LG CORP. AND ITS SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED
DECEMBER 31, 2019 AND 2018

ATTACHMENT: INDEPENDENT AUDITORS' REPORT

LG CORP.

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Independent Auditors' Report

English Translation of Independent Auditors' Report Originally Issued in Korean on March 19, 2020.

To the Shareholders and the Board of Directors of LG Corp.:

Report on the Audited Consolidated Financial Statements

Audit Opinion

We have audited the consolidated financial statements of LG Corp. and its subsidiaries (the "Group"), which comprise the consolidated statements of financial position as of December 31, 2019, and December 31, 2018, respectively, and the related consolidated statements of profit or loss, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statement of cash flows, all expressed in Korean won, for the years then ended and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Group. as of December 31, 2019, and December 31, 2018, respectively, and its financial performance and its cash flows for the years ended December 31, 2019, and December 31, 2018, respectively, in accordance with Korean International Financial Reporting Standards ("K-IFRSs").

Basis for Audit Opinion

We conducted our audits in accordance with the Korean Standards on Auditing ("KSAs"). Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audits of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

The key audit matters are those matters that, in our professional judgment, were of most significance in our audits of the consolidated financial statements of the current period. These matters were addressed in the context of our audits of the consolidated financial statements as a whole, and in forming our audit opinion thereon, and we do not provide a separate opinion on these matters.

(1) The change in the estimate of total contract cost

As noted in Note 18 of consolidated financial statements, changes in the estimate of total contract costs for contracts that recognize revenue over time using the cost-based input method may affect current, future profit or loss, contract assets and contract liabilities and total contract costs are estimated on the basis of future estimates, such as labor costs, material costs and project periods. Estimating the total cost of a contract requires expert knowledge of the cost design and is deemed to involve the risk that the cost changes resulting from the project will not be reflected in the total cost in a timely manner. Therefore, we decided to make the item a key audit considering the effect of the change in the estimate of total contract cost on profit or loss and future profit or loss.

At the end of the current term, the following are the major audit procedures we have carried out to obtain audit evidence that is sufficient and appropriate for purpose of auditing consolidated financial statements in relation to the change in the estimate of the Group’s total contract cost:

- Understanding of the design of internal controls related to the timely reflection of total contract cost and the accuracy of estimation

- Retrospective review of changes in total contract cost of current period projects

- Verification of accuracy and timeliness of the change of total contract cost during the current period

- Verifying subsequent events on total contract cost of projects in progress at the end of the current period

(2) Impairment test of investment equity owned by associates

As noted in Note 13, the consolidated company has a 30.5% stake in LG Electronics Inc., which is classified as an associate. On the other hand, LG Electronics Inc. classifies its 37.9% stake in LG Display Co. ("LGD") as an associate and accounts for it using the equity method. LG Electronics Inc. has a carrying amount of ₩4,182,293 million at the end of the reporting period.

LG Electronics Inc., a significant component of the consolidated company, performed an impairment test in accordance with K-IFRS 1036 ‘impairment of Assets,’ noting that the market value of its stake in LGD declined during the current period.

During the current period, we decided the impairment test for the stakes of LGD of the associates, LG Electronics Inc., as the key audit matter, considering the significant decrease in the market value of the LGD and the significant management judgement involved in the valuation of the value of use in performing the impairment test, and considering the potential impact of the corresponding impairment test on the consolidated financial statements.

The followings are the major audit procedures we have conducted to ensure the adequacy of the audit procedures performed on the impairment test:

- Verification of the independence, objectivity and qualification of the component auditor to obtain audit evidence for the purpose of the group audit related to LGD impairment test.

- Review of audit documents of the component auditor for the following tasks carried out by the component auditor to evaluate the sufficiency and adequacy of audit evidence obtained and asking questions if necessary.

- Understanding LG Electronics Co., Ltd.’s accounting policies and internal control related to impairment test, and testing the control related to management review.
- Conduct questions and reviews on the valuation model applied to the LGD impairment test and evaluate the appropriateness of the key assumptions applied to the valuation.
- Evaluate the appropriateness of management's estimation of past business plan by comparing LGD's performance to its past business plan.
- Understand the future cash flows of LGD and verify if future cash flow estimates match business plans approved by management
- Evaluate the appropriateness by comparing key assumptions of the valuation model such as discount rate and growth rate with external information and past information of LGD
- Perform sensitivity analysis to assess the impact of changes in major assumptions on impairment test results

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation of the accompanying consolidated financial statements in accordance with K-IFRSs, and for such internal control as they determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management of the Group is responsible for assessing the Group's ability to continue as a going concern; disclosing, as applicable, matters related to going concern; and using the going-concern basis of accounting, unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative, but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of the management's use of the going-concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audits. We are solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audits and significant audit findings, including any significant deficiencies in internal control that we identify during our audits.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are, therefore, the key audit matters. We describe these matters in our auditors' report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Young-Jae Kim.

