Deloitte.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011,
AND INDEPENDENT AUDITORS' REPORT

Deloitte Anjin LLC

Independent Auditors' Report

English Translation of a Report Originally Issued in Korean

To the Stockholders and Board of Directors of
Doosan Engine Co., Ltd.:

We have audited the accompanying consolidated financial statements of Doosan Engine Co., Ltd. and subsidiaries (the "Company"). The consolidated financial statements consist of the consolidated statement of financial position as of December 31, 2012 and 2011, and the related consolidated statements of income, consolidated statements of comprehensive income, consolidated statements of changes in stockholders' equity and consolidated statements of cash flows, all expressed in Korean won, for the years ended December 31, 2012 and 2011. The Company's management is responsible for the preparation and fair presentation of the consolidated financial statements and our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the Republic of Korea. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2012 and 2011, and the results of its operations and its cash flows for the years then ended in conformity with Korean International Financial Reporting Standards ("K-IFRS").

Accounting principles and auditing standards and their application in practice vary among countries. The accompanying consolidated financial statements are not intended to present the financial position, results of operations and cash flows in accordance with accounting principles and practices generally accepted in countries other than the Republic of Korea. In addition, the procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries. Accordingly, this report and the accompanying consolidated financial statements are for use by those knowledgeable about Korean accounting principles and auditing standards and their application in practice.

March 14, 2013

Notice to Readers

This report is effective as of March 14, 2013, the auditors' report date. Certain subsequent events or circumstances may have occurred between the auditors' report date and the time the auditors' report is read. Such events or circumstances could significantly affect the consolidated financial statements and may result in modifications to the auditors' report.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED
DECEMBER 31, 2012 AND 2011

The accompanying consolidated financial statements, including all footnote disclosures, were prepared by, and are the responsibility of the Company.

Cho, Nam-Suk
Chief Executive Officer
Doosan Engine Co., Ltd.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
AS OF DECEMBER 31, 2012 AND 2011
(In Korean won)

ASSETS	Notes	December 31, 2012	December 31, 2011
CURRENT ASSETS:			
Cash and cash equivalents	4 and 10	₩ 94,835,220,141	₩ 325,415,227,256
Short-term financial instruments	4 and 10	170,016,124,100	146,614,526,202
Short-term loans receivable	10	1,128,650,000	1,247,550,000
Trade and other receivable	4,6,10,31 and 33	86,226,939,813	150,287,346,814
Gross amount due from customers for contract work	24	5,930,477	55,876,191
Current derivative instrument assets	9 and 10	38,140,126,990	8,153,605,085
Current firm commitment assets	9	20,627,029,543	66,708,349,474
Inventories	7	205,075,589,722	247,442,035,097
Other current assets		25,052,039,684	47,900,263,218
Total current assets		641,107,650,470	993,824,779,337
NON-CURRENT ASSETS:			
Long-term financial instruments	4,5 and 10	2,109,485,601	4,655,212,960
Long-term investment securities	4,8 and 10	7,922,117,114	72,047,000
Investments in associates	2 and 11	450,452,750,952	330,239,108,086
Long-term loans receivable	4 and 10	5,155,220,988	7,251,719,621
Long-term accounts receivable-other	4,6 and 10	14,958,733,970	8,131,176,298
Property, plant and equipment	12	592,944,406,494	570,124,615,272
Intangible assets	13	18,814,360,921	14,863,062,759
Investment property	14	-	36,130,101,804
Non-current derivative instrument assets	4,9 and 10	12,352,565,282	3,752,006,943
Non-current firm commitment assets	9	36,354,513,147	74,959,113,548
Non-current deferred income tax assets	3 and 29	386,441,384	323,460,694
Other non-current assets		3,644,543,005	5,491,542,547
Total non-current assets		1,145,095,138,858	1,055,993,167,532
TOTAL ASSETS		₩ 1,786,202,789,328	₩ 2,049,817,946,869

(Continued)

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
AS OF DECEMBER 31, 2012 AND 2011 (CONTINUED)
(In Korean won)

LIABILITIES AND STOCKHOLDERS' EQUITY	Notes	December 31, 2012	December 31, 2011
CURRENT LIABILITIES:			
Trade and other payable	4,10,31 and 33	₩ 177,291,528,540	₩ 268,406,343,721
Gross amount due to customers for contract work	24	19,416,602,363	34,079,376,921
Short-term borrowings	4,10,15 and 31	31,158,846,345	24,719,325,723
Advance receipts	31	374,193,000,937	690,500,336,727
Current portion of long-term borrowings	4,10 and 15	64,266,000,000	70,840,590,000
Current portion of bonds	4,10 and 15	-	79,945,544,602
Income tax payable		18,195,115,048	6,475,336,706
Current derivative instrument liabilities	4,9 and 10	3,330,156,254	33,108,336,398
Current firm commitment liabilities	9	26,500,340,834	6,933,180,782
Other current liabilities		3,406,692,496	1,972,607,106
Total current liabilities		717,758,282,817	1,216,980,978,686
NON-CURRENT LIABILITIES:			
Long-term borrowings	4,9,10,15 and 31	117,359,840,000	143,323,770,000
Bonds	4,10,15 and 31	99,461,490,305	-
Long-term accounts payable-other	10	1,254,054,389	2,546,074,795
Retirement benefit obligation	3 and 16	19,815,842,555	26,590,315,593
Non-current derivative instrument liabilities	4,9 and 10	2,112,892,517	17,936,849,494
Non-current firm commitment liabilities	9	21,881,552,439	5,002,643,700
Financial guarantee liabilities	4,10,31 and 32	4,121,160,256	349,001,248
Liability provisions	3 and 17	19,568,071,955	20,507,108,230
Deferred income tax liabilities	3 and 29	35,098,149,001	42,897,472,993
Total non-current liabilities		320,673,053,417	259,153,236,053
TOTAL LIABILITIES		1,038,431,336,234	1,476,134,214,739
STOCKHOLDERS' EQUITY			
Share capital	1 and 18	69,500,000,000	69,500,000,000
Capital surplus	18	367,214,701,425	367,214,701,425
Other capital items	19	397,167,523	135,447,961
Accumulated other comprehensive income	9 and 20	(22,211,187,691)	(2,717,688,995)
Retained earnings	21	332,870,771,837	139,551,271,739
Equity attributable to owners of the parent company		747,771,453,094	573,683,732,130
Non-controlling interests		-	-
TOTAL STOCKHOLDERS' EQUITY		747,771,453,094	573,683,732,130
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY		₩1,786,202,789,328	₩ 2,049,817,946,869

(Concluded)

The accompanying notes are an integral part of these consolidated financial statements.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011
(In Korean won)

	Notes	2012	2011
SALES	3,22,23,24 and 33	₩ 1,378,777,833,340	₩ 2,007,408,807,609
COST OF SALES	25,31 and 33	(1,223,596,496,060)	(1,641,314,823,708)
GROSS PROFIT		155,181,337,280	366,093,983,901
Selling, general and administrative expenses	25 and 26	(85,415,009,951)	(66,734,506,753)
OPERATING INCOME	2	69,766,327,329	299,359,477,148
Finance income	4,10 and 27	121,269,782,158	82,944,989,434
Finance expense	4,10 and 27	(120,126,627,953)	(78,361,900,794)
Other non-operating income	10 and 28	12,712,859,887	4,306,708,872
Other non-operating expense	10 and 28	(11,813,473,740)	(23,254,549,754)
Share of profits of associates	11	136,224,856,450	11,891,932,502
PROFIT BEFORE INCOME TAX EXPENSE		208,033,724,131	296,886,657,408
INCOME TAX EXPENSE	29	(17,654,165,699)	(72,110,794,238)
NET INCOME		₩ 190,379,558,432	₩ 224,775,863,170
Attributable to:			
Owners of the parent		₩ 190,379,558,432	₩ 224,775,863,170
Non-controlling interests		₩ -	₩ -
EARNINGS PER SHARE:	30		
Basic earnings per share		₩ 2,739	₩ 3,234
Diluted earnings per share		₩ 2,739	₩ 3,234

The accompanying notes are an integral part of these consolidated financial statements.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011
(In Korean won)

	Notes	2012	2011
NET INCOME		₩ 190,379,558,432	₩ 224,775,863,170
DECREASE IN RETAINED EARNINGS OF ASSOCIATES		3,583,859,525	(15,142,864,024)
OTHER COMPREHENSIVE INCOME:	20		
Gain (loss) on translation of foreign operations	20	(1,082,288,012)	1,025,300,329
Gain on valuation of cash flow hedge derivatives	9,10	333,792,311	1,751,752,013
Increase (decrease) in equity of associates	11	(18,745,002,995)	15,122,728,676
Actuarial loss	16	(643,917,859)	(3,296,634,638)
Total other comprehensive income (loss)		(20,137,416,555)	14,603,146,380
TOTAL COMPREHENSIVE INCOME		₩ 173,826,001,402	₩ 224,236,145,526

The accompanying notes are an integral part of these consolidated financial statements.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011
(In Korean won)

	Share capital	Capital surplus	Other equity items	Accumulated other comprehensive income (loss)	Retained earnings (deficit)	Total
Balance at January 1, 2011	₩69,500,000,000	₩367,214,701,425	₩-	(₩20,617,470,013)	(₩66,735,090,161)	₩349,362,141,251
Comprehensive income:						
Net income	-	-	-	-	224,775,863,170	224,775,863,170
Gain on translation of foreign operations	-	-	-	1,025,300,329	-	1,025,300,329
Gain on valuation of cash flow hedge derivatives	-	-	-	1,751,752,013	-	1,751,752,013
Increase in equity of associates	-	-	-	15,122,728,676	-	15,122,728,676
Actuarial losses on retirement benefit obligations	-	-	-	-	(3,296,634,638)	(3,296,634,638)
Decrease in retained earnings of associates	-	-	-	-	(15,142,864,024)	(15,142,864,024)
Stock-based payment	-	-	135,447,961	-	-	135,447,961
Others	-	-	-	-	(50,002,608)	(50,002,608)
Balance at December 31, 2011	₩69,500,000,000	₩367,214,701,425	₩135,447,961	(₩2,717,688,995)	₩139,551,271,739	₩573,683,732,130
Balance at January 1, 2012	₩69,500,000,000	₩367,214,701,425	₩135,447,961	(₩2,717,688,995)	₩139,551,271,739	₩573,683,732,130
Total comprehensive income:						
Net income	-	-	-	-	190,379,558,432	190,379,558,432
Gain on translation of foreign operations	-	-	-	(1,082,288,012)	-	(1,082,288,012)
Gain on valuation of cash flow hedge derivatives	-	-	-	333,792,311	-	333,792,311
Decrease in equity of associates	-	-	-	(18,745,002,995)	-	(18,745,002,995)
Actuarial losses on retirement benefit obligations	-	-	-	-	(643,917,859)	(643,917,859)
Increase in retained earnings of associates	-	-	-	-	3,583,859,525	3,583,859,525
Stock-based payment	-	-	261,719,562	-	-	261,719,562
Balance at December 31, 2012	₩69,500,000,000	₩367,214,701,425	₩397,167,523	(₩22,211,187,691)	₩332,870,771,837	₩747,771,453,094

The accompanying notes are an integral part of these consolidated financial statements.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011
(In Korean won)

	2012	2011
CASH FLOWS FROM OPERATING ACTIVITIES:		
Cash generated from operations	(₩ 176,983,612,947)	₩ 145,006,140,307
Net income	190,379,558,432	224,775,863,170
Adjustments	(87,294,952,274)	119,655,397,393
Changes in operating assets and liabilities	(280,068,219,105)	(199,425,120,256)
Interest received	14,235,035,646	17,897,383,096
Interest paid	(9,877,274,345)	(14,407,359,862)
Dividend received	-	700,000
Income tax paid	(13,612,101,477)	(858,772,440)
Net cash (used in) provided by operating activities	(186,237,953,123)	147,638,091,101
CASH FLOWS FROM INVESTING ACTIVITIES:		
Cash inflows from investing activities:		
Decrease in short-term financial instruments	-	2,558,707,627
Decrease in short-term loans	1,343,900,000	-
Decrease in long-term financial instruments	2,524,467,359	-
Decrease in long-term investment securities	-	155,000
Decrease in long-term loans	1,496,624,257	7,508,488,521
Disposal of property, plant and equipment	863,458,275	535,643,477
Disposal of intangible assets	197,561,362	-
Decrease in guarantee deposits	3,693,427,238	1,670,056,025
Subtotal	10,119,438,491	12,273,050,650
Cash outflows for investing activities:		
Increase in short-term financial instruments	23,401,597,898	-
Increase in long-term financial instruments	-	2,372,141,760
Acquisition of long-term investment securities	7,000,000,000	-
Increase in long-term loans	971,800,000	-
Acquisition of property, plant and equipment	13,417,972,768	16,758,235,249
Acquisition of intangible assets	6,806,526,149	10,357,127,363
Acquisition of investment property	-	18,553,079,365
Increase in guarantee deposits	6,291,489,822	1,387,194,623
Subtotal	(57,889,386,637)	(49,427,778,360)
Net cash used in investing activities	(47,769,948,146)	(37,154,727,710)

(Continued)

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011
(In Korean won)

	2012	2011
CASH FLOWS FROM FINANCING ACTIVITIES:		
Cash inflows from financing activities:		
Proceeds from short-term borrowings	₩ 6,521,796,822	₩ -
Proceeds from long-term borrowings	50,000,000,000	-
Proceeds from issuance of bonds	99,461,490,305	-
Subtotal	155,983,287,127	-
Cash outflows for financing activities:		
Repayment of short-term borrowings	-	10,143,870,938
Repayment of long-term borrowings	72,412,440,000	68,334,000,000
Repayment of bonds	80,000,000,000	50,000,000,000
Subtotal	(152,412,440,000)	(128,477,870,938)
Net cash provided by (used in) financing activities	3,570,847,127	(128,477,870,938)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	(142,952,973)	169,978,373
NET DECREASE IN CASH AND CASH EQUIVALENTS	(230,580,007,115)	(17,824,529,174)
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	325,415,227,256	343,239,756,430
CASH AND CASH EQUIVALENTS, END OF YEAR	₩ 94,835,220,141	₩ 325,415,227,256

(Concluded)

The accompanying notes are an integral part of these consolidated financial statements.

DOOSAN ENGINE CO., LTD. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011

1. GENERAL:

(1) Parent Company

Doosan Engine Co., Ltd. ("DE"), was incorporated on December 30, 1999, under the Commercial Code of the Republic of Korea to manufacture and sell marine diesel engine. The Company's headquarters and plants are located in Changwon, Korea.

Under the DE's Articles of Incorporation, DE is authorized to issue 120,000 thousand shares of capital stock (par value ₩1,000). As of December 31, 2012, DE issued 69,500 thousand common shares.

DE's shares were listed in the Korea Exchange on January 4, 2011.

