₩ 146	₩ 4,120	₩ 6,481	₩ 8,803

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

	2015	2014
Weighted-average number of shares of ordinary shares as at January 1	74,693,696	74,693,696
Treasury stock	(1,663,747)	(1,757)
	73,029,949	74,691,939

The Company's diluted earnings per share for the years ended December 31, 2015 and 2014 are computed as follows (Korean won in thousands, except per share amounts):

	2015		2014	
	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	₩ 10,630,412	₩ 300,874,359	₩ 484,067,772	₩ 657,492,144
Weighted-average number of shares of ordinary shares outstanding (*)	73,029,949	73,029,949	74,692,294	74,692,294
Diluted earnings per share	₩ 146	₩ 4,120	₩ 6,481	₩ 8,803

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24. Earnings per share (cont'd)

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

	2015	2014
Weighted-average number of shares of ordinary shares as at January 1	73,029,949	74,691,939
Potential dilutive shares	-	355
	<u>73,029,949</u>	<u>74,692,294</u>

There are no potential ordinary shares that are anti-dilutive as at December 31, 2015.

The Company's basic (diluted) earnings per share attributable to preferred shares for the years ended December 31, 2015 and 2014 are computed as follows (Korean won in thousands, except per share amounts):

	2015		2014	
	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	₩ 558,048	₩ 11,898,967	₩ 18,636,153	₩ 25,261,711
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	₩ 196	₩ 4,170	₩ 6,531	₩ 8,853

25. Related party transactions

Samsung Electronics Co., Ltd. has significant influence on the Company. Related parties of the Company as at December 31, 2015 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	Other affiliates

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25. Related party transactions (cont'd)

Outstanding balances resulted from the transactions among the Company and its related parties as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Receivables	Payables	Receivables	Payables
Company with significant influence				
Samsung Electronics Co., Ltd.	₩ 122,936,075	₩ 27,027,684	₩ 147,324,764	₩ 19,227,913
Associate				
Samsung Economic Research Institute	-	1,165,116	-	186,252
Other affiliates (*)	188,071,460	41,515,672	215,799,666	41,800,486
Total	₩ 311,007,535	₩ 69,708,472	₩ 363,124,430	₩ 61,214,651

(*) Plan assets deposited with Samsung Life Insurance in addition to receivables from other affiliates described above amounts to ₩388,444,408 thousand, ₩358,269,958 thousand as at December 31, 2015 and 2014, respectively (Note 15).

Significant transactions among the Company and its related parties for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015			
	Sales	Purchases	Acquisition 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
Other affiliates	2,939,507,877	260,228,477	129,313,831	-
Total	₩ 4,068,799,357	₩ 461,720,821	₩ 129,998,746	₩ 1,271,100

	2014			
	Sales	Purchases	Acquisition tangible asset	Dividends
Company with significant influence				
Samsung Electronics Co., Ltd.	₩ 1,026,403,444	₩ 259,096,880	₩ 4,738,785	₩ -
Associate				
Samsung Economic Research Institute	-	4,673,898	-	-
Stemco Co., Ltd.	-	-	-	433,500
Other affiliates	3,128,669,980	218,138,242	308,349,996	-
Total	₩ 4,155,073,424	₩ 481,909,020	₩ 313,088,781	₩ 433,500

The company has no collateral or guarantees provided to or received from related parties as at December 31, 2015.

25. Related party transactions (cont'd)

In relation to key management compensation of the Group for the year ended December 31, 2015, the Group recognized expenses for short-term benefits, including short-term incentives of ₩2,782,244 thousand and long-term benefits, including pension benefits of ₩2,042,149 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.