Deloitte Anjin LLC

March 19, 2020

Notice to Readers

This report is effective as of March 19, 2020, 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 accompanying consolidated financial statements and may result in modifications to the auditors' report.

LG CORP.
AND ITS SUBSIDIARIES (the “Group”)

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED
DECEMBER 31, 2019 AND 2018

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

Young-Soo Kwon
President and Chief Operating Officer
LG Corp.

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
AS OF DECEMBER 31, 2019 AND 2018

	Korean won	
	December 31, 2019	December 31, 2018
	(In millions)	
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents (Notes 5, 6, 27, 31 and 34)	₩ 1,337,102	₩ 1,054,293
Financial institution deposits (Notes 5, 31 and 34)	567,691	348,699
Current derivative assets (Notes 5 and 34)	2,250	1,241
Trade receivables, net (Notes 5, 7, 27, 30 and 34)	1,450,939	2,755,238
Other receivables, net (Notes 5, 7, 27, 30 and 34)	83,727	25,118
Current tax assets	6,583	6,957
Current other assets (Notes 9 and 18)	428,363	305,391
Inventories, net (Note 8)	62,402	116,148
Total current assets	3,939,057	4,613,085
NON-CURRENT ASSETS:		
Non-current financial institution deposits (Notes 5, 31 and 34)	285	-
Available-for-sale (“AFS”) financial assets (Notes 5, 27 and 34)	127,062	117,217
Non-current trade receivables, net (Notes 5, 7, 27, 30 and 34)	26,309	25,751
Non-current other receivables, net (Notes 5, 7, 27, 30, 31 and 34)	5,066	44,763
Investments in associates and joint ventures (Note 13)	14,998,373	14,478,228
Deferred tax assets, net (Note 28)	143,707	152,950
Non-current other assets (Note 9)	3,554	9,419
Property, plant and equipment, net (Note 10)	1,640,134	1,877,748
Investment property, net (Note 11)	1,391,962	1,416,911
Intangible assets (Note 12)	109,744	99,839
Right-of-use assets (Note 32)	49,377	-
Total non-current assets	18,495,573	18,222,826
TOTAL ASSETS	₩ 22,434,630	₩ 22,835,911

(Continued)

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
AS OF DECEMBER 31, 2019 AND 2018 (CONTINUED)

	Korean won	
	December 31, 2019	December 31, 2018
	(In millions)	
LIABILITIES AND EQUITY		
CURRENT LIABILITIES:		
Current derivative liabilities (Notes 5, 7 and 34)	₩ 276	₩ 181
Trade payables (Notes 5, 27, 30 and 34)	836,117	1,634,670
Other payables (Notes 5, 27, 30 and 34)	523,937	569,199
Short-term borrowings (Notes 5, 14, 27 and 34)	56,129	72,956
Current portion of debentures and long-term borrowings (Notes 5, 14, 27 and 34)	301,500	161,526
Current tax liabilities	48,513	186,938
Provisions (Note 15)	48,255	52,430
Other current liabilities (Notes 17 and 18)	333,379	361,631
Current lease liabilities (Notes 5, 27, 32, 34 and 38)	21,555	-
Liabilities related to assets held for sale (Notes 28,38 and 39)	75,140	-
Total current liabilities	2,244,801	3,039,531
NON-CURRENT LIABILITIES:		
Non-current derivative liabilities (Notes 5, 27 and 34)	8,465	-
Other non-current payables (Notes 5, 30 and 34)	84,269	77,743
Long-term borrowings (Notes 5, 14 and 34)	757,385	1,285,055
Net defined benefit liability (Note 16)	16,959	10,402
Deferred tax liability (Note 28)	231,008	213,536
Provisions (Note 15)	5,870	5,025
Other non-current liabilities (Note 17)	38,171	40,141
Non-current lease liabilities (Notes 5, 27, 32, 34 and 38)	26,681	-
Total non-current liabilities	1,168,808	1,631,902
TOTAL LIABILITIES	3,413,609	4,671,433
EQUITY:		
Equity attributable to the owners of the parent company:	18,827,021	17,998,725
Issued capital (Note 19)	879,359	879,359
Capital surplus (Note 20)	2,363,147	2,365,545
Other capital items (Note 19)	(2,385)	(2,385)
Accumulated other comprehensive income (loss) (Note 21)	(112,366)	(292,418)
Retained earnings (Note 22)	15,699,266	15,048,624
Non-controlling interests	194,000	165,753
TOTAL EQUITY	19,021,021	18,164,478
TOTAL LIABILITIES AND EQUITY	₩ 22,434,630	₩ 22,835,911

(Concluded)

See accompanying notes to consolidated financial statements.