DE's shares as of December 31, 20212, are owned as follows:

Name of shareholder	Number of shares owned	Percentage of ownership (%)
Doosan Heavy Industries Construction Co., Ltd.	₩29,650,000	42.66
Samsung Heavy Industries Co., Ltd.	9,815,000	14.12
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	5,600,000	8.06
Employee stock ownership association	2,115,584	3.04
Others	22,319,416	32.12
Total	₩69,500,000	100.00

(2) Consolidated Subsidiaries

1) The details in investment for the Company are as follows:

Corporate name	Type of business	Percentage of shareholding	Country	A setting day
Doosan Marine Industry (Dalian) Co., Ltd. ("DMI")	Manufacturing of marine engine parts	100%	China	December, 31

2) Summary of financial information of DMI as of December 31, 2012 and 2011, is summarized as follows (in thousands of Korean won):

Account	December 31, 2012	December 31, 2011
Asset	₩30,132,848	₩36,067,753
Liabilities	12,753,099	17,268,133
Equity	17,379,749	18,799,620

Account	2012	2011
Sales	₩ 10,102,971	₩ 12,047,534
Net income	(337,582)	(307,444)

(3) Changes in the scope of consolidation

There is no change in the scope of consolidation for the year ended December 31, 2012.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

(1) Basis of Preparation

DE and its subsidiaries (the "Company") have prepared the consolidated financial statements in accordance with the Korean International Financial Reporting Standards ("K-IFRS") for the annual period beginning on January 1, 2011.

The significant accounting principles as applied in the consolidated financial statements correspond to those pertaining to the annual consolidated financial statements as of and for the year ended December 31, 2011, except for the effects of the changes of accounting policies as follows:

The accompanying consolidated financial statements have been prepared on the historical cost basis, except for certain properties/non-current assets and financial instruments that are measured at revalued amounts or fair values, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given.

The Company maintains its official accounting records in Korean won and prepares the consolidated financial statements in conformity with K-IFRS, in the Korean language (Hangul). Accordingly, these consolidated financial statements are intended for use by those who are informed about K-IFRS and Korean practices.

1) Amendments to K-IFRS affecting amounts reported in the consolidated financial statements

The following amendments to K-IFRS have been applied in the current year and have affected the amounts reported in these consolidated financial statements.

Amendments to K-IFRS 1107 *Disclosures – Transfers of Financial Assets*

The Company may have transferred financial assets in such a way that part or all of the transferred financial assets do not qualify for derecognition. The amendments to K-IFRS 1107 increase the disclosure requirements for transactions involving transfers of financial assets in order to provide greater transparency around the nature of the transferred assets, the nature of the risks and rewards of ownership to which the Company is exposed, description of the nature of the relationship between the transferred assets and the associated liabilities and carrying value of the associated liabilities. When the Company continues its involvement on the transferred assets although the transferred assets are derecognized in their entirety, the Company discloses the carrying amounts of the transferred assets and the associated liabilities and information showing the maximum exposure to loss. The disclosures due to the application of these amendments are disclosed in Note 31-(2).

Amendments to K-IFRS 1001 – *Presentation of Financial Statements*

In accordance with the amendments to K-IFRS 1001 *Presentation of Financial Statements*, the Company presented operating income by deducting cost of sales and selling, general and administrative expenses from the revenue line item. The amendments have been applied retrospectively for the comparative period.

The amendments have been applied retrospectively, and hence, the presentation of items of operating income has been modified as follows (in thousands of Korean won):

	2012		2011	
	Before modified	After modified	Before Modified	After modified
Sales	₩ 1,373,403,156	₩ 1,378,777,833	₩ 2,005,252,618	₩ 2,007,408,808
Cost of sales	(1,223,596,496)	(1,223,596,496)	(1,641,314,824)	(1,641,314,824)
Selling, general and administrative expenses	(85,415,010)	(85,415,010)	(67,818,994)	(66,734,507)
Other operating income	18,087,537	-	7,547,386	-
Other operating expense	(11,813,474)	-	(23,254,550)	-
Operating income	70,665,713	69,766,327	280,411,636	299,359,477
Non-operating income and expense	137,368,011	138,267,397	16,475,021	(2,473,820)
Income before income tax expense	₩ 208,033,724	₩ 208,033,724	₩ 296,886,657	₩ 296,886,657

The amendments do not result in any impact on profit or loss and earnings per shares.

2) New and revised K-IFRS in issue, but not yet effective

The Company has not applied the following new and revised K-IFRS that have been issued, but are not yet effective.

Amendments to K-IFRS 1001 –*Presentation of Financial Statements*

The amendments to K-IFRS 1001 require items of other comprehensive income to be grouped into two categories in the other comprehensive income section: (a) items that will not be reclassified subsequently to profit or loss and (b) items that may be reclassified subsequently to profit or loss when specific conditions are met. The amendments are effective for annual periods beginning on or after July 1, 2012. The Company does not anticipate that these amendments referred above will have a significant effect on the Company's consolidated financial statements and disclosures.

Amendments to K-IFRS 1019 –*Employee Benefits*

The amendments to K-IFRS 1019 require the recognition of changes in defined benefit obligations and in fair value of plan assets when they occur and, hence, eliminate the 'corridor approach' permitted under the previous version of K-IFRS 1019 and accelerate the recognition of past service costs. The amendments to K-IFRS 1019 are effective for annual periods beginning on or after January 1, 2013. The Company anticipates that the amendments referred above will have no effect on the Company's consolidated financial statements and disclosures.

Amendments to K-IFRS 1032 –*Financial Instruments: Presentation*

The amendments to K-IFRS 1032 clarify existing application issue relating to the offset of financial asset and financial liability requirements. Specifically, the amendments clarify the meaning of 'currently has a legally enforceable right of set-off' and 'simultaneous realization and settlement'. The Company's right to offset must not be conditional on the occurrence of future events, but enforceable anytime during the contract periods, during the ordinary course of business with counterparty, a default of counterparty and master netting agreement or in some forms of non-recourse debt. The amendments to K-IFRS 1032 are effective for annual periods beginning on January 1, 2014. The Company is in the process of evaluating the impact on the consolidated financial statements upon the adoption of amendments.

Amendments to K-IFRS 1107 –*Financial Instruments: Disclosures*

The amendments to K-IFRS 1107 are mainly focusing on presentation of the offset between financial assets and financial liabilities. The amendments to K-IFRS 1107 are effective for annual periods beginning on or after January 1, 2013. The Company does not anticipate that these amendments referred above will have a significant effect on the Company's consolidated financial statements and disclosures.

K-IFRS 1110 –Consolidated Financial Statements

The amendments to K-IFRS 1110 include a new definition of control that contains three elements: (a) power over an investee; (b) exposure, or rights, to variable returns from its involvement with the investee; and (c) the ability to use its power over the investee to affect the amount of the investor's return. This standard is effective for annual periods beginning on or after January 1, 2013. The Company is in the process of evaluating the impact on the consolidated financial statements upon the adoption of amendments.

K-IFRS 1111 –Joint Arrangement

K-IFRS 1111 deals with how a joint arrangement with two or more parties having joint control should be classified. Under K-IFRS 1111, joint arrangements are classified as joint operations or joint ventures, depending on the rights and obligations of the parties to the arrangements. If the Company is a joint operator, the Company is to recognize assets, liabilities, revenues and expenses proportionally to its investment and if the Company is a joint venture, the Company has to account for that investment using the equity method accounting. This standard is effective for annual periods beginning on or after January 1, 2013. The Company is in the process of evaluating the impact on the consolidated financial statements upon the adoption of amendments.

K-IFRS 1112 –Disclosure of Interest in Other Entities

K-IFRS 1112 is a disclosure standard and is applicable to entities that have interests in subsidiaries, associates, joint arrangements, or unconsolidated structured entities. This standard is effective for annual periods beginning on or after January 1, 2013. The Company is reviewing the impact of the application of this standard on the Company's consolidated financial statements.

K-IFRS 1113 –Fair Value Measurement

K-IFRS 1113 establishes a single source of guidance for fair value measurements and disclosure about fair value measurements. The standard defines fair value, establishes a framework for measuring fair value and requires disclosures about fair value measurements. This standard is effective for annual periods beginning on or after January 1, 2013. The Company is reviewing the impact of the application of this standard on the consolidated financial statements.

(2) Consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities (including special-purpose entities) controlled by the Company (its subsidiaries). Income and expenses of subsidiaries acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the effective date of acquisition and up to the effective date of disposal, as appropriate. Total comprehensive income of subsidiaries is attributed to the owners of the Company 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 in line with those used by the Company. All intragroup transactions, balances, income and expenses are eliminated in full on consolidation

Changes in the Company's ownership interests in subsidiaries that do not result in the Company losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Company's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to owners of the Company.

When the Company loses control of a subsidiary, the profit or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in other comprehensive income and accumulated in equity, the amounts previously recognized in other comprehensive income and accumulated in equity are accounted for as if the Company had directly disposed of the relevant assets (i.e., reclassified to profit or loss or transferred directly to retained earnings). The fair value of any investment retained in the former subsidiary at the date when control is lost is recognized as the fair value on initial recognition for subsequent accounting under K-IFRS 1039 Financial Instruments: Recognition and Measurement or, when applicable, the cost on initial recognition of an investment in an associate or a jointly controlled entity.

(3) Business Combination

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the fair values of the assets transferred by the Company, liabilities incurred by the Company to the former owners of the acquiree and the equity interests issued by the Company in exchange for control of the acquiree. Acquisition related costs are generally recognized in profit or loss as incurred.

At the acquisition date, the identifiable assets acquired and the liabilities assumed are recognized at their fair value at the acquisition date, except that:

- Deferred tax assets or liabilities and liabilities or assets related to employee benefit arrangements are recognized and measured in accordance with K-IFRS 1012 *Income Taxes* and K-IFRS 1019 *Employee Benefits* respectively;
- Liabilities or equity instruments related to share-based payment arrangements of the acquiree or share-based payment arrangements of the Company entered in to replace share-based payment arrangements of the acquiree are measured in accordance with K-IFRS 1102 Share-based Payment at the acquisition date;
- Assets (or disposal groups) that are classified as held for sale in accordance with K-IFRS 1105 *Non-current Assets Held for Sale and Discontinued Operations* are measured in accordance with that standard;

Goodwill is measured as the excess of the sum of: a) the consideration transferred, b) the amount of any non-controlling interests in the acquiree and c) the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after reassessment, the net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed exceeds the sum of: a) the consideration transferred, b) the amount of any non-controlling interests in the acquiree and c) the fair value of the acquirer's previously held interest in the acquire (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

When the consideration transferred by the Company in a business combination includes assets or liabilities resulting from a contingent consideration arrangement, the contingent consideration is measured at its acquisition-date fair value and included as part of the consideration transferred in a business combination. Changes in the fair value of the contingent consideration that qualifies as measurement period adjustments are adjusted retrospectively, with corresponding adjustments against goodwill. Measurement-period adjustments are adjustments that arise from additional information obtained during the ‘measurement period’(which cannot exceed one year from the acquisition date) about facts and circumstances that existed at the acquisition date

When a business combination is achieved in stages, the Company's previously held equity interest in the acquired is remeasured to fair value at the acquisition date (i.e., the date when the Company obtains control) and the resulting gain or loss, if any, is recognized in profit or loss. Amounts arising from interests in the acquired prior to the acquisition date that have previously been recognized in other comprehensive income are reclassified to profit or loss where such treatment would be appropriate if that interest were disposed of.

(4) Investments in associates (Equity-accounted investees)

An associate is the investee for the Company who can participate in the financial and operating policy decisions of the investee (significant influence). Generally, significant influence is deemed to exist when the Company has 20%–50% of share of the ownership of the associate entity with voting power.

The results of operations and assets and liabilities of associates are incorporated in these consolidated financial statements using the equity method of accounting. Under the equity method, an investment in an associate is initially recognized in the consolidated statement of financial position at cost and adjusted thereafter to recognize the Company's share of the profit or loss and other comprehensive income of the associate. When the Company's share of losses of an associate exceeds the Company's interest in that associate (which includes any long-term interests that, in substance, form part of the Company's net investment in the associate), the Company discontinues recognizing its share of further losses. Additional losses are recognized only to the extent that the Company has incurred legal or constructive obligations or made payments on behalf of the associate.

Any excess of the cost of acquisition over the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Company’s share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

Upon disposal of an associate that results in the Company losing significant influence over that associate, any retained investment is measured at fair value at that date and the fair value is regarded as its fair value on initial recognition as a financial asset in accordance with K-IFRS 1039. The difference between the previous carrying amount of the associate attributable to the retained interest and its fair value is included in the determination of the gain or loss on disposal of the associate. The Company reclassifies all amounts previously recognized in other comprehensive income in relation to that from equity to profit or loss.

The requirements of K-IFRS 1039 *Financial Instruments: Recognition and Measurement* are applied to determine whether it is necessary to recognize any impairment loss with respect to the Company’s investment in an associate. When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with K-IFRS 1036 *Impairment of Assets* by comparing its recoverable amount (higher of value in use and fair value, less costs to sell) with its carrying amount, any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with K-IFRS 1036 to the extent that the recoverable amount of the investment subsequently increases.

(5) Foreign currency translation

1) Functional currency and presentation currency

The Company's consolidated financial statements are presented in the currency of the primary economic environment in which it operates (its functional currency). The functional currency of the Company and the presentation currency for the consolidated financial statements of the Company is Korean won.

2) Foreign currency transaction and translation of balance

Transactions in currencies other than the Company's functional currency are recognized at the rates of exchange prevailing at the dates of the transactions. Foreign currency gain (loss) from settlements of foreign currency transactions or translation of monetary items denominated in foreign currencies is recognized in income or loss, whereas the gain (loss) from qualified cash flow hedge and net investment hedge for foreign operations is deferred as an equity item.

3) Translation of foreign operations

For the purpose of presenting the consolidated financial statements, the assets and liabilities of the Company's foreign operations, having functional currencies different from that of the Company, are translated into presentation currency of the Company using exchange rates prevailing at the end of the reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuated significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate).

Exchange differences from the net investment in the foreign operation and borrowings and other foreign currency instruments designated as hedging instrument for the net investment in the foreign operation are recognized in other comprehensive income. On the disposal of a foreign operation resulting in loss of control, all of the accumulated exchange differences in respect of that operation are reclassified to income or loss. Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate.

(6) Cash and cash equivalents

Cash and cash equivalents include cash on hand, demand deposits and short-term, highly liquid investments with maturities (or date of redemption) of three months or less upon acquisition. Bank overdraft is included in short-term borrowing account in the consolidated statements of financial position.