26. Supplementary consolidated cash flow information

Cash flows from operating activities for the years ended December 31, 2015 and 2014 are as follows (Korean won):

	2015		2014	
	₩		₩	
Profit for the year		20,643,329,453		508,911,818,142
Adjustments to reconcile profit before tax to net cash flows				
Loss (gain) on valuation of inventories		6,599,241,432		(35,987,741,148)
Loss on scrap of inventories		47,818,452,878		54,882,471,253
Pension costs		86,571,565,231		84,760,641,290
Allowance for doubtful accounts - trade		-		1,318,352,810
Depreciation		477,969,884,978		641,942,992,542
Amortization of intangible assets		16,145,348,378		18,297,111,640
Provisions for product warranties		8,392,332,082		6,896,200,843
Gain on foreign exchange translation		(21,245,698,380)		(13,328,157,421)
Allowance (reversal) for doubtful accounts – others		(170,056,404)		2,611,328,711
Gain on disposal of property, plant and equipment		(36,920,039,569)		(1,129,456,187)
Gain on disposal of intangible assets		(29,087,630,294)		-
Loss on foreign currency translation		24,704,763,010		11,728,152,819
Loss on disposal of trade receivables		2,103,518,007		2,172,593,801
Loss on disposal of property, plant and equipment		15,213,656,213		16,985,338,861
Loss on disposal of intangible assets		116,595,817		65,600,000
Impairment loss on property, plant and equipment		83,949,553,087		213,687,936,500
Impairment loss on intangible assets		27,304,259,687		124,386,217,901
Finance costs		38,639,921,266		40,928,404,681
Finance income		(20,150,627,124)		(13,309,042,218)
Dividend income		(6,582,526,193)		(5,481,991,800)
Share of profit in associates		(7,044,610,923)		(2,435,562,717)
Share of losses in associates		-		162,734,598
Gain on disposal of available-for-sale financial assets		(108,640,900,502)		(1,093,580,169,484)
Impairment loss on available-for-sale financial assets		542,200,000		3,316,429,995
Compensation expenses		-		44,142,672,078
Income tax expense		16,414,726,537		130,377,094,057
Sub total		622,643,929,214		233,410,153,405

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

	2015	2014
Working capital adjustments:		
Other financial assets	₩ 2,253,601,461	₩ 1,136,181,946
Trade receivables	222,667,439,257	(177,919,155,476)
Other receivables	(13,550,144,311)	68,501,984,896
Advance payments	(17,575,073,291)	57,754,739,519
Prepaid expenses	26,219,829,131	(24,293,261,693)
Inventories	201,965,410,780	58,833,766,277
Long-term prepaid expenses	(18,562,981,742)	(12,277,104,090)
Short-term and long-term loans receivables	(342,398,716)	(53,520,318)
Trade payables	(125,628,535,995)	(1,212,041,588)
Other payables	3,897,686,715	(52,601,117,834)
Advances received	(7,911,752,635)	8,101,938,857
Other financial liabilities	(20,681,751,451)	(8,564,414,759)
Unearned income	70,790,796	51,908,865
Long-term trade and other payables	3,771,163,191	(611,345,402)
Retirement benefits paid	(17,828,429,522)	(17,964,736,633)
Contributions by employer	(70,119,797,662)	(240,120,169,920)
Succession of defined benefit liability	(7,335,151,749)	(2,444,979,710)
Sub total	161,309,904,257	(343,681,327,063)
Cash flows from operating activities	₩ 804,597,162,924	₩ 398,640,644,484

Significant transactions not involving cash flows for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015	2014
Write-off of trade and other receivables	₩ 1,584,289	₩ 2,463,219
Reclassification of construction-in-progress	457,439,715	479,416,908
Reclassification of machinery-in-transit	418,938,518	72,828,406
Transfer of current portion of long-term borrowings	341,474,824	443,693,839
Increase (decrease) of gain on valuation of available-for-sale financial assets	(194,565,335)	42,323,917
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	-
Disposal of unappropriated retained earning	337,240,000	188,830,000
Re-measurement gain on defined benefit plans	12,140,575	59,159,426
Classification as assets held for sale	4,005,098	171,082,749

27. 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, 2015 and 2014.