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF PROFIT OR LOSS
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018

	Korean won			
	Year ended December 31, 2019		Year ended December 31, 2018	
	(In millions)			
Revenue and gain (loss) on valuation by equity method (Notes 4 and 23):				
Sales of finished goods and merchandise	₩	763,966	₩	688,320
Service revenue		1,926,718		1,976,270
Construction revenue		2,898,931		3,343,915
Gain (loss) on valuation by equity method		498,945		1,269,966
Other revenue		486,779		464,884
		6,575,339		7,743,355
Cost of sales (Notes 23 and 24)		5,216,657		5,619,366
Gross profit		1,358,682		2,123,989
Selling and administrative expenses (Notes 23 and 24)		334,584		302,733
Operating income		1,024,098		1,821,256
Financial income (Notes 25 and 27)		35,168		34,352
Financial expenses (Notes 25 and 27)		43,115		44,336
Other non-operating income (Notes 26 and 27)		52,814		28,649
Other non-operating expenses (Notes 26 and 27)		57,877		66,680
Profit before income tax from continuing operations		1,011,088		1,773,241
Income tax expense from continuing operations (Note 28)		203,919		(49,140)
Profit from continuing operations		807,169		1,822,381
Profit from discontinued operations (Note 37)		299,586		60,516
Profit for the year	₩	1,106,755	₩	1,882,897
Profit for the year attributable to:				
Owners of the parent company	₩	1,079,949	₩	1,863,881
Non-controlling interests		26,806		19,016
Earnings per share (in Korean won):				
Continuing and discontinued operations:				
Common stock - basic/diluted (Note 29)	₩	6,143	₩	10,603
Pre-1996 Commercial Law Amendment Preferred Stock - basic/diluted (Note 29)		6,193		10,653
Continuing operations:				
Common stock - basic/diluted (Note 29)	₩	4,439	₩	10,293
Pre-1996 Commercial Law Amendment Preferred Stock - basic/diluted (Note 29)		4,489		10,343

See accompanying notes to consolidated financial statements.

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018

	Korean won			
	Year ended December 31, 2019		Year ended December 31, 2018	
	(In millions)			
Profit for the year	₩	1,106,755	₩	1,882,897
Other comprehensive income (loss):				
Items that may be reclassified subsequently to profit or loss				
Net gain (loss) on changes in valuation of investments using equity method		159,933		(48,431)
Net gain (loss) on derivative instruments entered into for cash flow hedges		-		1,966
Overseas operations translation		21,564		17,454
Items that will not be reclassified subsequently to profit or loss:				
Net gain (loss) on other financial assets		843		(6,031)
Remeasurement of net defined benefit liability		(8,527)		(9,201)
Decrease in retained earnings of equity-method investments		(66,545)		(42,738)
Total comprehensive income for the year	₩	1,214,023	₩	1,795,916
Total comprehensive income attributable to:				
Owners of the parent company	₩	1,184,884	₩	1,777,355
Non-controlling interests		29,139		18,561

See accompanying notes to consolidated financial statements.

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018

	Korean won						
	Issued capital	Capital surplus	Other capital items	Accumulated other comprehensive income (loss)	Retained earnings	Non-controlling interests	Total
				(In millions)			
Balance as of January 1, 2018	₩ 879,359	₩ 2,365,549	₩ (2,385)	₩ (250,370)	₩13,010,406	₩ 176,952	₩ 16,179,511
Effect of accounting policy change							
Effect of accounting policy change of subsidiaries	-	-	-	(1,796)	1,796	-	-
Equity-method effect due to changes in accounting policies of associates and joint ventures	-	-	-	(5,476)	452,959	-	447,483
Amount rewritten after revision	₩ 879,359	₩ 2,365,549	₩ (2,385)	(257,642)	13,465,161	176,952	16,626,994
Total comprehensive income for the year							
Profit (loss) for the year	-	-	-	-	1,863,881	19,016	1,882,897
Net gain (loss) on other financial assets	-	-	-	(5,912)	-	(119)	(6,031)
Valuation through equity method	-	-	-	(48,260)	(42,632)	(277)	(91,169)
Valuation on derivative instruments entered into for cash flow hedges	-	-	-	1,966	-	-	1,966
Remeasurements of the net defined benefit liability	-	-	-	-	(9,118)	(83)	(9,201)
Overseas operations translation	-	-	-	17,430	-	24	17,454
Transactions with owners directly reflected in capital							
Annual dividends	-	-	-	-	(228,668)	(2,757)	(231,425)
Changes in the shares of subsidiaries	-	(4)	-	-	-	(27,003)	(27,007)
Balance as of December 31, 2018	₩ 879,359	₩ 2,365,545	₩ (2,385)	₩ (292,418)	₩15,048,624	₩ 165,753	₩ 18,164,478

(Continued)

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018 (CONTINUED)