(7) Financial assets

1) Classification of financial assets

Financial assets are classified into the following specified categories: ‘financial assets at fair value through profit or loss (“FVTPL”),’ ‘loans and receivables,’ ‘available-for-sale (“AFS”) financial assets’ and ‘held-to-maturity investments.’ The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

a) Financial assets at FVTPL

FVTPL includes financial assets classified as held for trading and financial assets designated at FVTPL upon initial recognition. A financial asset is classified as FVTPL if it has been acquired principally for the purpose of selling or repurchasing in the near term. All derivative assets, except for derivatives that are designated and effective hedging instruments, are classified as held for trading financial assets. These categories of assets are classified as FVTPL.

b) Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Loans and receivables, which have maturities of more than 12 months from the end of the reporting period, are classified as non-current assets; otherwise, they are classified as current assets.

c) AFS financial assets

AFS financial assets are those non-derivative financial assets that are designated as AFS or are not classified as loans and receivables, held-to-maturity investments or financial assets at FVTPL. AFS financial assets are classified as non-current assets, unless management has the intention to sell them within 12 months.

d) Held-to-maturity investments

Held-to-maturity investments are non-derivative financial instruments with fixed or determinable payments and fixed maturity that the Company has the positive intention and ability to hold to maturity. Held-to-maturity investments, which have maturities of more than 12 months from the end of the reporting period, are classified as non-current assets; otherwise, they are classified as current assets.

2) Recognition and measurement of financial assets

All financial assets are recognized on trade date when the purchase or sale of a financial asset is under a contract whose terms require delivery of the financial asset within the time frame established by the market concerned and are initially measured at fair value, plus transaction costs, except for those financial assets classified as at FVTPL that are initially measured at fair value and related transaction costs are recognized in income or loss.

Financial assets at FVTPL and AFS financial assets are subsequently measured at fair value. Loans and receivables and held-to-maturity investments are measured at amortized cost using the effective interest method.

Gains or losses arising from changes in fair value of financial assets at FVTPL are recognized in other non-operating income (expense) in the consolidated statements of comprehensive income. Dividends on financial assets at FVTPL are recognized in the finance income when the Company's right to receive the dividends is established.

Other AFS financial assets are measured at fair value. Gains and losses arising from changes in fair value are recognized in other comprehensive income and accumulated in the investments revaluation reserve. Where the investment is disposed of or is determined to be impaired, the cumulative gain or loss previously accumulated in the investments revaluation reserve is reclassified to the other gains and losses line item in the consolidated statements of comprehensive income.

Interest calculated using the effective interest method is recognized in financial income or loss. Dividends on AFS equity instruments are recognized in income or loss when the Company's right to receive the dividends is established.

3) Impairment of financial assets

a) Financial assets measured at amortized cost

Financial assets, other than those at FVTPL, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that events that occurred after the initial recognition of the financial asset and the estimated future cash flows of the investment have been affected.

For financial assets carried at amortized cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate. Such impairment loss will not be reversed in the subsequent period. The Company measures impairment loss based on the fair value of financial assets from observable market data.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed and recognized in income or loss.

b) AFS financial assets

The Company assesses at the end of each reporting period whether there is any objective evidence that a financial asset or group of financial assets is impaired. For equity investments classified as AFS, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment. If there is objective evidence of impairment on AFS financial assets, the cumulative loss that has been recognized in other comprehensive income, less any impairment loss previously recognized in income or loss, is reclassified from equity to income or loss. Impairment losses recognized in income or loss for an investment in an equity instrument classified as AFS are not reversed through income or loss.

Meanwhile, if, in a subsequent period, the fair value of a debt instrument classified as AFS increases and the increase can be objectively related to an event occurring after the impairment loss was recognized in income or loss, the impairment loss is reversed through income or loss.

4) Derecognition of financial assets

The Company derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity.

5) Offsetting financial assets and financial liabilities

Financial assets and financial liabilities are offset as a net amount in the consolidated statements of financial position when the Company has a legally enforceable right to set off the recognized amounts of the assets and liabilities and intends to settle on a net basis, or to realize the assets and the liabilities simultaneously.

(8) Accounts receivable

Accounts receivable are the amounts owed by customer for products and services provided in the ordinary course of business. Receivables expected to be collected within one year are classified as current assets; otherwise, they are classified as non-current assets. Accounts receivable are initially measured at fair value and presented as net amounts after measuring allowance. An allowance is individually recognized for receivables that can be assessed individually for impairment. For financial assets that are not individually significant and have similar credit risk characteristics, impairment is recognized based on aging analysis and the Company’s past experience of accounts receivable collecting rate.

(9) The gross amounts due from (to) customers

The gross amount due from customers for contract work is the net amount of costs incurred, plus recognized profits, and the sum of recognized losses and progress billings for all contract in progress for which costs incurred, plus recognized profits, exceed progress billings. Total costs include cost to specific contract and fixed and variable common costs, which are distributed in normal operation.

Contracts in progress for which costs incurred, plus recognized profits (less recognized losses), exceed progress billings, a gross amount due from customers for contract work is recognized as an asset in the consolidated statements of financial position. Similarly, at each consolidated statement of financial position date, for all contracts in progress for which progress billings exceed costs incurred, plus recognized profits (less recognized losses), a gross amount due to customers for contract work is recognized as a liability in the consolidated statements of financial position.

(10) Inventories

Inventories are stated at the lower of cost or net realizable value. Cost of inventories includes fixed and variable manufacturing overhead costs, which are systematically allocated to inventories by appropriate methods based on each category of inventory. The cost of inventories is determined by the specific identification method for materials in transit, the moving-average method for raw materials and the gross average method for all other inventories. During the year, perpetual inventory systems are used to value inventories, which are adjusted to physical inventory counts performed at the end of the year.

The Company periodically reviews changes in net realizable value of inventories due to damage, obsolescence, decline in selling prices and others and recognizes loss on inventory valuation. Net realizable value for merchandise, finished goods and work in progress represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale and current replacement cost for raw materials.

Loss on inventory valuation is charged to cost of sales when it is ordinary and to other expense when it is extraordinary. When the circumstances that previously caused inventories to be written down below cost no longer exist and the new market value of inventories subsequently recovers, the valuation loss is reversed to the extent of the original valuation loss and the reversal is deducted from the cost of sales.

(11) Property, plant and equipment

Property, plant and equipment are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. When useful life of each part of an item of property, plant and equipment is different compared to that of the item, that part is recognized separately. The cost of an item of property, plant and equipment is directly attributable to their purchase or construction, including the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs incurred to add or replace part of previously recognized item of property, plant and equipment are added to the carrying amount of an asset or recognized as a separate asset if it is probable that future economic benefits associated with the assets will flow into the Company and the cost of an asset can be measured reliably. The carrying amount of what was replaced is derecognized. Routine maintenance and repairs are expensed as incurred.

Depreciation expense for property, plant and equipment, other than land, is computed using the straight-line method, which reflects most closely the pattern in which the asset's economic benefits are expected to be consumed by the Company over the estimated useful lives of the assets as follows:

	Estimated useful lives (years)
Buildings	20–40
Structures	10–20
Machinery	5–20
Vehicles	3–5
Tools	10
Office equipment	3–5

If a part of a property, plant and equipment has a cost that is significant in relation to the total cost of property, plant and equipment, it is depreciated separately.

The Company reviews the depreciation method, the estimated useful lives and residual values of property, plant and equipment at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate.

Upon the derecognition of a property, plant and equipment, the gain or loss arising is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item and recognized in other non-operating income (expense) line item.

(12) Intangible assets

Intangible assets are initially measured at cost and are carried at cost, less accumulated amortization and accumulated impairment losses. Subsequent expenditure on an intangible asset is capitalized only when it is probable that the expected future economic benefits that are attributable to the asset will increase.

Intangible assets other than goodwill and intangibles with indefinite useful lives are amortized using the straight-line method with no residual value, with amortization beginning when the asset is available for use.

The estimated useful lives of the assets are as follows:

	Estimated useful lives (years)
Development costs	5
Right of utilization	16
Software	5
Others	5

However, useful lives of membership and other intangible assets are determined to be indefinite as there is no foreseeable limit to the period over which the assets are expected to generate net cash inflows for the Company and they are not amortized, and tested for impairment once a year.

Capitalized development costs include expenditure on materials, salaries, wages and other employment-related costs of personnel directly engaged in generating assets and related overhead cost, which is systematically allocated. Capitalized development costs are presented at the acquisition cost, less accumulated amortization and accumulated impairment losses. Capitalized development costs are amortized using the straight-line method over the estimated useful life, and amortization expenses are included in cost of goods manufactured and amortization in selling, general and administrative expenses. The expenditure on research and development, which does not meet the conditions noted above, is recognized as an expense when it is incurred.

The estimated useful life and amortization method for intangible assets with finite useful lives are reviewed at the end of each reporting period; for the assets that have been assessed as having indefinite useful life, the assessment is revisited each period, with the effect of any changes in estimate being accounted for on a prospective basis.

(13) Investment property

Investment properties are properties held to earn rentals and/or capital appreciation. Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, the book value of investment property is presented at the cost, less accumulated depreciation and accumulated impairment.

While land is not depreciated, all other investment property is depreciated using the straight-line method over 20 years.

The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

(14) Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale. All other borrowing costs are recognized in income or loss in the period in which they are incurred.

(15) Impairment of non-financial assets, except for goodwill

At the end of each reporting period, the Company reviews the carrying amounts of its tangible and intangible assets, except for goodwill, to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs. Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired.

If the recoverable amount of an asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or the cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognized immediately in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or a cash-generating unit) is increased to the revised estimate of its recoverable amount, but the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the cash-generating unit) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

(16) Borrowings

Borrowings are measured at fair value, net of transaction costs, and subsequently measured at amortized cost using the effective interest method, with interest expense being recognized on an effective yield basis. The difference between the amount received and the redemption amount is amortized using the effective interest method and recognized in income or loss. Borrowings are classified as non-current liabilities when the Company has an unconditional right to defer settlement of the liability for at least 12 months after the end of the reporting period. Otherwise, borrowings are classified as current liabilities.

(17) Financial guarantee contract liabilities

The Company measures payments required to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument and recognizes financial liability.

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of the obligation under the contract, as determined in accordance with K-IFRS 1037 – *Provisions, Contingent Liabilities and Contingent Assets* and
- the amount initially recognized, less cumulative amortization recognized in accordance with the K-IFRS 1018 *Revenue*

(18) Retirement benefit obligation

The Company operates a defined benefit pension plan. For defined benefit retirement benefit plans, the cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. Present value of the defined benefit obligation is calculated by discounting estimated future cash outflows by market yields on high-quality corporate bonds (public debt or national) with maturity period.

Actuarial gain or loss from changes in actuarial assumptions or differences between actuarial assumptions and actual results is recognized in other comprehensive income in the consolidated statements of comprehensive income, which is immediately recognized as retained earnings. Actuarial gains and losses recognized in other comprehensive income are not reclassified to profit or loss, but are immediately recognized in retained earnings. Past service cost is recognized immediately to the extent that the benefits are already vested if not vested, the cost is amortized on a straight-line basis over the average period until the benefits become vested.

The present value of the defined benefit obligation is denominated in the same currency in which the benefits are expected to be paid and is calculated at the discount rate, which is the yield at the reporting date on high-quality corporate bonds that have maturity dates approximating the terms of the Company’s obligation.

(19) Provisions

Provisions are recognized when the Company has a present obligation (legal or constructive) as a result of a past event, it is probable that the Company will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. A provision is measured using the present value of the cash flows estimated to settle the present obligation when the effect of the time value of money is material. At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. The increase in provision due to passage of time is recognized as interest expense. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period. When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably. In the consolidated statements of income, a net amount is presented, which is the anticipated cost of the obligation, less the reimbursement.

(20) Derivative financial instruments

Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in such case the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

A derivative with a positive fair value is recognized as a financial asset; and a derivative with a negative fair value is recognized as a financial liability. A derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the instrument is more than 12 months and it is not expected to be realized or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

1) Hedge accounting

The Company designates certain derivatives as either hedges of recognized assets or liabilities or firm commitments (fair value hedges), hedges of highly probable forecast transactions or hedges of foreign currency risk of firm commitments (cash flow hedges). At the inception of the hedge relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Company documents whether the hedging instrument is highly effective in offsetting changes in the fair values or cash flows of the hedged item.

a) Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in income or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk.

Hedge accounting is discontinued when the Company revokes the hedging relationship, when the hedging instrument expires or is sold, terminated or exercised; or it no longer qualifies for hedge accounting. Any gain or loss accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

b) Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the 'other gains and losses' line item.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item is recognized in profit or loss, in the same line of the consolidated statement of income as the recognized hedged item.

Hedge accounting is discontinued when the Company revokes the hedging relationship; when the hedging instrument expires or is sold, terminated or exercised; or it no longer qualifies for hedge accounting. Any gain or loss accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

2) Other derivatives

Derivatives, except for those designated and qualify as effective hedging instruments, are measured at fair values and the changes in fair values are recognized in income or loss.

(21) Dividend

Dividend payable is recognized as liability when declaration of the dividend is approved at the stockholders' meeting.

(22) Share-based payment arrangement

The Company recognizes share options granted to employees at the fair value at the grant date. The fair value determined at the grant date of the share option is expensed on a straight-line basis over the vesting period. The Company determines fair value of share option using the Black-Scholes model.

(23) Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable for the sale of goods and rendering of services arising in the course of the ordinary activities of the Company. Revenue is reduced for value-added tax, estimated customer returns, rebates and trade discounts and is presented after eliminating intercompany transactions. The Company recognizes revenue when the amount of revenue can be measured reliably and it is probable that the economic benefits associated with the transaction will flow to the Company and when transaction meets the revenue recognition criteria specified by activity.

1) Sale of goods

Revenue from the sale of goods is recognized when the Company has transferred to the buyer the significant risks and rewards of ownership of the goods. Revenue is recognized on initial delivery of the goods, net of expected discounts and returns estimated based on historical data. The Company estimates and recognizes provision for warranty and sales return arising from sale of goods.

2) Rendering of service

Where the outcome of a construction contract can be estimated reliably, revenue and costs are recognized by reference to the stage of completion of the contract activity at the end of the reporting period.

The reliable method to measure the value of the services performed is determined based on the nature of transaction. The process involved in the execution of the task is studied to understand the percentage of completeness and measure the progress by calculating the ratio of accumulated costs incurred to the total estimated costs.

3) Other revenue

Dividend income from investments is recognized when the stockholders' right to receive payment has been established.

Interest income is accrued on a timely basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

Rental income from investment properties is recognized on a straight-line basis over the term of the lease.

(24) Income tax and deferred tax

Income tax expense is composed of current and deferred tax. Current and deferred taxes are recognized in income or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case the current and deferred taxes are also recognized in other comprehensive income or directly in equity.

Income tax expense is sum of tax regarding to the Corporate Tax Act and tax added to the income tax. It contains additional payment or refund incurred by past year. Current income tax liability is calculated by using a tax rate, which is established or substantially established until the end of financial statement date.

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax assets and liabilities are not recognized if the temporary difference arises from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable income nor the accounting income.

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

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates and interests in joint ventures, except where the Company is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which the benefits of the temporary differences can be utilized and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable income will be available to allow all or part of the asset to be recovered.

(25) Non-current assets held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their previous carrying amount and fair value, less costs to sell.