(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 ₩1,244,245,154 thousand, ₩182,160,494 thousand as at December 31, 2015 and 2014 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):

	2015		2014	
	<u>100bp increase</u>	<u>100bp decrease</u>	<u>100bp increase</u>	<u>100bp decrease</u>
Impact on interest costs	(12,442,452)	12,442,452	(1,821,605)	1,821,605

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

(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, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Assets	Liabilities	Assets	Liabilities
USD	₩ 936,291,258	₩ 1,013,503,428	₩ 1,230,526,250	₩ 928,431,594
EUR	9,152,718	8,065,801	39,131,271	33,279,611
JPY	10,456,311	23,461,805	16,227,273	23,919,761
PHP	10,407,712	16,915,267	10,077,662	13,205,096
HKD	-	2,814,081	-	6,627,357
SGD	674,973	892,428	708,683	496,915
Others	6,971,333	3,560,764	564,029	600,048
Total	₩ 973,954,305	₩ 1,069,213,574	₩ 1,297,235,168	₩ 1,006,560,382

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, 2015 and 2014. (Korean won in thousands):

	2015		2014	
	5% increase	5% decrease	5% increase	5% decrease
USD	₩ (3,860,608)	₩ 3,860,608	₩ 15,104,733	₩ (15,104,733)
EUR	54,346	(54,346)	292,583	(292,583)
JPY	(650,274)	650,274	(384,624)	384,624
PHP	(325,377)	325,377	(156,372)	156,372
HKD	(140,704)	140,704	(331,368)	331,368
SGD	(10,872)	10,872	10,588	(10,588)
Others	170,529	(170,529)	(1,801)	1,801
Total	₩ (4,762,960)	₩ 4,762,960	₩ 14,533,739	₩ (14,533,739)

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.

27. 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, 2015 (Korean won in thousands):

	5% increase		5% decrease	
Other comprehensive income before tax	₩	38,764,159	₩	(38,764,159)
Income tax effect		(9,380,926)		9,380,926
Other comprehensive income after tax	₩	29,383,233	₩	(29,383,233)

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):

	2015		2014	
Trade receivables	₩	684,079,120	₩	900,125,428
Other receivables		137,101,391		65,366,821
Long-term trade and other receivables		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 receivables 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.

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

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.

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.

	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 liabilities	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

	2014			
	Less than 3 months	3 to 12 months	1 to 5 years	Total
Trade and other payables	₩ 817,998,947	₩ -	₩ 7,167,537	₩ 825,166,484
Short-term borrowings	655,320,854	15,759,000	-	671,079,854
Current portion of long-term borrowings	-	445,356,294	-	445,356,294
Long-term borrowings	-	-	596,680,786	596,680,786
Other financial liabilities	33,597,407	3,362,654	-	36,960,061
Total	₩ 1,506,917,208	₩ 464,477,948	₩ 603,848,323	₩ 2,575,243,479

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, 2015 and 2014.

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.

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

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

	2015		2014	
Trade and other payables	₩	716,097,446	₩	825,166,484
Borrowings		2,041,595,502		1,713,116,934
Other financial liabilities		16,275,369		36,960,061
Less: Cash and cash equivalent		(1,035,257,117)		(688,025,403)
Net debt		1,738,711,200		1,887,218,076
Total equity		4,315,383,218		4,642,796,080
Total capital (Net debt and shareholder's equity)	₩	6,054,094,418	₩	6,530,014,156
Gearing ratio		28.72%		28.90%