	Korean won						
	Issued capital	Capital surplus	Other capital items	Accumulated other comprehensive income (loss)	Retained earnings	Non-controlling interests	Total
				(In millions)			
Balance as of January 1, 2019	₩ 879,359	₩ 2,365,545	₩ (2,385)	₩ (292,418)	₩15,048,624	₩ 165,753	₩ 18,164,478
Effect of accounting policy change							
Effect of accounting policy change of subsidiaries	-	-	-	-	(4)	-	(4)
Equity-method effect due to changes in accounting policies of associates and joint ventures	-	-	-	-	(2,478)	-	(2,478)
Amount rewritten after revision	₩ 879,359	₩ 2,365,545	₩ (2,385)	₩ (292,418)	₩15,046,142	₩ 165,753	₩ 18,161,996
Total comprehensive income for the year							
Profit (loss) for the year	-	-	-	-	1,079,949	26,806	1,106,755
Net gain (loss) on other financial assets	-	-	-	882	-	(39)	843
Valuation through equity method	-	-	-	157,722	(66,526)	2,192	93,388
Remeasurements of the net defined benefit liability	-	-	-	-	(8,591)	64	(8,527)
Overseas operations translation	-	-	-	21,448	-	116	21,564
Transactions with owners directly reflected in capital							
Annual dividends	-	-	-	-	(351,708)	(6,298)	(358,006)
Changes in the shares of subsidiaries	-	(2,398)	-	-	-	5,406	3,008
Balance as of December 31, 2019	₩ 879,359	₩ 2,363,147	₩ (2,385)	₩ (112,366)	₩15,699,266	₩ 194,000	₩ 19,021,021

(Concluded)

See accompanying notes to consolidated financial statements.

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018

	Korean won	
	Year ended December 31, 2019	Year ended December 31, 2018
	(In millions)	
CASH FLOWS FROM OPERATING ACTIVITIES:		
Profit for the year	₩ 1,106,755	₩ 1,882,897
Additions of expenses not involving cash outflows:		
Salaries and bonuses	2,701	1,172
Retirement benefits	27,736	27,317
Depreciation	156,104	153,390
Amortization of intangible assets	19,992	22,527
Loss on valuation of inventories	-	261
Bad debt expenses	293	9,916
Accrual of provision	25,800	29,398
Impairment loss on property, plant and equipment	6,257	75
Impairment loss on intangible assets	389	879
Loss on foreign currency translation	3,536	8,169
Loss on disposals of property, plant and equipment	347	448
Loss on disposals of investment property	5,674	-
Loss on disposals of intangible assets	147	716
Loss on disposals of right-of-use assets	11	-
Loss on transactions of derivatives	15,911	13,467
Loss on valuation of derivatives	330	5,424
Interest expenses	39,003	43,794
Loss on valuation of other financial assets	305	292
Loss on disposals of other financial assets	1	1
Loss on disposals of investments in subsidiaries	462	625
Loss on disposals of investments in associates	1,712	-
Impairment loss on investments in associates	-	23,680
Compensation expenses associated with stock option	116	-
Income tax expense	293,308	47,280
Others	(1,660)	4,097
	598,475	392,928
Deduction of items not involving cash inflows:		
Reversal of salary and bonus	-	34
Reversal of impairment loss on inventories	50	152
Reversal of allowance for doubtful accounts	588	1,726
Reversal of provisions	8,374	6,188
Reversal of impairment loss on intangible assets	890	-
Gain on foreign currency translation	7,602	4,767
Gain on disposals of property, plant and equipment	482	1,153
Gain on disposals of intangible assets	3	226
Gain on transactions of derivatives	8,534	7,381
Gain on valuation of derivatives	1,981	1,271
Interest income	28,679	24,072
Dividend income	1,078	2,278

(Continued)

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018 (CONTINUED)

	Korean won	
	Year ended December 31, 2019	Year ended December 31, 2018
	(In millions)	
Gain on valuation of other financial assets	₩ 225	₩ 108
Gain on disposals of investments in subsidiaries	358,511	20,543
Gain on disposals of investments in associates	252	718
Gain on valuation by equity method	498,945	1,269,966
Others	492	660
	(916,686)	(1,341,243)
Movements in working capital:		
Trade receivables	270,881	207,382
Other receivables	(25,164)	3,729
Inventories	(5,570)	(6,719)
Non-current trade receivables	(17)	(1,088)
Non-current other receivables	17	27
Trade payables	(27,802)	(584,857)
Other payables	(21,124)	(39,666)
Provisions	(27,263)	(19,208)
Net defined benefit liability	(30,550)	(40,691)
Others	(154,797)	25,341
	(21,389)	(455,750)
Interest income received	24,424	24,369
Dividend income received	377,314	340,336
Income tax received	815	(316)
Interest expenses paid	(35,346)	(35,324)
Income taxes paid	(315,695)	(312,954)
Net cash provided by operating activities	818,667	494,943

(Continued)

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018 (CONTINUED)