(26) Segment information

Sales department has been given a briefing paper to be reported to the management of the Company. The Company's management is responsible for evaluating the achievement of the sales department and the resources that are allocated to the sales department.

(27) Approval of financial statements

The consolidated financial statements as of and for the year ended December 31, 2012, were approved by the board of directors on March 7, 2013.

3. CRITICAL JUDGMENTS IN APPLYING ACCOUNTING POLICIES:

In the application of the Company's accounting policies, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from those estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period. The revisions are recognized in the period of the revision and future periods if the revision affects both current and future periods.

(1) Revenue recognition

Revenue from service or construction projects is recognized based on percentage-of-completion method. It needs to estimate a rate which can measure the service provided by the Company and can be critically changed by relevant factors.

(2) Provision for construction losses

The Company provides warranty for product at the time of related revenue recognition (at the time of sale). Provisions for the expected cost of warranty obligations are recognized at the best estimate of the expenditure required to settle the Company's current and future obligations. These estimates could be changed in the future period by additional provision under local legislation and practice.

(3) Defined benefit obligation

The Company operates a defined benefit pension plan, which is funded by the Company and managed by insurance companies and trustees based on actuarial calculations periodically performed. The assumptions about the method are based on discount rate, expected rate of salary increase and expected rate of return on plan assets.

(4) Measurement of carrying amount

Determining whether non-financial asset, such as investment affiliates, is impaired requires an estimation of the value in use of individual asset units or the cash-generating units. The value-in-use calculation requires the directors to estimate the future cash flows expected to arise from the cash-generating unit and a suitable discount rate in order to calculate the present value.

(5) Deferred tax

Recognition and measurement of deferred tax assets and liabilities require the management's judgment, in particular, whether to recognize if the scope of deferred tax assets is affected by management's judgment and assumption in the future.

4. <u>FINANCIAL RISK MANAGEMENT:</u>

The Company is exposed to various financial risks, such as market, credit and liquidity. The purpose of financial risk management of the Company is to enhance efficiency of financial management and improve the financial structure to create a stable and continuous management performance.

Financial risk management activities, such as identification, evaluation and hedge, are mostly performed by treasury department under close cooperation of the relevant department. The Company focuses on minimizing the effect of financial risk through regular monitoring.

(1) Market risk

1) Foreign exchange risk

The Company is exposed to foreign currency risk since it makes transactions in foreign currencies. The Company's goal about foreign exchange risk control is to minimize uncertainty and income/loss volatility by exchange fluctuations. Foreign exchange risk control is managed by the Company's policy on foreign exchange risk management. Foreign exchange management of speculative purpose is strictly prohibited.

The Company reduces exposure to foreign currency risk by matching the inflow and the outflow of foreign currencies (natural hedge) and manages foreign currency risk by using currency derivatives, such as currency forwards, for the remaining exposure
The book value of the Company's monetary assets and liabilities denominated in foreign currencies, which represents the maximum exposure to foreign currency risk, as of December 31, 2012 and 2011, is as follows (in thousands of Korean won):

	December 31, 2012				
	USD	EUR	CNY	Others (*)	Total
Assets	₩59,098,464	₩130,227	₩1,933,389	₩69,683	₩61,231,763
Liabilities	(136,346,001)	(21,637,843)	(12,888,861)	(7,872,808)	(178,745,513)
Net assets (liabilities)	(₩77,247,537)	(₩21,507,616)	(₩10,955,472)	(₩7,803,125)	(₩117,513,750)

	December 31, 2011				
	USD	EUR	CNY	Others (*)	Total
Assets	₩195,507,250	₩62,002	₩5,611,406	₩79,255	₩201,259,913
Liabilities	(212,541,340)	(22,023,549)	(8,534,871)	(37,224,585)	(280,324,345)
Net assets (liabilities)	(₩17,034,090)	(₩21,961,547)	(₩2,923,465)	(₩37,145,330)	(₩79,064,432)

(*) Others are assets and liabilities denominated in foreign currencies other than USD, EUR and CNY.

Net foreign currency translation gain/loss for the nine months ended December 31, 2012 and 2011, is ₩9,497,029 thousand and (-)₩1,990,533 thousand, respectively.

A sensitivity analysis on the Company's income before tax for the period, assuming a 10% increase and decrease in currency exchange rates, as of December 31, 2012 and 2011, is as follows (in thousands of Korean won):

	December 31, 2012		December 31, 2011	
	10% Increase in KRW against foreign currency	10% Decrease in KRW against foreign currency	10% Increase in KRW against foreign currency	10% Decrease in KRW against foreign currency
Income before tax impact	(₩11,751,375)	₩11,751,375	(₩7,906,443)	₩7,906,443

The sensitivity analysis above is based on monetary assets and liabilities denominated in foreign currencies other than functional currency as of December 31, 2012 and 2011.

2) 2) Interest rate risk

The Company's interest rate risk is related to borrowings and bank deposits with floating interest rates, and related interest income and expense are exposed to interest rate risk. The Company is exposed to interest rate risk mainly due to its borrowing with floating interest rates. Borrowings and bank deposits with fixed interest rates do not have influence on net income and equity by the changes in market interest rates. The purpose of interest rate risk management is to minimize uncertainty and financial cost by interest rate volatility,

To manage its interest rate risk, the Company minimizes external borrowings using internal funds and reduces borrowings with high interest rates, and maintains the appropriate balance between borrowings with floating interest rate and fixed interest rate and short-term and long-term borrowings. The Company manages its interest rate risk through regular monitoring and adjustments to the changing domestic and overseas market conditions and nature of its interest rates.
The book value of the Company's financial assets and liabilities with floating interest rates exposed to interest rate risk as of December 31, 2012 and 2011, is as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Financial assets	₩ 31,977,271	₩ 55,661,446
Financial liabilities	(173,070,000)	(172,995,000)
Net assets (liabilities)	(₩ 141,092,729)	(₩ 117,333,554)

A sensitivity analysis on the Company's income before tax assuming a 1% increase and decrease in interest rates as of December 31, 2012 and 2011, is as follows (in thousands of Korean won):

	December 31, 2012		December 31, 2011	
	1% increase	1% decrease	1% increase	1% decrease
Income before tax impact	(₩1,410,927)	₩1,410,927	(₩1,173,336)	₩1,173,336

3) Price risk

The Company is exposed to equity price risks arising from its listed equity investments among AFS equity investments. The Company periodically measures the risk that the fair value or future cash flows of equity investments may fluctuate due to the changes in market prices. Important investments in the Company's portfolio are individually managed and acquisition and disposal are approved by the management of the Company.

(2) Credit risk

As one of the parties may fail to perform the duty the Company is exposed to credit risk, which may inflict financial losses to the other party. Credit risk primarily affects account receivables and other receivables for customers, as well as AFS investments, deposits, financial derivatives and payment guarantees. The Company transacts with customers that are above an acceptable level in order to manage credit risk and operates policy and procedure to reinforce financial assets.

When the Company enters into contracts with new customers, it will be provided with security or payment guarantees based on open financial information and information provided by credit-rating agencies.

Also, the Company reassesses the credit rating of customers periodically, reconsiders maximum credit limit and readjusts security level. The Company reports the delinquent account receivable situation and proper measures about financial assets that delayed collection.

The maximum exposure amount of credit risk of financial assets as of December 31, 2012 and 2011, is as follows (in thousands of Korean won):

		December 31, 2012	December 31, 2011
Loans and receivables	Cash and cash equivalents	₩94,835,220	₩325,415,227
	Financial instruments	172,125,610	151,269,739
	Accounts and other receivables	86,226,940	150,287,347
	Loans	6,283,871	8,499,270
	Long-term other receivables	14,958,734	8,131,176
Held-to-maturity investments		7,000,000	-
Derivative assets		50,492,692	11,905,612
	Total	₩431,923,067	₩655,508,371

Meanwhile, the Company's guarantee amount is equal to contingent liabilities (see Note 32), which is the maximum amount for claiming a warranty by a financial guarantee contract, except financial assets.

Aging analysis of the Company's receivables as of December 31, 2012 and 2011, is as follows (in thousands of Korean won):

	December 31, 2012						
	Individually impaired receivables	Receivables assessed for impairment on a collective basis					
		Within due	0–3 months	3–6 months	6–12 months	More than 12 months	Total
Accounts receivable	₩ -	₩58,490,815	₩16,989,814	₩4,720,012	₩395,915	₩5,939,295	₩86,535,851
Other receivable	-	2,336,192	-	-	-	-	2,336,192
Accrued income	-	1,417,046	-	-	-	-	1,417,046
Long-term accounts Receivable	-	4,460,205	-	-	-	-	4,460,205
Total	₩ -	₩66,704,258	₩16,989,814	₩4,720,012	₩395,915	₩5,939,295	₩94,749,294

	December 31, 2011						
	Individually impaired receivables	Receivables assessed for impairment on a collective basis					
		Within due	0–3 months	3–6 months	6–12 months	More than 12 months	Total
Accounts receivable	₩ -	₩105,700,111	₩22,281,776	₩153,125	₩6,057,820	₩242,534	₩134,435,366
Other receivable	-	17,370,184	-	-	-	-	17,370,184
Accrued income	-	2,478,837	-	-	-	-	2,478,837
Total	₩ -	₩125,549,132	₩22,281,776	₩153,125	₩6,057,820	₩242,534	₩154,284,387

An allowance account is recognized by applying appropriate allowance rate for receivables that can be assessed to be impaired individually due to insolvency, bankruptcy and others. Group of financial assets that are not individually significant and have similar credit risk characteristics are assessed for impairment on a collective basis. An allowance account is recognized based on aging analysis and the Company's past experience of receivables collection.

Other receivables AFS, held-to-maturity financial assets, deposit in financial institution and derivative instruments are individually assessed for impairment.

(3) Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting its financial liability obligations related to the financing for its operation.

The Company forecasts cash flows from operating, investing and financing activities through a cash flow budget regularly. This secures and retains a necessary liquidity scale in advance. Also, this manages a possible liquidity risk for the future.

The Company's major non-derivative liabilities as of December 31, 2012 and 2011, are matured as follows (in thousands of Korean won):

		December 31, 2012				
		Nominal cash flows according to contract (*)				
	Book value	Total	Less than 1 year	1–2 years	2–5 years	More than 5 years
Financial liability	₩490,791,759	₩491,330,269	₩272,912,978	₩66,870,371	₩151,546,920	₩-
Interest expense	-	33,937,361	10,346,527	8,436,830	15,154,003	-
Total	₩490,791,759	₩525,267,630	₩283,259,505	₩75,307,201	₩166,700,923	₩-

		December 31, 2011				
		Nominal cash flows according to contract (*)				
	Book value	Total	Less than 1 year	1–2 years	2–5 years	More than 5 years
Financial liability	₩589,781,649	₩589,836,104	₩443,617,258	₩73,172,746	₩73,046,100	₩-
Interest expense	-	15,764,905	10,335,710	3,517,294	1,911,901	-
Total	₩589,781,649	₩605,601,009	₩453,952,968	₩76,690,040	₩74,958,001	₩-

(*) Maturity analysis above is based on undiscounted cash flows per the contracts, which differs from the financial liability recognized in the consolidated statements of financial position. The above amount also includes guarantee amounts (see Note 32).

(4) Capital risk

The Company performs capital risk management to maintain its ability to continuously provide income to shareholders and parties in interest and to maintain optimum capital structure to reduce capital expenses.

Debt-to-equity ratio, calculated as total liabilities divided by equity, is used as an index to manage the Company's capital similar to overall industry practice.

Debt-to-equity ratios at the end of the reporting date are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Debt	₩ 1,038,431,336	₩ 1,476,134,215
Equity	747,771,453	573,683,732
Debt-to-equity ratio	138.87%	257.31%

5. RESTRICTED DEPOSITS:

Details of restricted deposits as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Account	December 31 2012	December 31 2011	Remarks
Long-term financial instruments	₩ 5,500	₩ 5,500	Guarantee deposits for checking account
	-	4,284,693	Pledged as collateral for note
	1,760,226	-	Employee stock ownership loan secured by deposits
Total	₩ 1,765,726	₩ 4,290,193	

6. ACCOUNTS AND OTHER RECEIVABLES:

(1) Accounts and other receivables as of December 31, 2012 and 2011, consist of the following (in thousands of Korean won):

	December 31, 2012			December 31, 2011		
	Gross	Allowance for doubtful accounts	Carrying value	Gross	Allowance for doubtful accounts	Carrying value
CURRENT						
Trade receivables	₩86,535,851	(₩4,125,329)	₩82,410,522	₩134,435,366	(₩4,060,220)	₩130,375,146
Other receivables	2,336,192	-	2,336,192	17,370,184	-	17,370,184
Accrued income	1,417,046	-	1,417,046	2,478,837	-	2,478,837
Guarantee deposits	63,180	-	63,180	63,180	-	63,180
Subtotal	90,352,269	(4,125,329)	86,226,940	154,347,567	(4,060,220)	150,287,347
NON-CURRENT						
Other receivables	4,234,765	-	4,234,765	-	-	-
Guarantee deposits	10,723,969	-	10,723,969	8,131,176	-	8,131,176
Subtotal	14,958,734	-	14,958,734	8,131,176	-	8,131,176
Total	₩ 105,311,003	(₩ 4,125,329)	₩ 101,185,674	₩ 162,478,743	(₩4,060,220)	₩ 158,418,523

(2) The changes in allowance for doubtful accounts are as follows (in thousands of Korean won):

	2012			
	January 1, 2012	Increase	Reversal	December 31, 2012
Trade receivables	(₩ 4,060,220)	(₩65,109)	₩ -	(₩ 4,125,329)

Receivables past due are assessed as impaired. An allowance account is individually recognized for receivables that can be assessed individually for impairment. An allowance account is recognized based on aging analysis and the Company's past experience of receivables collection of financial assets that are not individually significant and have similar credit risk characteristics.

Bad debt expense from trade receivables is included in selling, general and administrative expenses, and bad debt expense from other receivables is included in other non-operating expense.

7. INVENTORIES:

Details of inventory valuation securities as of December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won):

	December 31, 2012			December 31, 2011		
	Acquisition cost	Valuation allowance	Book value	Acquisition cost	Valuation allowance	Book value
Work in progress	₩ 97,705,353	(₩ 28,642,954)	₩ 69,062,399	₩ 238,024,433	(₩ 34,901,030)	₩ 203,123,403
Raw materials	125,795,392	(4,494,921)	121,300,471	38,319,011	(3,188,369)	35,130,642
Materials in transit	14,712,720	-	14,712,720	9,187,990	-	9,187,990
Total	₩ 238,213,465	(₩ 33,137,875)	₩ 205,075,590	₩ 285,531,434	(₩ 38,089,399)	₩ 247,442,035

The Company recorded loss on inventory valuation totaling (-)₩4,951,524 thousand and ₩26,846,273 thousand for the years ended December 31, 2012 and 2011, respectively.