28. Fair value

Details of book values and fair values of financial assets and liabilities as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014	
	Book value	Fair value	Book value	Fair value
Financial assets:				
Loans and receivables				
Cash and cash equivalents	₩ 1,035,257,117	₩ 1,035,257,117	₩ 688,025,403	₩ 688,025,403
Trade and other receivables	966,068,747	966,068,747	965,492,249	965,492,249
Short-term and Long-term loans receivables	2,473,413	2,473,413	2,458,420	2,458,420
Other financial assets	157,100,651	157,100,651	859,504,159	859,504,159
Available-for-sale financial assets	799,622,634	799,622,634	939,841,904	939,841,904
Held-to-maturity investments	317,300	317,300	343,765	343,765
Assets classified as held for sale	4,005,098	4,005,098	171,082,749	171,082,749
Total financial assets	₩ 2,964,844,960	₩ 2,964,844,960	₩ 3,626,748,649	₩ 3,626,748,649
Financial liabilities:				
Financial liabilities carried at amortized cost				
Trade and other payables	₩ (716,097,446)	₩ (716,097,446)	₩ (825,166,484)	₩ (825,166,484)
Other financial liabilities	(16,275,369)	(16,275,369)	(36,960,061)	(36,960,061)
Short-term borrowings	(691,132,241)	(691,132,241)	(671,079,854)	(671,079,854)
Current portion of long-term borrowings	(333,837,461)	(333,837,461)	(445,356,294)	(445,356,294)
Long-term borrowings	(1,016,625,800)	(1,016,625,800)	(596,680,786)	(596,680,786)
Total financial liabilities	₩ (2,773,968,317)	₩ (2,773,968,317)	₩ (2,575,243,479)	₩ (2,575,243,479)

28. 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. Transfer between level 1 and level 3 have occurred during the year ended December 31, 2015 and 2014.

Fair value on the statement of financial position:

As at December 31, 2015 and 2014, the Group held the following assets and liabilities carried at fair value on the statement of financial position (Korean won in thousands):

	2015			
	Level1	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 receivables	-	-	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)

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28. Fair value (cont'd)

	2014			
	Level1	Level 2	Level 3	Total
Assets that are measured at fair value				
Available-for-sale financial assets	₩ 919,500,179	₩ -	₩ 20,341,725	₩ 939,841,904
Assets classified as held for sale	-	-	171,082,749	171,082,749
Assets for which the fair value have been disclosed				
Cash and cash equivalents	30,960	687,994,443	-	688,025,403
Trade and other receivables	-	-	965,492,249	965,492,249
Shor-term and Long-term loans receivables	-	-	2,458,420	2,458,420
Other financial assets	-	750,000,000	109,504,159	859,504,159
Held-to-maturity investments	-	-	343,765	343,765
Liabilities for which the fair value have been disclosed				
Trade and other payables	-	-	(825,166,484)	(825,166,484)
Other financial liabilities	-	-	(36,960,061)	(36,960,061)
Short-term borrowings	-	(671,079,854)	-	(671,079,854)
Current portion of long-term borrowings	-	(445,356,294)	-	(445,356,294)
Long-term borrowings	-	(596,680,786)	-	(596,680,786)

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

	2015		2014	
	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	₩ 20,341,725	₩ 171,082,749	₩ 871,877,057	₩ -
Reclassified from level 1(*)	-	2,187,990	-	-
Reclassified from level 3 (**)	-	-	(208,962,300)	-
Total profit or loss for the period				
Gains and losses are included in the profit for the year	(542,200)	-	(2,453,894)	-
Gains and losses are included in the comprehensive income	3,651,640	1,686,108	531,420	(46,257,930)
Purchase	3,019,410	-	80,000	-
Selling (****)	(2,000,125)	(171,082,749)	(423,345,284)	-
Reclassification (***)	(131,000)	131,000	(217,340,679)	217,340,679
Exchange rate effects	-	-	(44,595)	-
At December 31	₩ 24,339,450	₩ 4,005,098	₩ 20,341,725	₩ 171,082,749

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28. Fair value (cont'd)

(*) Samsung Fine Chemicals Co., Ltd. was reclassified to level 3, since its price were determined in 2015.

(**) Cheil Industries Inc. was reclassified to level 1, since its shares were listed on the Korea Stock Exchange in 2014.

(***) For the year ended December 31, 2015, Samsung Lions Co., Ltd. was classified as assets held for sale after recognizing impairment loss.

(****) Samsung General Chemicals Co., Ltd. was disposed during the year ended December 31, 2014.