	Korean won			
	Year ended December 31, 2019		Year ended December 31, 2018	
	(In millions)			
CASH FLOWS FROM INVESTING ACTIVITIES:				
Cash inflows from investing activities:				
Decrease in financial institution deposits	₩	671,586	₩	782,317
Settlement of derivative instruments		8,534		7,365
Decrease in other receivables		1,880		22,536
Disposals of other financial assets		1,201		743
Decrease in non-current other receivables		721		32
Disposals of investments in subsidiaries		576,536		43,453
Disposals of investments in associates		521		-
Disposals of property, plant and equipment		3,019		27,760
Disposals of investment property		1,466		2,444
Disposals of intangible assets		3,195		1,019
Acquisition control of subsidiaries		-		4,114
Others		384		822
		1,269,043		892,605
Cash outflows for investing activities:				
Increase in financial institution deposits		890,053		692,941
Settlements of derivative instruments		15,163		13,600
Increase in other receivables		3,722		17,782
Acquisitions of non-current AFS financial assets		10,035		2,910
Increase in non-current other receivables		2,545		4,707
Acquisitions of investments in subsidiaries		10,540		-
Acquisitions of investments in associates		-		424,530
Acquisitions of property, plant and equipment		62,312		263,549
Acquisitions of investment property		282,987		98,776
Acquisitions of intangible assets		25,681		32,413
Others		1		30
		(1,303,039)		(1,551,238)
Net cash used in investing activities		(33,996)		(658,633)

(Continued)

LG CORP. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018 (CONTINUED)

	Korean won			
	Year ended December 31, 2019		Year ended December 31, 2018	
	(In millions)			
CASH FLOWS FROM FINANCING ACTIVITIES:				
Cash inflows from financing activities:				
Proceeds from short-term borrowings	₩	149,433	₩	54,364
Proceeds from long-term borrowings		32,090		32,629
Issuance of debentures		-		368,585
Increase in government subsidy		477		594
		182,000		456,172
Cash outflows for financing activities:				
Redemptions of short-term borrowings		45,489		29,783
Redemptions of long-term borrowings		112,792		-
Redemptions of debentures		110,000		240,000
Redemptions of current portion of long-term borrowings		51,652		81,364
Redemptions of lease liabilities		12,637		
Payments of dividends		357,987		231,410
Cash outflows for consolidated capital transactions		249		29
		(690,806)		(582,586)
Net cash used in financing activities		(508,806)		(126,414)
Net change in cash and cash equivalents		275,865		(290,104)
Cash and cash equivalents at beginning of year		1,054,293		1,342,871
Effects of exchange rate changes on cash and cash equivalents		6,944		1,526
Cash and cash equivalents at end of year	₩	1,337,102	₩	1,054,293

(Concluded)

See accompanying notes to consolidated financial statements.

LG CORP. AND ITS SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018

1. GENERAL:

In accordance with Korean International Financial Reporting Standards ("K-IFRSs") 1110 (Consolidated Financial Statements), LG Corp. (the "Company") is the parent company and an investment holding company. In order to become a global competitor through effective management and to confront changes in domestic and international business environments, the Company acquired LG Electronics Inc., an investment company, and the real estate lease and investment business of S&I Corporation Co., Ltd. (formerly, Serveone Co., Ltd.) on March 1, 2003.

The Company has been listed on the Korea Exchange stock market since February 1970. After numerous paid-up capital increases, spin-offs and mergers, the outstanding capital stock amounted to ₩879,359 million, including preferred stocks of ₩16,573 million as of December 31, 2019.

As of December 31, 2019, the Company's related parties and major shareholders are as follows:

Names of shareholders	Number of shares	Percentage of shares (%) (*)
Ku, Gwang Mo	25,881,884	14.72
Ku, Bon Jun	13,317,448	7.57
Ku, Bon Shik	7,728,609	4.39
Kim, Young Shik	7,253,100	4.12
Ku, Bon Neung and others	21,204,138	12.06
LG Yonam Education Foundation	3,675,742	2.09
LG Yonam Foundation	572,525	0.33
Others	96,238,362	54.72
Total	175,871,808	100.00

(*) Includes preferred stocks

2. STANDARDS AFFECTING PRESENTATION AND DISCLOSURE AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

The consolidated financial statements have been confirmed at the board of directors' meeting held on February 13, 2020, and will be finalized at the shareholders' meeting on March 27, 2020.

The Company and its subsidiaries (the "Group") have prepared the consolidated financial statements in accordance with K-IFRSs.

The significant accounting policies under K-IFRSs followed by the Group in the preparation of its consolidated financial statements are summarized below. Unless stated otherwise, these accounting policies have been applied consistently to the Group's consolidated financial statements for the current period and the comparative prior period.

Consolidated financial statements were prepared on a historical cost basis, except for certain non-current assets and financial assets measured at revalued amounts or fair values at the end of each reporting period as described in the accounting policies below. Historical costs are generally measured at the fair value of the consideration paid to acquire the asset.

Fair value is the price that will be received by selling assets or paying liabilities in normal transactions between market participants at the measurement date, regardless of whether the prices are directly observable or estimated using valuation techniques. In estimating the fair value of an asset or liability, the Group considers the characteristics of the asset or liability that market participants consider when pricing the asset or liability at the measurement date. Except for measurements that are somewhat similar to fair value, but are not fair value, fair value of share-based payment transactions within the scope of K-IFRS 1102 Share-based Payment, lease transactions within the scope of K-IFRS 1116 Leases, the net realizable value of K-IFRS 1002 Inventories and Inventories or value in use in K-IFRS 1036 Impairment of Assets are determined in accordance with the principles described above for measurement or disclosure purposes.