8. LONG-TERM INVESTMENT SECURITIES:

(1) Long-term investments as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
AFS financial assets	₩ 922,117	₩ 72,047
Held-to-maturity financial assets	7,000,000	-
Total	₩ 7,922,117	₩ 72,047

(2) AFS securities as of December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Non-marketable securities:		
Korea Marine Equipment Association	₩ 20,000	₩ 20,000
Electronic Contractors' Financial Cooperative	52,047	52,047
Equity securities:		
Casco	850,070	-
Total	₩ 922,117	₩ 72,047

Equity securities of Casco are transferred to AFS financial assets from securities of an associate for the year ended December 31, 2012 (see Note 11-(1)).

(3) Long-term held-to-maturity financial assets as of December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won)

	December 31, 2012	December 31, 2011
Subordinated beneficiary certificate	₩ 7,000,000	₩ -

9. DERIVATIVES:

(1) Details of the derivatives and risk aversion accounting are as follows:

Purpose	Derivative instruments	Contract description
Risk aversion of fair value	Foreign currency forwards	When receiving the foreign receivables, determined foreign payables to fix the value of Korean won at maturity about exposed fluctuation risk of exchange rate
	Foreign exchange fluctuation insurance	When receiving the foreign receivables, it fixes the value of Korean won at maturity about exposed fluctuation risk of exchange rate
	Long-term foreign currency borrowings	When receiving the foreign receivables, it fixes the value of Korean won at maturity about exposed fluctuation risk of exchange rate
Cash flow hedge	Interest rate swap	A contract to receive floating rate indexed to London InterBank Offered Rate (“LIBOR”) in foreign currency and pay fixed interest in foreign currency at the date of payment to avoid risk of increasing LIBOR

(2) Details of gain and loss on valuation of derivatives as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012							
	Purchase		Sale		Assets	Gains	Other comprehensive	Firm
	Currency	Amount	Currency	Amount	(liabilities)	(losses)	income (*)	commitment
Foreign currency forwards	KRW	1,069,515,570	USD	939,422,616	₩ 50,040,614	₩ 62,790,797	₩ -	(₩2,543,792)
	KRW	4,892,393	EUR	3,224,000	250,241	250,241		(250,241)
	EUR	69,956,000	KRW	106,093,746	(5,225,493)	(4,293,414)	-	7,094,361
	CHF	2,034,000	KRW	2,501,533	(65,084)	(65,084)		64,316
	CNY	32,462,930	USD	5,100,000	49,366	118,081	-	-
Borrowings in foreign currency	KRW	125,272,463	USD	120,000,000	-	-	-	4,235,005
Total					₩ 45,049,644	₩ 58,800,621	₩ -	₩ 8,599,649

	December 31, 2011							
	Purchase		Sale		Assets	Gains	Other comprehensive	Firm
	Currency	Amount	Currency	Amount	(liabilities)	(losses)	income (*)	commitment
Foreign currency forwards	KRW	1,772,628,682	USD	1,553,979,950	(₩35,606,043)	(₩43,758,615)	₩-	₩112,514,081
	EUR	109,671,000	KRW	169,925,153	(3,090,172)	(3,090,172)	-	3,090,172
	CNY	46,926,481	USD	7,380,000	(28,217)	55,835	-	-
Foreign exchange fluctuation insurance	KRW	2,385,342	USD	2,033,000	25,217	(22,924)	-	(25,217)
Borrowings in foreign currency	KRW	192,184,282	USD	180,000,000	-	-	-	14,152,603
Interest rate swap					(440,359)	-	(440,359)	-
Total					(₩39,139,574)	(₩46,815,876)	(₩440,359)	₩129,731,639

(*) Other comprehensive income is not reflected in corporate tax effect.

Derivative instruments classified as financial assets (liabilities) at FVTPL are classified as current assets or current liabilities. Derivatives that are designated as hedging instruments are classified as non-current assets (liabilities) when their maturities are more than 12 months from the end of the reporting period. Otherwise, they are classified as current assets (liabilities). On the other hand, if cash flow hedge is applied, risk aversion that recognizes the profits and losses for the current term is not ineffective.

10. FINANCIAL INSTRUMENTS:

(1) Categories of financial instruments as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012						
	Financial assets at FVTPL	Loans and receivables	AFS financial assets	Held-to-maturity investments	Derivatives designated as hedging instruments	Book value	Fair value
Cash and cash equivalents	₩-	₩94,835,220	₩-	₩-	₩-	₩94,835,220	₩94,835,220
Long and short-term financial instruments	-	172,125,610	-	-	-	172,125,610	172,125,610
Trade and other receivables	-	86,226,940	-	-	-	86,226,940	86,226,940
Derivative assets	49,365	-	-	-	50,443,327	50,492,692	50,492,692
Long and short-term loans	-	6,283,871	-	-	-	6,283,871	6,283,871
Long-term investment securities	-	-	922,117	7,000,000	-	7,922,117	7,922,117
Long-term other receivables	-	14,958,734	-	-	-	14,958,734	14,958,734
Total	₩49,365	₩374,430,375	₩922,117	₩7,000,000	₩50,443,327	₩432,845,184	₩432,845,184

	December 31, 2012				
	Financial liabilities at FVTPL	Financial liabilities at amortized cost	Derivatives designated as hedging instruments	Book value	Fair value
Trade and other payables	₩-	₩177,291,529	₩-	₩177,291,529	₩177,291,529
Borrowings and bonds	-	312,246,177	-	312,246,177	312,246,177
Derivative liabilities	-	-	5,443,049	5,443,049	5,443,049
Long-term non-trade payables	-	1,254,054	-	1,254,054	1,254,054
Financial guarantee liabilities	-	4,121,160	-	4,121,160	4,121,160
Total	₩-	₩494,912,920	₩5,443,049	₩500,355,969	₩500,355,969

	December 31, 2011						
	Financial assets at FVTPL	Loans and receivables	AFS financial assets	Held-to-matu rity investments	Derivatives designated as hedging instruments	Book value	Fair value
Cash and cash equivalents	₩-	₩325,415,227	₩-	₩-	₩-	₩325,415,227	₩325,415,227
Long and short-term financial instruments	-	151,269,739	-	-	-	151,269,739	151,269,739
Trade and other receivables	-	150,287,347	-	-	-	150,287,347	150,287,347
Derivative assets	-	-	-	-	11,905,612	11,905,612	11,905,612
Long and short-term loans	-	8,499,270	-	-	-	8,499,270	8,499,270
Long-term investment securities	-	-	72,047	-	-	72,047	72,047
Long-term other receivables	-	8,131,176	-	-	-	8,131,176	8,131,176
Total	₩-	₩643,602,759	₩72,047	₩-	₩11,905,612	₩655,580,418	₩655,580,418

	December 31, 2011				
	Financial liabilities at FVTPL	Financial liabilities at amortized cost	Derivatives designated as hedging instruments	Book value	Fair value
Trade and other payables	₩-	₩268,406,344	₩-	₩268,406,344	₩268,406,344
Borrowings and bonds	-	318,829,230	-	318,829,230	318,829,230
Derivative liabilities	28,217	-	51,016,969	51,045,186	51,045,186
Long-term non-trade payables	-	2,546,075	-	2,546,075	2,546,075
Financial guarantee liabilities	-	349,001	-	349,001	349,001
Total	₩28,217	₩590,130,650	₩51,016,969	₩641,175,836	₩641,175,836

(2) Fair value measurements of financial instruments by fair value hierarchy levels as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012			
Type	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at FVTPL	₩-	₩49,365	₩-	₩49,365
Derivatives designated as hedging instruments	-	50,443,327	-	50,443,327
Long-term investment securities	-	-	850,070	850,070
Total	₩-	₩50,492,692	₩850,070	₩51,342,762
Financial liabilities:				
Derivatives designated as hedging instruments	₩-	(₩5,443,049)	₩-	(₩5,443,049)
Total	₩-	(₩5,443,049)	₩-	(₩5,443,049)

	December 31, 2011			
Type	Level 1	Level 2	Level 3	Total
Financial assets:				
Derivatives designated as hedging instruments	₩-	₩11,905,612	₩-	₩11,905,612
Total	₩-	₩11,905,612	₩-	₩11,905,612
Financial liabilities:				
Financial liabilities at FVTPL	₩-	(₩28,217)	₩-	(₩28,217)
Derivatives designated as hedging instruments	-	(51,016,969)	-	(51,016,969)
Total	₩-	(₩51,045,186)	₩-	(₩51,045,186)

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities.
Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly.
Level 3: Inputs that are not based on observable market data (unobservable inputs).

The fair value of financial instruments traded in active markets is based on quoted market prices at the dates of the consolidated statements of financial position. These instruments are included in Level 1. Instruments included in Level 1 comprise primarily listed equity investments classified as trading securities or AFS.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques.

These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity-specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3.

As for trade and other receivables, the book value approximates a reasonable estimate of fair value.

(3) Profit and loss by categories of financial instruments as of December 31, 2012 and 2011, are as follows (in thousands of Korean won)

	Profit and loss as of December 31, 2012							Other comprehensive income (*)
	Interest	Dividend	Valuation	Impairment	Disposal	Foreign exchange	Others	
Financial asset at FVTPL	₩-	₩-	₩139,020	₩-	₩35,088	₩-	₩-	₩-
Loans and receivables	12,849,009	-	-	(65,109)	-	(6,417,956)	-	-
AFS financial assets	-	-	-	-	-	-	-	-
Held-to-maturity investments	538,726	-	-	-	-	-	-	-
Derivatives designated as hedging instruments	-	-	46,349,343	-	1,840,090	-	-	-
Total	13,387,735	-	46,488,363	(65,109)	1,875,178	(6,417,956)	-	-
Financial liabilities at FVTPL	-	-	(20,939)	-	(738)	-	-	-
Financial liabilities at amortized cost	(9,915,700)	-	-	-	-	13,777,685	384,463	-
Derivatives designated as hedging instruments	-	-	12,333,197	-	(389,453)	-	-	440,359
Total	(₩9,915,700)	₩-	₩12,312,258	₩-	(₩390,191)	₩13,777,685	₩384,463	₩440,359

(*) Other comprehensive income does not reflect corporate tax effect.

	Profit and loss as of December 31, 2011							Other comprehensive income (*)
	Interest	Dividend	Valuation	Impairment	Disposal	Foreign exchange	Others	
Financial asset at FVTPL	₩-	₩-	₩-	₩-	₩-	₩-	₩-	₩-
Loans and receivables	20,289,470	-	-	1,084,487	-	(1,694,800)	-	-
AFS financial assets	-	700	-	-	-	-	-	-
Held-to-maturity investments	-	-	-	-	-	-	-	-
Derivatives designated as hedging instruments	-	-	(3,321,559)	-	(582,998)	-	-	-
Total	20,289,470	700	(3,321,559)	1,084,487	(582,998)	(1,694,800)	-	-
Financial liabilities at FVTPL	₩-	₩-	₩55,835	₩-	₩46,147	₩-	₩-	₩-
Financial liabilities at amortized cost	(14,624,878)	-	-	-	-	(1,718,366)	3,400,911	-
Derivatives designated as hedging instruments	-	-	(43,550,151)	-	1,099,908	-	-	2,297,081
Total	(₩14,624,878)	₩-	(₩43,494,316)	₩-	₩1,146,055	(₩1,718,366)	₩3,400,911	₩2,297,081

(*) Other comprehensive profit or loss does not reflect corporate tax effect.

11. INVESTMENTS IN ASSOCIATES:

(1) Investments in associates as of December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won):

Company	Country	Percentage of ownership (%)	Acquisition cost December 31, 2012	Acquisition cost December 31, 2011	Book value December 31, 2012	Book value December 31, 2011	Proportionate share of net assets December 31, 2012	Proportionate share of net assets December 31, 2011
Dalian Samyoung Doosan Metal Product Co., Ltd. (*1)	China	10.80	₩ 2,675,402	₩ 2,675,402	₩3,433,805	₩3,977,571	₩3,433,805	₩3,977,571
Casco (*2)	Korea	-	-	4,010,160	-	1,246,569	-	1,246,569
Doosan Infracore International, Inc. (*3,4)	America	11.59	355,596,311	355,596,311	256,127,127	172,690,480	250,412,630	166,975,983
Doosan Holdings Europe Ltd. (*3)	Island	21.73	382,594,143	382,594,143	190,891,819	152,324,488	190,891,819	152,324,488
Total			₩740,865,856	₩744,876,016	₩450,452,751	₩330,239,108	₩444,738,254	₩324,524,611

(*1) Although the Company's ownership in each of these companies is less than 20%, the Company has significant influence over these companies through participation in various management decisions of these companies. As a result, the Company accounts for these investments using the equity method.

(*2) The Company's ratio of shareholding decreased to less than 10% and the Company loses its significant influence over an investee as a result of not participating in unequal paid-in capital increase. Therefore, the Company reclassifies securities of associate to AFS.

(*3) Investees have agreement with Doosan Infracore ("DI"), related party of the Company, about appointment of representative director, etc., and the Company recognizes DII and DHEL as a single cash-generating unit for impairment tests of securities of associate.

(*4)The Company includes differential investment for which book value is ₩5,714,496 thousand for investments in associates (DII).

The Company does not have securities of subsidiaries and associates with posted market price.

(2) Changes in investments in associates for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	Year ended December 31, 2012					
Company	January 1, 2012	Acquisition (disposal)	Share of profit (loss)	Increase (decrease) in equity of associates	Other (*1)	December 31, 2012
DSDMP(*1)	₩3,977,571	₩-	(₩779,422)	₩235,656	₩-	₩3,433,805
Casco(*2)	1,246,569	(850,070)	(268,455)	(128,044)	-	-
DII(*3)	172,690,480	-	93,875,912	(14,805,450)	4,366,185	256,127,127
DHEL(*3)	152,324,488	-	43,396,822	(4,047,165)	(782,326)	190,891,819
Total	₩330,239,108	(₩850,070)	₩136,224,857	(₩18,745,003)	₩3,583,859	₩450,452,751

(*1) Equity fluctuation differential by unequal paid-in capital increase, (-)₩202,106 thousand, is recognized as loss for the term (share of loss).

(*2) Difference between book value and fair value, ₩109,264 thousand, is recognized as profit for the current year (share of profit), regarding to be reclassified to AFS financial asset.

(*3) By an advance commitment, equity fluctuation differential with conversion to common stocks by DI from preferred stocks held by financial investors (the lender) is recognized as profit for the term (share of profit).