Details of gains and losses arising from financial instruments by categories for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	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)
Loss on valuation of available-for-sale financial assets	-	(194,565,335)	-	-	(194,565,335)
Impairment loss on available-for-sale financial assets	-	(542,200)	-	-	(542,200)
Total	₩ 25,595,317	₩ (80,272,294)	₩ 3,970	₩ (49,952,674)	₩ (104,625,681)

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28. Fair value (cont'd)

	2014					Total
	Loans and receivables	Available-for-sale financial assets	Held-to-maturity investments	Financial liabilities carried at amortized cost		
Interest income	₩ 12,082,462	₩ -	₩ 2,773	₩ -	₩	12,085,235
Dividend income	-	4,973,947	-	-	-	4,973,947
Gain on foreign currency transactions	51,856,235	-	-	48,599,649		100,455,884
Gain on foreign currency translation	4,758,513	-	-	5,125,724		9,884,237
Gain on valuation of available-for-sale financial assets	-	42,323,917	-	-		42,323,917
Gain on disposal of available-for-sale financial assets	-	1,093,598,440	-	-		1,093,598,440
Allowance for doubtful accounts - trade	(1,318,353)	-	-	-		(1,318,353)
Allowance for doubtful accounts - others	(2,611,329)	-	-	-		(2,611,329)
Interest expenses	-	-	-	(34,708,276)		(34,708,276)
Loss on foreign currency transactions	(52,269,382)	-	-	(53,632,103)		(105,901,485)
Loss on foreign currency translation	(3,030,304)	-	-	(4,597,525)		(7,627,829)
Loss on disposal of trade receivables	(2,172,594)	-	-	-		(2,172,594)
Impairment loss on available-for-sale financial assets	-	(3,314,193)	-	-		(3,314,193)
Total	₩ 7,295,248	₩ 1,137,582,111	₩ 2,773	₩ (39,212,531)	₩	1,105,667,601

29. 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 consolidated statement of comprehensive income for the year ended December 31, 2014, presented for comparative purpose, was restated to present discontinued operations.

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

Details of profit for the year from discontinued operations for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Sales	₩ 528,433,324	₩	1,043,298,583
Cost of sales	(659,203,239)		(981,829,200)
Gross profit or losses	(130,769,915)		61,469,383
Selling and administrative expenses	(151,333,106)		(124,742,556)
Operating losses	(282,103,021)		(63,273,173)
Finance income	1,296,254		1,223,807
Finance costs	(3,227,086)		(6,220,129)
Other income	125,313,578		43,296,838
Impairment loss on property, plant and equipment	(80,638,553)		(49,264,574)
Impairment loss on intangible assets	(27,302,938)		(56,440,728)
Other expenses	(63,071,332)		(46,272,331)
Profit before tax	(329,733,098)		(176,950,290)
Income tax expense	(28,148,232)		3,099,639
Profit for the year from discontinued operations	₩ (301,584,866)	₩	(180,049,929)

Details of net cash flows from discontinued operations for the years ended December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Operation activities	₩ 143,053,946	₩	(115,586,923)
Investing activities	71,134,436		39,673,959
Financing activities	(213,972,797)		66,122,306
Net foreign exchange difference	524,108		8,308,676
Net cash flows from discontinued operations	₩ 739,693	₩	(1,481,982)

Samsung General Chemicals Co., Ltd., which was classified as assets held for sale amounting to ₩171,082,749 thousand in 2014 was sold. Gains on disposal of shares in Samsung General Chemicals Co., Ltd. amounting to ₩108,640,901 thousand have been recognized in other income on the consolidated statement of comprehensive income (Note 21-4).

To reinforce the core competencies of the Group through improved asset utilization and make available investment resources, the Board of Directors of the Company elected to dispose of its equity interest in Samsung Heavy Industries Co., Ltd. to Lotte Chemical Corporation.

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

Assets classified as held for sale as at December 31, 2015 and 2014 are as follows (Korean won in thousands):

	2015		2014
Samsung General Chemicals Co., Ltd.	₩	-	₩ 171,082,749
Samsung Fine Chemicals Co., Ltd.		3,874,098	-
Samsung Lions Co., Ltd.		131,000	-
Total	₩	4,005,098	₩ 171,082,749