(1) New and amended K-IFRSs and new interpretations that are effective for the current year

- K-IFRS 1116 – Leases (Enactment)

In the current year, the Group has applied K-IFRS 1116 (as issued by the KASB in November 2017) that is effective for annual periods that begin on or after 1 January 2019.

K-IFRS 1116 introduces new or amended requirements with respect to lease accounting. It introduces significant changes to lessee accounting by removing the distinction between operating and finance lease and requiring the recognition of a right-of-use asset and a lease liability at commencement for all leases, except for short-term leases and leases of low value assets. In contrast to lessee accounting, the requirements for lessor accounting have remained largely unchanged. Details of these new requirements are described in '(9) Lease.' The impact of the adoption of K-IFRS 1116 on the Group's consolidated financial statements is described below.

The date of initial application of K-IFRS 1116 for the Group is January 1, 2019.

The Group has applied K-IFRS 1116 using the cumulative catch-up approach, with these practical expedients:

- To recognize the cumulative effect of initially applying this standard as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at the date of initial application.
- Not to restate comparative information applying K-IFRS 1017 Leases and K-IFRS 2104 Determining whether an arrangement contains a lease.

(a) Impact of the new definition of a lease
The Group has made use of the practical expedient available on transition to K-IFRS 1116 not to reassess whether a contract is or contains a lease. Accordingly, the definition of a lease in accordance with K-IFRS 1017 and K-IFRS 2104 will continue to be applied to those contracts entered or modified before January 1, 2019.

The change in definition of a lease mainly relates to the concept of control. K-IFRS 1116 determines whether a contract contains a lease on the basis of whether the customer has the right to control the use of an identified asset for a period of time in exchange for consideration. This is in contrast to the focus on 'risks and rewards' in K-IFRS 1017 and K-IFRS 2104.

The Group applies the definition of a lease and related guidance set out in K-IFRS 1116 to all contracts entered into or changed on or after January 1, 2019.

(b) Impact on lessee accounting

(i) Former operating leases

K-IFRS 1116 changes how the Group accounts for leases previously classified as operating leases under K-IFRS 1017, which were off financial position.
Applying K-IFRS 1116, for all leases (except as noted below), the Group:

- Recognizes right-of-use assets and lease liabilities in the consolidated statement of financial position, initially measured at the present value of the future lease payments,
- Recognizes depreciation of right-of-use assets and interest on lease liabilities in profit or loss, and
- Separates the total amount of cash paid into a principal portion (presented within financing activities) and interest (presented within financing activities) in the consolidated statement of cash flows.

Lease incentives (e.g., rent-free period) are recognized as part of the measurement of the right-of-use assets and lease liabilities, whereas under K-IFRS 1017, they resulted in the recognition of a lease incentive, amortized as a reduction of rental expenses generally on a straight-line basis.

Under K-IFRS 1116, right-of-use assets are tested for impairment in accordance with K-IFRS 1036.

For short-term leases (lease term of 12 months or less) and leases of low-value assets, the Group has opted to recognize a lease expense on a straight-line basis as permitted by K-IFRS 1116.

The Group used these practical expedients when applying the cumulative catch-up approach to leases previously classified as an operating lease applying K-IFRS 1017.

- To apply a single discount rate to a portfolio of leases with reasonably similar characteristics
- To rely on its assessment of whether leases are onerous applying International Accounting Standard (IAS) 37 Provisions, Contingent Liabilities and Contingent Assets immediately before the date of initial application as an alternative to performing an impairment review
- To elect not to recognize right-of-use asset and lease liability to leases for which the lease term ends within 12 months of the date of initial application
- To use hindsight, such as in determining the lease term if the contract contains options to extend or terminate the lease

(ii) Former finance leases

About the lease classified as a financial lease by applying K-IFRS 1017, except for the case where the Group chooses to apply the lease exemption rule for small underlying assets. The carrying amounts of lease assets and lease liabilities, which is measured by applying K-IFRS 1017 immediately before the first application date, are reclassified to right-of-use assets and lease liabilities without any adjustment.

Right-of-use assets and lease liabilities are accounted for as of January 1, 2019, by applying the K-IFRS 1116.

(c) Impact on lessor accounting

K-IFRS 1116 does not change substantially how a lessor accounts for leases. Under K-IFRS 1116, a lessor continues to classify leases as either finance leases or operating leases and account for those two types of leases differently.

However, K-IFRS 1116 has changed and expanded the disclosures required, in particular with regard to how a lessor manages the risks arising from its residual interest in leased assets.

Under K-IFRS 1116, an intermediate lessor accounts for the head lease and the sublease as two separate contracts. The intermediate lessor is required to classify the sublease as a finance or operating lease by reference to the right-of-use asset arising from the head lease (and not by reference to the underlying asset as was the case under K-IFRS 1017).

Because of this change, the Group has reclassified certain of its sublease agreements as finance leases. As required by K-IFRS 1109, an allowance for expected credit losses (ECL) has been recognized on the finance lease receivables.