Calculating table of equity fluctuation differential is as follows (in thousands of Korean won)

Descriptions	DII	DHEL
1.Ratio of shareholding before conversion to common stock	13.22%	27.69%
2.Net asset value before conversion to common stock	₩ 1,594,054,279	₩ 412,183,764
3.Ratio of shareholding after conversion to common stock	11.59%	21.73%
4.Net asset value after conversion to common stock	₩2,013,182,359	₩860,815,684
5.Realization of increase (decrease) in equity of associates	(₩1,591,744)	(₩2,507,253)
6.Equity fluctuation differential[(3*4)-(1*2)+5]	₩ 20,911,944	₩ 70,423,369

	Year ended December 31, 2011					
Company	January 1, 2011	Acquisition (disposal)	Share of profit (loss)	Increase (decrease) in equity of associates	Other (*1)	December 31, 2011
DSDMP	₩3,582,623	₩-	₩143,559	₩251,389	₩-	₩3,977,571
Casco	2,763,668	-	(1,141,747)	(375,352)	-	1,246,569
DII (*1)	158,641,749	-	20,071,273	8,589,604	(14,612,146)	172,690,480
DHEL	153,379,271	-	(7,181,153)	6,657,088	(530,718)	152,324,488
Total	₩318,367,311	₩-	₩11,891,932	₩ 15,122,729	(₩ 15,142,864)	₩330,239,108

(*1) Equity fluctuation differential by unequal paid-in capital increase, ₩8,863,207 thousand, is recognized as profit for the term (share of profit).

(3) The condensed financial information of the investees as of and for the years ended December 31, 2012 and 2011, is as follows (in thousands of Korean won):

	As of and for the year ended December 31, 2012				As of and for the year ended December 31, 2011			
Company	Assets	Liabilities	Sales	Net income (loss)	Assets	Liabilities	Sales	Net income (loss)
DSDMP	₩55,815,312	₩24,020,819	₩23,850,591	(₩5,344,716)	₩61,281,273	₩34,764,130	₩34,275,337	₩52,166
DII	4,006,142,377	1,845,201,021	2,635,472,697	574,814,592	3,737,072,137	2,028,695,554	2,170,782,865	40,217,907
DHEL	2,749,621,830	1,871,117,296	1,618,851,336	(95,985,162)	3,076,625,822	2,049,436,709	1,520,494,515	(25,937,768)

12. PROPERTY, PLANT AND EQUIPMENT:

Changes in property, plant and equipment for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012					
	Land	Buildings and structures	Machinery	Others	Construction in progress	Total
January 1, 2012	₩ 210,006,099	₩ 212,724,968	₩ 135,228,355	₩ 10,173,017	₩ 1,992,176	₩ 570,124,615
Acquisition	1,204,211	2,689,619	5,118,280	2,014,461	2,391,402	13,417,973
Transfer	25,741,385	11,158,986	1,011,426	156,200	(1,937,896)	36,130,101
Disposal	-	-	(534,431)	(114,500)	-	(648,931)
Depreciation	-	(7,391,563)	(12,833,507)	(4,806,986)	-	(25,032,056)
Foreign difference	-	(632,990)	(357,979)	(56,327)	-	(1,047,296)
December 31, 2012	₩236,951,695	₩218,549,020	₩127,632,144	₩7,365,865	₩2,445,682	₩592,944,406
-Acquisition cost	₩236,951,695	₩258,856,210	₩243,052,733	₩57,676,225	₩2,445,682	₩798,982,545
-Accumulated depreciation	-	(40,307,192)	(115,420,588)	(50,310,360)	-	(206,038,139)

	2011					
	Land	Buildings and structures	Machinery	Others	Construction in progress	Total
January 1, 2011	₩ 204,247,324	₩ 213,331,088	₩ 145,532,443	₩ 15,154,979	₩ 784,800	₩ 579,050,634
Acquisition	5,758,775	5,670,616	2,216,498	1,880,170	1,232,176	16,758,235
Transfer	-	-	-	24,800	(24,800)	-
Disposal	-	(32,750)	(86,614)	(317,547)	-	(436,911)
Depreciation	-	(6,857,410)	(12,788,951)	(6,627,562)	-	(26,273,923)
Foreign difference	-	613,424	354,979	58,177	-	1,026,580
December 31, 2011	₩210,006,099	₩212,724,968	₩135,228,355	₩10,173,017	₩1,992,176	₩570,124,615
-Acquisition cost	₩210,006,099	₩244,939,751	₩238,927,762	₩57,019,532	₩1,992,176	₩752,885,320
-Accumulated depreciation	-	(32,214,783)	(103,699,407)	(46,846,515)	-	(182,760,705)

13. INTANGIBLE ASSETS:

(1) The changes in intangible assets for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012				
	Development costs	Rights of utilization	Software	Others	Total
January 1, 2012	₩221,440	₩832,385	₩10,135,687	₩3,673,551	₩14,863,063
Acquisition	4,649,795	-	1,664,457	492,274	6,806,526
Disposal	-	-	-	(150,500)	(150,500)
Amortization	-	(208,096)	(2,054,879)	(112,020)	(2,374,995)
Impairment	-	-	-	(314,895)	(314,895)
Foreign difference	-	-	-	(14,838)	(14,838)
December 31, 2012	₩4,871,235	₩624,289	₩9,745,265	₩3,573,572	₩18,814,361
-Acquisition cost	₩4,871,235	₩3,329,540	₩12,772,102	₩5,322,169	₩26,295,046
-Accumulated amortization	-	(2,705,251)	(3,026,837)	(1,748,597)	(7,480,685)

	2011				
	Development costs	Rights of utilization	Software	Others	Total
January 1, 2011	₩ -	₩1,040,481	₩ -	₩4,350,985	₩5,391,466
Acquisition	221,440	-	10,135,687	-	10,357,127
Amortization	-	(208,096)	-	(106,178)	(314,274)
Impairment	-	-	-	(588,569)	(588,569)
Foreign difference	-	-	-	17,313	17,313
December 31, 2011	₩221,440	₩832,385	₩10,135,687	₩3,673,551	₩14,863,063
-Acquisition cost	₩221,440	₩3,329,540	₩11,107,645	₩ 5,012,104	₩19,670,729
-Accumulated amortization	-	(2,497,155)	(971,958)	(1,338,553)	(4,807,666)

Other intangible assets' book value, which has nonrestrictive durable years, is ₩3,373,499 thousand and ₩3,346,620 thousand as of December 31, 2012 and 2011, respectively.

(2) Expenditure on research and development recognized as expenses amounted to ₩1,272,321 thousand and ₩6,439,851 thousand for the years ended December 31, 2012 and 2011, respectively.

14. INVESTMENT PROPERTIES:

(1) Changes in investment properties for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012		
	Land	Building	Total
January 1, 2012	₩ 25,386,996	₩ 10,743,105	₩ 36,130,101
Transfer	(25,386,996)	(10,743,105)	(36,130,101)
December 31, 2012	₩-	₩-	₩-

For the years ended December 31, 2012, investment properties are transferred to fixed asset for the purpose of owner-occupied property (see Note 12).

	2011		
	Land	Building	Total
January 1, 2011	₩ 12,082,210	₩ 5,820,499	₩ 17,902,709
Acquisition	13,304,787	5,248,292	18,553,079
Depreciation	-	(325,687)	(325,687)
December 31, 2011	₩25,386,997	₩10,743,105	₩36,130,102
-Acquisition cost	₩25,386,997	₩11,559,809	₩36,946,806
-Accumulated depreciation	-	(816,704)	(816,704)

(2) Rental income related to investment properties is nil and ₩1,350,440 thousand for the years ended December 31, 2012 and 2011, respectively.

15. BONDS AND LONG-TERM BORROWINGS:

(1) Bonds as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Details	Interest rate (%)	December 31, 2012	December 31, 2011
The 5th	-	₩ -	₩80,000,000
The 6th	4.16	100,000,000	-
Subtotal		100,000,000	80,000,000
Less: Current portion of bonds		-	(79,945,545)
Less: Discount on bonds		(538,510)	(54,455)
Net		₩99,461,490	₩ -

(2) Long-term and short-term borrowings as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

1) Short-term borrowings

Type	Lender	Annual interest rate (%)	December 31, 2012	December 31, 2011
Short-term borrowings in Korean won	Woori Bank and others	1.08–1.1	₩29,828,495	₩23,306,698
Usance	Korea Exchange Bank	5.85	1,330,351	1,412,627
	Total		₩ 31,158,846	₩ 24,719,325

Short-term borrowings, above, incurred from the transaction which a financial asset is transferred but the transferor retains some level of continuing exposure. Transferred asset is offered as collateral (see Note 31-(2)).

2) Long-term borrowings

Type	Lender	Interest rate (%)	December 31, 2012	December 31, 2011
Syndicate loans (domestic currency)	La-union	5.15	₩ 50,000,000	₩ -
Syndicate loans (foreign currency)	Korea Development Bank	6M LIBOR+1.6	₩42,844,000	₩69,198,000
	The Export-Import Bank of Korea	6M LIBOR+1.6	21,422,000	34,599,000
	Shinhan Bank	6M LIBOR+1.6	17,137,600	27,679,200
	Industrial Bank of Korea	6M LIBOR+1.6	12,853,200	20,759,400
	Woori Bank	6M LIBOR+1.6	17,137,600	27,679,200
	Korea Exchange Bank	6M LIBOR+1.6	3,855,960	6,227,820
	Hana Bank	6M LIBOR+1.6	6,426,600	10,379,700
	Kookmin Bank	6M LIBOR+1.6	3,427,520	5,535,840
	HSBC	6M LIBOR+1.6	1,713,760	2,767,920
	First Gulf Bank	6M LIBOR+1.6	1,713,760	2,767,920
	China Construction Bank	6.22	3,093,840	6,570,360
	Subtotal (foreign currency)		131,625,840	214,164,360
Subtotal			181,625,840	214,164,360
Less: Current portion			(64,266,000)	(70,840,590)
Net			₩ 117,359,840	₩ 143,323,770

16. RETIREMENT BENEFIT OBLIGATION:

(1) Details of retirement benefit obligation as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Present value of defined benefit obligation	₩ 24,670,006	₩ 32,783,618
Fair value of plan assets (*)	(4,854,163)	(6,193,303)
Total	₩ 19,815,843	₩ 26,590,315

(*) The fair value of plan assets includes ₩1,422 thousand and ₩3,678 thousand of National Pension Fund as of December 31, 2012 and 2011, respectively.

(2) Expenses recognized in income and loss for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Current service cost	₩ 6,716,871	₩ 5,356,915
Interest cost	1,560,385	1,275,348
Expected return on plan assets	(214,254)	(276,952)
Effect of reduction and liquidation	31,569	-
Total	₩ 8,094,571	₩ 6,355,311

(3) Details of the total expense recognized in the consolidated statements of income for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Cost of sales	₩ 6,512,157	₩ 4,972,663
Selling and administrative expenses	1,582,414	1,382,648
Total	₩ 8,094,571	₩ 6,355,311

(4) Changes in defined benefit obligations for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Beginning balance	₩ 32,783,618	₩ 25,973,706
Current service cost	6,716,871	5,356,915
Transfer in	175,547	26,331
Transfer out	(1,177,824)	(32,286)
Interest cost	1,560,385	1,275,348
Actuarial gain or loss	836,327	4,376,521
Effect of reduction and liquidation	31,569	-
Benefit paid	(16,256,487)	(4,192,917)
Ending balance	₩ 24,670,006	₩ 32,783,618

(5) Changes in plan assets for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Beginning balance	₩ 6,193,303	₩ 7,012,540
Expected return on plan assets	214,254	276,952
Actuarial gain or loss	(13,170)	(34,645)
Benefit payment	(1,540,224)	(1,061,544)
Ending balance	₩ 4,854,163	₩ 6,193,303

On the other hand, the actual revenue of plan assets is ₩201,084 thousand and ₩242,307 thousand for the years ended December 31, 2012 and 2011, respectively.

(6) Assumptions used on actuarial as of December 31, 2012 and 2011, are as follows:

	December 31, 2012	December 31, 2011
Discount rate for defined benefit obligations	3.70%	5.00%
Expected rate of return on plan assets	3.70%	4.50%
Expected rate of salary increase		
Employee	5.00%	5.40%
Officer	8.00%	8.00%

Assumption about death is based around the statistics and experiences. The main estimates of assumptions used on actuarial valuation are based on the report of external actuarial company that is professionally qualified.

(7) Details of plan assets at the end of the reporting period are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Debt instruments	₩ 548,754	₩ 5,502,592
Loans	16,133	13,701
Deposits	4,287,855	673,332
Pension	1,421	3,678
Total	₩ 4,854,163	₩ 6,193,303

The expected return on plan assets is determined considering applicable expected return on plan assets under current investment policy. The expected return on debt securities is based on redemption yields at the end of the reporting period. The expected return on equity securities and other assets reflect historical market return data by asset category.

17. PROVISIONS:

Changes in provisions for the year ended December 31, 2012, are as follows (in thousands of Korean won):

	2012					
	January 1, 2012	Accrual	Use	December 31, 2012	Current	Non-current
Provision for construction warranties	₩20,507,108	₩1,109,508	(₩4,048,544)	₩17,568,072	₩-	₩17,568,072
Provision for litigation	-	2,000,000	-	2,000,000	-	2,000,000
Total	₩20,507,108	₩3,109,508	(₩4,048,544)	₩19,568,072	₩-	₩19,568,071

The Company estimates expenditure required to settle the Company's obligation for product warranty, refund, related after-sales service and other based on warranty period, historical claim rate and other.

In addition, in the case of criminal proceedings related to obtaining and using trade secrets, the Company was defeated in the first trial. Appeal for the second trial is at the end of the current fiscal year. The Company has set the provision for the first trial litigation (see Note 31).

18. CAPITAL STOCK AND CAPITAL SURPLUS:

Changes in capital stock and capital surplus for the years ended December 31, 2012, are as follows (in thousands of Korean won):

	Number of shares	Capital stock	Capital surplus
Beginning balance (2012.1.1)	69,500,000	₩ 69,500,000	₩ 367,214,701
Ending balance (2012.12.31)	69,500,000	₩ 69,500,000	₩ 367,214,701

The DE's number of shares authorized is 120,000,000 shares with par value of ₩1,000 per share. There are no issued shares with restricted voting rights under commercial law.

19. OTHER CAPITAL ITEMS:

(1) Other capital items as of December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won):

Description	December 31, 2012	December 31, 2011
Share option	₩ 397,168	₩ 135,448

(2) Share-based payment

The Company granted share options to its directors. Share options are settled based on the board of directors' decision of issuance of new shares, treasury shares or cash settlement. These share options carry a two-year service vesting condition, subsequent to the resolution at the stockholders' meeting.

1) Number of granted options as of December 31, 2012, is as follows:

Date of grant	Number of granted options	Exercisable period	Exercisable price	Expected fair value at the date of grant
2011.03.25	33,900	2014.03.25–2021.03.24	₩ 21,600	₩ 10,343
2012.03.30	48,600	2015.03.30–2022.03.29	₩ 13,300	₩ 4,653

2) The Company calculated expenses applying fair value approach. Assumptions used in determining fair value of stock options are as follows:

Date of grant	Risk-free rate interest rate (*)	Expected exercisable period	Expected volatility	Expected dividend yield ratio
2011.03.25	3.66%	3 years	68.77%	0.00%
2012.03.30	3.57%	3 years	55.03%	0.00%

(*) Risk-free interest rate is based on a three-year treasury bond yield rate.