(d) Financial impact of the initial application of K-IFRS 1116

The lessee’s incremental borrowing rate used when measuring lease liabilities at January 1, 2019, is 2.6%.

The table below demonstrates the relationship between the discounted amount of operating lease commitments as at December 31, 2018, applied K-IFRS 1017 using the incremental borrowing rate at the date of initial application, and the amount of lease liabilities at the date of initial application:

Description		1 January 2019
Operating lease commitments as at December 31, 2018 (a)	₩	38,655
Short-term leases and leases for which the underlying asset is of low value (b)		(6,287)
Discount on present value (c)		(8,035)
Financial lease liabilities under K-IFRS 1017 as at December 31, 2018 (d)		-
Present value of variable lease payments that depend on an index or a rate (e)		(26)
Present value of non-cancellable lease payments that were not formerly included as operating lease (f)		8,886
Lease liabilities as at January 1, 2019 (g = a+b+c+d+e+f)	₩	33,194

Right-of-use assets of ₩34,665 million and lease liabilities of ₩33,194 million was recognized at the date of initial application of K-IFRS 1116. The difference of ₩1,471 million between the amount of right-of-use assets and the amount of lease liabilities was recognized as transfer between asset items and retained earnings.

- K-IFRS 1109 – Financial Instruments (Amendment)

The amendments to K-IFRS 1109 clarify that for the purpose of assessing whether a prepayment feature meets the ‘solely payments of principal and interest’ (SPPI) condition; the party exercising the option may pay or receive reasonable compensation for the prepayment irrespective of the reason for prepayment. In other words, financial assets with prepayment features with negative compensation do not automatically fail SPPI.

- K-IFRS 1028 – Long-Term Interests in Associates and Joint Ventures (Amendment)

The Group has adopted the amendments to K-IFRS 1028 for the first time in the current year. The amendment clarifies that K-IFRS 1109, including its impairment requirements, applies to other financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity’s net investment in an associate or joint venture. The Group applies K-IFRS 1109 to such long-term interests before it applies K-IFRS 1028. In applying K-IFRS 1109, the Group does not take account of any adjustments to the carrying amount of long-term interests required by K-IFRS 1028 (i.e., adjustments to the carrying amount of long-term interests arising from the allocation of losses of the investee or assessment of impairment in accordance with K-IFRS 1028).

- Annual Improvements to K-IFRSs 2015–2017 Cycle

The annual improvements include amendments to four standards, such as K-IFRS 1012, Income Taxes; K-IFRS 1023, Borrowing Costs; K-IFRS 1103, Business Combinations; and K-IFRS 1111, Joint Arrangements.

1. K-IFRS 1012 – Income Taxes
The amendments clarify that an entity should recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized the transactions that generated the distributable profits. This is the case irrespective of whether different tax rates apply to distributed and undistributed profits.

2. K-IFRS 1023 – Borrowing Costs
The amendments clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalization rate on general borrowings.

3. K-IFRS 1103 – Business Combinations
The amendments to K-IFRS 1103 clarify that when an entity obtains control of a business that is a joint operation, the entity applies the requirements for a business combination achieved in stages, including remeasuring its previously held interest (“PHI”) in the joint operation at fair value. The PHI to be remeasured includes any unrecognized assets, liabilities and goodwill relating to the joint operation.

4. K-IFRS 1111 – Joint Arrangements
The amendments to K-IFRS 1111 clarify that when a party that participates in, but does not have joint control of, a joint operation that is a business obtains joint control of such a joint operation, the entity does not remeasure its PHI in the joint operation.

- K-IFRS 1019 – Employee Benefits Plan Amendment, Curtailment or Settlement (Amendment)

The amendments clarify that the past service cost (or the gain or loss on settlement) is calculated by measuring the defined benefit liability (asset) using updated assumptions and comparing benefits offered and plan assets before and after the plan amendment (or curtailment or settlement), but ignoring the effect of the asset ceiling (that may arise when the defined benefit plan is in a surplus position). K-IFRS 1019 is now clear that the change in the effect of the asset ceiling that may result from the plan amendment (or curtailment or settlement) is determined in a second step and is recognized in the normal manner in other comprehensive income.

The paragraphs that relate to measuring the current service cost and the net interest on the net defined benefit liability (asset) have also been amended. An entity will now be required to use the updated assumptions from this remeasurement to determine current service cost and net interest for the remainder of the reporting period after the change to the plan. In the case of the net interest, the amendments make it clear that for the period of post-plan amendment, the net interest is calculated by multiplying the net defined benefit liability (asset) as remeasured under paragraph 99 with the discount rate used in the remeasurement (also taking into account the effect of contributions and benefit payments on the net defined benefit liability (asset)).