3) Changes in share option for the year ended December 31, 2012, are as follows:

a) Number of common shares to be issued:

Date of grant	January 1, 2012	Granted	Exercised	December 31, 2012
2011.03.25	33,900	-	-	33,900
2012.03.30	-	48,600	-	48,600
Total	33,900	48,600	-	82,500

b) Valuation amount (in thousands of Korean won):

Date of grant	January 1, 2012	Granted	Exercised	December 31, 2012
2011.03.25	₩ 135,448	₩ 175,794	₩ -	₩ 311,242
2012.03.30	-	85,926	-	85,926
Total	₩ 135,448	₩ 261,720	₩ -	₩ 397,168

Expense recognized related to the share option grant amounted to ₩261,720 thousand and ₩135,448 thousand for the years ended December 31, 2012 and 2011, respectively. Expense to be recognized in the future period amounted to ₩179,906 thousand.

20. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS):

(1) Changes in accumulated other comprehensive income (loss) at the end of the reporting period are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Unrealized gain on valuation of derivatives	₩-	(₩333,792)
Increase (decrease) in equity of associates	(22,308,062)	(3,563,059)
Overseas operation translation credit	96,874	1,179,162
Total	(₩22,211,188)	(₩2,717,689)

(2) Tax effects directly recognized in accumulated other comprehensive income (loss) as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012		
Description	Before tax	Deferred income tax assets (liabilities)	After tax
Unrealized gain on valuation of derivatives	₩-	₩-	₩-
Increase (decrease) in equity of associates	(22,308,062)	-	(22,308,062)
Overseas operation translation credit	96,874	-	96,874
Total	(₩22,211,188)	₩-	(₩22,211,188)

	December 31, 2011		
Description	Before tax	Deferred income tax assets (liabilities)	After tax
Unrealized gain on valuation of derivatives	(₩440,359)	₩106,567	(₩333,792)
Increase (decrease) in equity of associates	(3,563,059)	-	(3,563,059)
Overseas operation translation credit	1,179,162	-	1,179,162
Total	(₩2,824,256)	₩106,567	(₩2,717,689)

21. RETAINED EARNINGS (DEFICIT):

(1) Retained earnings as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Legal reserve (*)	₩ 1,200,000	₩ 1,200,000
Optional reserve	2,700,000	3,700,000
Retained earnings before appropriations	328,970,772	134,651,272
Total	₩332,870,772	₩139,551,272

(*) Retained earnings appropriated to the legal reserve cannot be used as cash dividends under the applicable laws and regulations. The Korean Commercial Code requires the

Company to appropriate an amount equal to at least 10% of the cash dividend, until the reserve equals 50% of stated capital.

(2) Changes in retained earnings for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Beginning balance	₩139,551,272	(₩66,735,090)
Profit for the period	190,379,558	224,775,863
Actuarial loss and losses recognized in retained earnings	(643,918)	(3,346,637)
Change of retained earnings in associates	3,583,860	(15,142,864)
Ending balance	₩332,870,772	₩139,551,272

22. SALES:

Details of sales for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Sales of goods	₩ 1,314,879,522	₩ 1,968,655,460
Construction sales	58,523,635	36,597,158
Others	5,374,676	2,156,190
Total	₩ 1,378,777,833	₩ 2,007,408,808

23. SEGMENT INFORMATION:

The Company has a single reportable segment determined by considering the characteristics of the nature of goods and assets to create sales.

(1) The following table provides sale information by geographical segment for the years ended December 31, 2012 and 2011 (in thousands of Korean won):

	2012	2011
Domestic	₩ 702,836,130	₩1,304,174,230
Overseas	684,885,799	713,822,566
Subtotal	1,387,721,929	2,017,996,796
Adjustments	(8,944,096)	(10,587,988)
After consolidation	₩ 1,378,777,833	₩2,007,408,808

(2) There is a single external customer who accounted for 10% or more of the Company's sales for the years ended December 31, 2012 and 2011 (in thousands of Korean won):

	2012	2011
Samsung Heavy Industries Co., Ltd.	₩ 188,721,483	₩ 580,770,991
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	320,541,592	364,401,332
JIANGSU NEW YANGZI	169,749,061	-
Total	₩ 679,012,136	₩ 945,172,323

24. CONSTRUCTION CONTRACTS:

(1) Details of profit and unbilled (overbilled) construction receivables (payables) under construction contract for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012					
				Contract receivables		
	Construction cost	Construction revenue	Construction profit	Claimed	Not claimed	Gross amount due to customers
Diesel engine	₩ 222,031,899	₩ 201,388,804	₩ 20,643,095	₩ -	₩ 5,930	₩ 19,416,602

	2011					
				Contract receivables		
	Construction cost	Construction revenue	Construction profit	Claimed	Not claimed	Gross amount due to customers
Diesel engine	₩ 239,953,814	₩ 220,895,885	₩ 19,057,929	₩ 106,385	₩ 55,876	₩ 31,079,377

(2) Details of construction contract for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

		2012			
Order	Description	January 1, 2012	Increase by contract	Decrease by sales	December 31, 2012
KHNP and other five companies	Singori #3 and #4 emergency generators, alternative AC power diesel engine and other 14	₩71,390,789	₩108,556,056	(₩58,523,635)	₩121,423,210

Order	Description	2011 January 1, 2011	Increase by contract	Decrease by sales	December 31, 2011
KHNP and other five companies	Singori #3 and #4 emergency generators, alternative AC power diesel engine and other 13	₩159,479,714	(₩51,491,767)	(₩36,597,158)	₩71,390,789

25. EXPENSES CLASSIFIED BY NATURE:

Expenses classified by nature for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	2012	2011
Changes in inventories	₩ 42,366,445	₩ 48,857,681
Purchase of raw materials	845,462,666	1,225,641,584
Employee benefits	113,873,375	103,310,588
Other employee benefits	20,207,036	15,981,479
Depreciation and amortization	27,407,036	26,913,883
Commission expenses	114,610,526	139,872,661
Transportation expenses	20,509,579	16,563,122
Commissions	47,804,815	23,229,713
Amount paid to subcontractors	17,843,451	20,818,357
Outsourcing	24,771,130	18,691,136
Others	34,155,446	68,169,126
Total	₩ 1,309,011,505	₩ 1,708,049,330

26. SELLING AND ADMINISTRATIVE EXPENSES:

Selling and administrative expenses for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Account	2012	2011
Salaries	₩ 25,685,236	₩ 25,254,346
Other employee benefits	6,750,583	4,282,167
Provision for retirement and severance benefits	16,427,840	1,382,648
Commission expenses	19,128,548	14,883,354
Depreciation	1,013,276	1,388,387
Amortization	439,351	106,166
Advertising and marketing expenses	4,230,849	3,830,686
Transportation expenses	111,626	6,029
Rental expenses	1,389,437	1,272,076
Bad debt expenses	65,109	(1,084,487)
Research and ordinary development costs	1,272,321	6,439,851
Others	8,900,834	8,973,284
Total	₩ 85,415,010	₩ 66,734,507

27. FINANCE INCOME AND EXPENSES:

Finance income and expenses for the years ended December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won):

Account	2012	2011
Finance income:		
Interest income	₩ 13,387,735	₩ 20,289,470
Dividend income	-	700
Income from financial guarantee	384,463	3,400,911
Gain on foreign currency transaction	23,512,839	4,659,089
Gain on foreign currency translation	10,874,231	1,087,998
Gain on derivative transaction	5,275,775	2,237,491
Gain on valuation of derivatives	63,249,825	1,700,290
Gain on valuation of firm commitments	4,584,914	49,569,040
Subtotal	121,269,782	82,944,989

Account	2012	2011
Finance expenses:		
Interest expenses	9,915,700	14,624,878
Expense for financial guarantee	968,533	1,317,816
Loss on foreign currency transaction	25,650,139	6,081,724
Loss on foreign currency translation	1,377,202	3,078,531
Loss on derivative transaction	3,790,788	1,674,433
Loss on valuation of derivatives	4,449,204	48,516,166
Loss on valuation of firm commitments	73,975,062	3,068,353
Subtotal	(120,126,628)	(78,361,901)
Net finance income	₩ 1,143,154	₩ 4,583,088

28. OTHER NON-OPERATING INCOME AND EXPENSES:

(1) Details of other operating income and expenses

Other operating income and expenses for the years ended December 31, 2012 and 2011, consist of the following (in thousands of Korean won):

Account	2012	2011
Other operating income:		
Rental income	₩ 22,232	₩ 136,913
Gain on disposal of property, plant and equipment	223,357	196,294
Gain on disposal of intangible assets	54,552	-
Other income	12,412,719	3,973,502
Subtotal	12,712,860	4,306,709
Other operating expenses:		
Donations	8,097,211	10,038,685
Loss on disposal of property, plant and equipment	8,830	97,562
Loss on disposal of intangible assets	7,491	-
Impairment loss of intangible assets	314,895	588,569
Other loss	3,385,047	12,529,734
Subtotal	(11,813,474)	(23,254,550)
Total	₩ 899,386	(₩ 18,947,841)

29. INCOME TAX EXPENSE:

(1) Components of income tax expense for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Details	2012	2011
Current income tax expense	₩ 25,615,482	₩ 9,008,113
Changes in deferred income tax assets (liabilities) related to temporary differences (*1)	(7,862,305)	62,533,479
Deferred income tax assets (liabilities) directly reflected in stockholders' equity (*2)	(99,011)	569,202
Income tax expense	₩ 17,654,166	₩ 72,110,794

(*1) Changes in deferred income tax assets (liabilities) related to temporary differences for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Details	2012	2011
Ending deferred income tax assets(liabilities), net	(₩ 34,711,708)	(₩42,574,013)
Beginning deferred income tax assets (liabilities), net	(42,574,013)	19,959,466
Changes in deferred income tax assets	(₩ 7,862,305)	₩ 62,533,479

(*2) Changes in deferred income tax assets (liabilities) directly added to (deducted from) stockholders' equity for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Details	2012	2011
Ending deferred income tax liabilities	₩ 1,790,396	₩ 1,691,385
Beginning deferred income tax liabilities	1,691,385	1,122,183
Changes in deferred income tax liabilities	(₩ 99,011)	₩ 569,202

(2) The Company offsets deferred tax assets and deferred tax liabilities if the Company has a legally enforceable right to set off current tax assets against current tax liabilities, and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority. Changes in deferred tax assets and liabilities for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

		Change		
Details	January 1, 2012	Income	Capital	December 31, 2012
Foreign currency translation, net	₩ 4,409,556	(₩ 1,264,655)	₩ -	₩ 3,144,901
Depreciation	233,386	671,164	-	904,550
Allowance for doubtful accounts	587,851	190,100	-	777,951
Accrued income	(599,879)	264,566	-	(335,313)
Loss on inventory obsolescence	9,659,101	(1,031,196)	-	8,627,905
Currency forwards	9,464,948	(20,260,789)	(106,567)	(10,902,408)
Firm commitment assets	(31,395,057)	29,313,942	-	(2,081,115)
Loss on equity-accounted investees	670,709	50,340	-	721,049
Long-term loan	(119,911)	47,075	-	(72,836)
Subcost on membership	273,259	76,204	-	349,463
Accrued expenses	1,414,624	(675,356)	-	739,268
Unearned revenue	(9,357,452)	5,792,298	-	(3,565,154)
Long-term borrowings	4,787,244	(3,982,836)	-	804,408
Financial guarantee liabilities	84,458	(111,951)	-	(27,493)
Provision for construction warranties	4,962,720	(711,247)	-	4,251,473
Litigation reserve	-	484,000	-	484,000
Provision for severance indemnities	4,451,447	(919,147)	205,578	3,737,878
Gain on revaluation of land and buildings	(42,554,397)	-	-	(42,554,397)
Others	453,380	(363,023)	-	90,357
Subtotal	(42,574,013)	7,569,489	99,011	(34,905,513)
Tax loss carryforwards	-	100,805	-	100,805
Tax credits	-	93,000	-	93,000
Total	(₩42,574,013)	₩7,763,294	₩99,011	(₩34,711,708)

Details	January 1, 2011	Change		December 31, 2011
		Income	Capital	
Foreign currency translation, net	₩ 6,414,000	(₩ 2,004,444)	₩ -	₩ 4,409,556
Depreciation	1,654,374	(1,420,988)	-	233,386
Donations in excess of tax limit	5,035,229	(5,035,229)	-	-
Allowance for doubtful accounts	917,175	(329,324)	-	587,851
Accrued income	(32,398)	(567,481)	-	(599,879)
Loss on inventory obsolescence	6,200,044	3,459,057	-	9,659,101
Currency forwards	(7,344,417)	17,354,694	(545,329)	9,464,948
Firm commitment assets	(54,873,283)	23,478,226	-	(31,395,057)
Loss on equity-accounted investees	-	670,709	-	670,709
Long-term loan	-	(119,911)	-	(119,911)
Subcost on membership	8,278	264,981	-	273,259
Accrued expenses	751,980	662,644	-	1,414,624
Unearned revenue	(14,997,064)	5,639,612	-	(9,357,452)
Long-term borrowings	5,351,319	(564,075)	-	4,787,244
Financial guarantee liabilities	-	84,458	-	84,458
Provision for construction warranties	3,179,510	1,783,210	-	4,962,720
Provision for severance indemnities	2,910,232	2,011,502	(470,287)	4,451,447
Reserve development	(242,000)	242,000	-	-
Gain on revaluation of land and buildings	(38,685,815)	(3,868,582)	-	(42,554,397)
Others	26,577,585	(26,124,204)	-	453,380
Subtotal	(57,175,251)	15,616,855	(1,015,616)	(42,574,013)
Tax loss carryforwards	69,703,377	(69,703,377)	-	-
Tax credits	7,431,340	(7,431,340)	-	-
Total	₩19,959,466	(61,517,862)	(1,015,616)	(₩42,574,013)

(3) Temporary differences, net loss and tax credit carryforwards, which have not been recognized as deferred income tax assets, are expired and unused for the years ended December 31, 2012 and 2011.

The probability of deferred tax assets being realized depends on the Company’s ability to generate taxable income in future years, the economic situation and industry forecast. The Company periodically reviews such matters.

(4) Temporary differences associated with investments in subsidiaries, which are not recognized as deferred tax assets, as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012	December 31, 2011
Subsidiaries	(₩ 5,042,055)	(₩ 5,454,313)
Associates	296,127,601	421,155,288
Total	₩ 291,085,546	₩ 415,700,975

(5) Deferred income tax assets (liabilities) and income tax benefits (expense) added to (deducted from) stockholders' equity as of December 31, 2012 and 2011, are as follows (in thousands of Korean won):

	December 31, 2012			December 31, 2011		
Details	Gross	Tax effect	Net of tax	Gross	Tax effect	Net of tax
Loss on valuation of derivatives	₩ -	₩ -	₩ -	(₩440,359)	₩106,567	(₩333,792)
Actuarial gain or loss	(7,398,331)	1,790,396	(5,607,935)	(6,548,835)	1,584,818	(4,964,017)
Total	(₩7,398,331)	₩1,790,396	(₩5,607,935)	(₩6,989,194)	₩1,691,385	(₩5,297,810)

(6) An explanation of the relationship between income tax expense and accounting income (loss) before income tax expense for the years ended December 31, 2012 and 2011, is as follows (in thousands of Korean won):

Details	2012	2011
Income before income tax expense	₩ 208,033,724	₩ 296,886,657
Income tax expense at statutory income tax rate (less than ₩200 million: 11% Over ₩200 million: 24.2%)	45,347,419	71,820,171
Differences (Note 1)	(27,693,253)	290,623
Income tax expense	₩ 17,654,166	₩ 72,110,794
Effective tax rates	8.49%	24.29%

(Note 1) Differences:

Additional payment of income tax	₩ 2,270,685	₩ -
Non-temporary difference	117,059	233,456
Unrecognized difference related to equity method investment securities	(30,156,934)	(1,878,935)
Difference of tax rates	-	2,511,685
Others	75,937	(575,583)
Total	(₩ 27,693,253)	₩ 290,623

30. EARNINGS PER SHARE:

(1) Basic earnings per share

Basic earnings per share are computed by dividing net income attributable to owners of the Company by the weighted-average number of common shares outstanding during the period (in thousands of Korean won, except for share data).

	2012	2011
Net income available to common shares	₩190,379,558	₩224,775,863
Weighted-average number of common shares outstanding (*)	69,500,000	69,500,000
Basic net income per share	₩ 2,739	₩ 3,234

(*) The weighted-average number of common shares outstanding for the years ended December 31, 2012 and 2011, are equal to the number of shares outstanding.

(2) Diluted earnings per share

The Company does not compute diluted earnings per common share for the years ended December 31, 2012 and 2011, because there is no item related to dilution. Diluted earnings per share are equal to earnings per share for the years ended December 31, 2012 and 2011.

Due to the antidilutive effect for the years ended December 31, 2012 and 2011, the Company is not considering share option, which could dilute the basic earnings per share in the future.

	2012	2011
Share option	82,500	33,900

31. COMMITMENTS AND CONTINGENCIES:

(1) Notes and checks provided as collateral

As of December 31, 2012, the Company has provided 3 (as of December 31, 2011: 3) blank promissory notes and 50 (as of December 31, 2011: 117) promissory notes amounting to USD 25,102,190 (as of December 31, 2011: USD 61,030,834) to Daewoo Shipbuilding & Marine Engineering Co., Ltd., and four other companies as security in connection with contract performance guarantees and guarantees for advance receipts.

(2) Trade receivables sold at discount

Outstanding trade receivables sold with recourse by the Company are in the amount of ₩29,828,495 thousand and ₩23,306,698 thousand as of December 31, 2012 and 2011, respectively.

(3) Pending litigation (in thousands of Korean won)

Site	Plaintiff	Defendant	Claim	Claimed amount	Progress
Greece	GAEI (Guam Advance Enterprises Inc.)	Doosan Engine Co., Ltd.	Damages for cancellation of contract (related Greece Chios diesel plant)	EUR 3,059,635	Pending in the court of first instance
Ulsan District Court	Ulsan District Public Prosecutor's Office	Doosan Engine Co., Ltd.	Criminal case regarding the use and acquisition of trade secret	₩ 2,000,000	Scheduled in the court of second instance
Dairen	Sung-heung Construction Co., Ltd.	Subsidiary	A claim for construction payment	CNY 26,000,000	Pending in the court of second instance

As of December 31, 2012, the outcome of the cases is unpredicted .

(4) Commitments with financial institutions

As of December 31, 2012, major commitments with various financial institutions are as follows (in foreign currency and thousands of Korean won):

Commitment	Financial institution	Credit limit		Used amount	
Bank overdraft facilities	Korea Exchange Bank	₩	1,000,000	₩	-
General loan facilities	Korea Exchange Bank		40,000,000		-
	Woori Bank		30,000,000		-
	Kookmin Bank		16,000,000		-
	Kyoungnam Bank		20,000,000		-
Electronic loan facilities	Woori Bank		80,000,000		33,518,530
	Kookmin Bank		18,000,000		584,826
	Hana Bank		20,000,000		9,903,871
	Kyongnam Bank		20,000,000		1,079,525
Issuance of letter of credit	Korea Exchange Bank	USD	30,000,000	USD	2,864,999
	Woori Bank	USD	50,000,000	USD	6,142,534
	Hana Bank	USD	30,000,000	USD	5,981,619
	Korea Development Bank	USD	20,000,000	USD	11,182,421
Other guarantees	Korea Exchange Bank	USD	100,000,000	USD	35,639,958
	Woori Bank	USD	200,000,000	USD	46,315,179
	Hana Bank	USD	40,000,000	USD	28,809,356
	Nonghyup Bank	USD	60,000,000	USD	7,962,000
	Kookmin Bank	USD	45,000,000	USD	9,997,085
	Seoul Guarantee Insurance		-	EUR	17,351,521
	Korea Exchange Bank	₩	20,000,000	₩	2,594,150
	Woori Bank		30,000,000		5,083,789
	Seoul Guarantee Insurance		-		5,419,081

The Company entered into a loan agreement with lenders consisting of the Korea Development Bank and nine other financial institutions for the long-term borrowing (as of December 31, 2012, USD 120,000 thousand) in connection with the Company's capital contributions to DII and DHEL. The agreement requires for the Company to maintain its EBITDA more than 1.5 times of its net interest expense and its financial debt less than six times of its EBITDA. If it is not in compliance with the debt covenants, the Company may be able to lose benefit of time in case of creditor's demand.

(5) Technology transfer contract

The Company has seven technical license agreements with several foreign companies for the purpose of manufacturing engines. In accordance with the agreements, the Company is committed to pay a royalty calculated based on the cumulative horse power of engines manufactured during the year. The royalty amounted to ₩114,611,217 thousand and ₩139,352,668 thousand for the years ended December 31, 2012 and 2011, respectively.

32. GUARANTEES AND PLEDGED ASSETS:

1) Guarantees received by the Company from third parties as of December 31, 2012, are as follows (in foreign currencies and thousands of Korean won):

Guarantee received from	Guaranteed amount (foreign currency)		Description of guarantee
Korea Exchange Bank	USD	35,623,383	Guarantee for advance receipts, defect and contract performance guarantee
	EUR	12,535	Guarantee for defect
	KRW	2,594,150	Guarantee for defect and contract performance guarantee
Woori Bank	USD	46,315,179	Guarantee for advance receipts and contract performance guarantee
	KRW	5,083,789	Guarantee for advance receipts and contract performance guarantee
Kookmin Bank	USD	9,997,085	Guarantee for advance receipts, defect and contract performance guarantee
Nonghyup Bank	USD	7,962,000	Guarantee for advance receipts
Hana Bank	USD	28,809,356	Guarantee for advance receipts
Seoul Guarantee Insurance	EUR	17,351,521	Guarantee for advance receipts and contract performance guarantee
	KRW	5,419,081	Guarantee for advance receipts and contract performance guarantee
Total	USD	128,707,003	
	EUR	17,364,056	
	KRW	13,097,020	

2) Guarantees provided by the Company to unrelated parties as of December 31, 2012, are as follows (in thousands of Korean won):

Guarantee	Guaranteed amount	Description of guarantee
Korea Securities Finance Co., Ltd.	₩ 15,934,592	Guarantee for the borrowings

3) The Company provided stocks of DII and DHEL as collateral to the lender who appoints Korea Development Bank as an agent for the long-term borrowing of DII and DHEL as of December 31, 2012, as follows (in foreign currencies and thousands of Korean won):

Institution	Asset	Borrowing amount (foreign currency)	Collateralized value
Korea Development Bank	DII	USD 1,720,000,000	₩ 146,521,807
	DHEL		₩ 196,038,774

DII and DHEL have signed a new long-term borrowing of USD 750,000 thousand and USD 970,000 thousand, respectively, on November 30, 2011. The Company provided the stocks of DII and DHEL as collateral on September 28, 2012, and October 11, 2012.

33. TRANSACTIONS AND BALANCES WITH RELATED PARTIES:

Significant transactions and account balances with related parities as of and for the years ended December 31, 2012 and 2011, are as follows:

(1) Relationship between parents and subsidiaries as of December 31, 2012, is as follows:

Relationship	The name of the related parties
Shareholders with significant influence	Doosan Corporation
	Doosan Heavy Industries Construction Co., Ltd. (“DHIC”)
Associates	Dalian Samyoung Doosan Metal Product Co., Ltd.
	Doosan Infracore International, Inc. (“DII”)
	Doosan Holdings Europe Ltd.(“DHEL”)
Other related parties	Doosan Infracore Co., Ltd.
	Doosan Construction & Engineering Co., Ltd.
	Doosan Donga Co., Ltd. (“Doosan Donga”)
	Doosan Cuvex Co., Ltd.
	Yeongang Foundation
	N. Shaper Corp.
	Doosan Tower Co., Ltd. (“Doosan Tower”)
	Donghyun Engineering Co., Ltd.
	Doosan Defense Systems & Technology Co., Ltd.
	Oricom Inc. (“Oricom”)
	Doosan Eco Biznet
	Doosan Bears Inc.

(2) Significant transactions with related parties for the years ended December 31, 2012 and 2011, are summarized as follows (in thousands of Korean won):

	2012		2011	
Description	Sales and others	Purchases and others	Sales and others	Purchases and others
Shareholder with significant influence	₩ 2,544,179	₩ 211,052,028	₩ 2,470,488	₩ 296,547,613
Associates	300,712	-	4,243,335	29,493,462
Other related parties	2,805,883	10,007,172	4,002	36,136,051
Total	₩ 5,650,774	₩ 221,059,200	₩ 6,717,825	₩ 362,177,126

(2) As of December 31, 2012 and 2011, related significant balances are as follows (in thousands of Korean won):

Description	December 31, 2012 Receivables	December 31, 2012 Payables	December 31, 2011 Receivables	December 31, 2011 Payables
Shareholder with significant influence	₩ 462,977	₩ 36,797,416	₩ 331,422	₩ 12,802,735
Associates	4,234,765	-	16,821,104	3,381,529
Other related parties	4,890,253	1,842,466	834,201	1,917,358
Total	₩ 9,587,995	₩ 38,639,882	₩ 17,986,727	₩ 18,101,622

(3) The Company defines key management personnel as registered officer and non-registered officer who have the authority and responsibility for planning, operation and control and are in charge of business or division unit. Compensation to key management personnel of the Company for the years ended December 31, 2012 and 2011, is as follows (in thousands of Korean won):

Description	2012	2011
Short-term employee benefits and other	₩ 6,216,164	₩ 9,529,449
Provision for retirement and severance benefits	681,897	364,140
Share-based payment	261,720	135,448
Total	₩ 7,159,781	₩ 10,029,037

The Company provided guarantees and other to associates and other related parties as of December 31, 2012 (see Note 32).

34. CONSOLIDATED STATEMENTS OF CASH FLOWS:

(1) The adjustments and changes in operating assets and liabilities in the consolidated statements of cash flows for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won):

Description	2012	2011
Adjustments:		
Expenses not involving cash outflows:		
Interest expenses	₩ 9,915,700	₩ 14,624,878
Income tax expense	17,654,166	72,110,794
Bad debt expenses	65,109	-
Loss on foreign currency translation	1,377,202	3,078,531
Depreciation	25,032,056	26,599,609
Amortization	2,374,994	314,274
Loss on valuation of inventories	-	26,846,273
Provision for construction warranties	1,109,508	6,540,753
Loss on disposal of property, plant and equipment	8,830	97,562
Loss on disposal of intangible assets	7,491	-
Impairment loss on intangible assets	314,895	588,569
Loss on valuation of derivatives	4,449,204	48,516,166
Loss on valuation of firm commitments	73,975,062	3,068,353
Share-based payment	261,720	135,448
Retirement benefits	8,094,571	6,355,311
Provision for litigation	2,000,000	-
Equity loss on investment	28,183,687	8,322,900
Income not involving cash inflows:		
Interest income	(13,387,735)	(20,289,470)
Dividend income	-	(700)
Gain on foreign currency translation	(10,874,231)	(1,087,998)
Reversal of write-down of inventories	(4,951,524)	-
Reversal of allowance for doubtful accounts	-	(1,084,487)
Gain on disposal of property, plant and equipment	(223,357)	(196,294)
Gain on disposal of intangible assets	(54,552)	-
Income on financial guarantee	(384,463)	(3,400,911)
Gain on valuation of derivatives	(63,249,825)	(1,700,290)
Gain on valuation of firm commitments	(4,584,914)	(49,569,040)
Equity income on investment	(164,408,546)	(20,214,834)
Total	(₩ 87,294,952)	₩ 119,655,397

Description	2012	2011
Changes in operating assets and liabilities:		
Accounts receivable-trade	₩ 46,775,700	₩ 5,877,424
Accounts receivable-other	15,494,252	1,143,500
Unbilled construction receivables	49,946	21,763
Advance payments	8,965,866	3,162,031
Prepaid expenses	4,639,400	(14,685,721)
Inventories	47,274,907	22,061,946
Other current assets	8,785,127	(522,164)
Long-term advance payments	(46,972)	(76,472)
Long-term prepaid expenses	1,798,753	(2,429,119)
Accounts payable-trade	(46,746,511)	(35,131,996)
Accounts payable-other	(14,391,438)	15,151,721
Accrued expenses	(28,849,102)	(35,450,497)
Overbilled construction payables	(14,662,775)	14,373,630
Advance receipts	(316,169,684)	(268,737,272)
Other current liabilities	1,390,930	815,167
Derivative instruments	(25,071,623)	25,086,124
Firm commitments	51,741,840	73,213,360
Payment of severance benefits	(16,256,487)	(4,192,917)
Plan assets	1,540,223	1,061,544
Transfer in	175,547	26,331
Transfer out	(1,177,824)	(32,286)
Non-current accrued expenses	(1,279,750)	2,332,156
Provision	(4,048,544)	(2,493,373)
Total	(₩ 280,068,219)	(₩ 199,425,120)

(2) Significant non-cash transactions for the years ended December 31, 2012 and 2011, are as follows (in thousands of Korean won) :

Description	2012	2011
Reclassification of associates to AFS financial assets	₩ 850,070	₩ -
Reclassification of construction in progress to property, plant and equipment	1,937,896	24,800
Reclassification of investment properties (land) to property, plant and equipment	25,386,996	-
Reclassification of investment properties (buildings) to property, plant and equipment	10,743,105	-
Reclassification of bonds to current portion of bonds	-	79,945,545
Reclassification of long-term borrowings to current portion of long-term borrowing	64,266,000	69,198,000
Total	₩ 103,184,067	₩ 149,168,345

The Company presented net cash increase or decrease incurred from the transactions of short-term financial instrument, short-term loan and short-term borrowing, which have short-term maturities and are according to the frequent transaction, total amount of cash in and out is huge.