- K-IFRS 1115 – Revenue from Contracts with Customers (Amendment)

The amendment clarifies that it does not reduce the scope of disclosure even if K-IFRS 1115 is applied by revising the meaning of 'contract' referred to in paragraph 129.1 to 'individual contract' in relation to 'additional disclosure of cost application method'. In addition, because K-IFRS 1115 does not distinguish between the types of contracts, service contracts that were not covered by the previous revenue standard, paragraph 145.1, may also be subject to paragraph 한 129.1 of K-IFRS 1115. This clarifies that the scope of the contract that are subject to the disclosure requirement in accordance with paragraph 129.1 may be broadened compared to the previous revenue standard.

- K-IFRS 2123 – Interpretation Uncertainty over Income Tax Treatments (Amendment)

K-IFRS 2123 interpretation sets out how to determine the accounting tax position when there is uncertainty over income tax treatments. The interpretation requires an entity to:

- Determine whether uncertain tax positions are assessed separately or as a group.
- Assess whether it is probable that a tax authority will accept an uncertain tax treatment used, or proposed to be used, by an entity in its income tax filings:
    - If yes, the entity should determine its accounting tax position consistently with the tax treatment used or planned to be used in its income tax filings.
    - If no, the entity should reflect the effect of uncertainty in determining its accounting tax position.

- K-IFRS 1109 – Financial Instruments and K-IFRS 1107 – Financial Instruments: Disclosure (Amendment)

The amendments mainly deal with the addition of temporary exceptions from applying specific hedge accounting requirements while the uncertainty arises from interest rate benchmark reform. The amendment requires that for the purpose of determining whether a forecast transaction (or a component thereof) is highly probable, an entity shall assume that the interest rate benchmark on which the hedged cash flows (contractually or non-contractually specified) are based is not altered as a result of interest rate benchmark reform. When applying the prospective assessment, the amendment further requires that an entity shall assume that the hedged risk or the interest rate benchmark on which the hedged item or the hedging instrument is based is not altered as a result of the reform. Additionally, for a hedge of a non-contractually specified benchmark component of interest rate risk, an entity shall apply the requirement that the risk component shall be separately identifiable only at the inception of the hedging relationship. Meanwhile, an entity shall prospectively cease applying the temporary exceptions to a hedged item at the earlier of: (a)when the uncertainty arising from interest rate benchmark reform is no longer present with respect to the timing and the amount of the interest rate benchmark-based cash flows of the hedged item and (b)when the hedging relationship that the hedged item is part of is discontinued.

The amendments are effective for annual periods beginning on or after January 1, 2020, and must be applied retrospectively. Early application is permitted.

The Group does not anticipate that the application of the enactment and amendments will have a significant impact on the Group's consolidated financial statements.

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

-K-IFRS 1103 Definition of a business (Amendment)

The amendments clarify that while businesses usually have outputs, outputs are not required for an integrated set of activities and assets to qualify as a business. To be considered a business, an acquired set of activities and assets must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. Additional guidance is provided that helps to determine whether a substantive process has been acquired.

The amendments introduce an optional concentration test that permits a simplified assessment of whether an acquired set of activities and assets is not a business. Under the optional concentration test, the acquired set of activities and assets is not a business if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar assets.

The amendments are applied prospectively to all business combinations and asset acquisitions for which the acquisition date is on or after the first annual reporting period beginning on or after January 1, 2020, with early application permitted.

-Amendments to References to the Conceptual Framework in K-IFRS Standards (Amendment)

Together with the revised Conceptual Framework, which became effective upon publication on December 21, 2018, the International Accounting Standards Board (IASB) has also issued Amendments to References to the Conceptual Framework in International Financial Reporting Standards. The document contains amendments to K-IFRS 1102, 1103, 1106, 1114, 1001, 1008, 1034, 1037, 1038, 2112, 2119, 2120, 2122 and 2032.

Not all amendments, however, update those pronouncements with regard to references to and quotes from the framework so that they refer to the revised Conceptual Framework. Some pronouncements are only updated to indicate which version of the framework they are referencing to (the Framework (2007), the IASB Framework of 2010, or the new revised Framework of 2018) or to indicate that definitions in the standard have not been updated with the new definitions developed in the revised Conceptual Framework.

The amendments, where they actually are updates, are effective for annual periods beginning on or after January 1, 2020, with early application permitted.

The Group does not anticipate that the application of the enactment and amendments will have a significant impact on the Group's consolidated financial statements.

(2) Basis of preparing financial statements

1) Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis, except for certain 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 in exchange for assets.

2) Functional and reporting currencies

The consolidated financial statements of the Group are presented in the currency of the primary economic environment in which the Group's entities operate (its functional currency). The Group's functional currency and the reporting currency for the consolidated financial statements is Korean won.

3) Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities (including structured entities) controlled by the Group. Control is achieved where the Group 1) has the power over the investee; 2) is exposed, or has rights, to variable returns from its involvement with the investee and 3) has the ability to use its power to affect its returns. The Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

When the Group has less than a majority of the voting rights of an investee, it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the relevant activities of the investee unilaterally. The Company considers all relevant facts and circumstances in assessing whether or not the Company's voting rights in an investee are sufficient to give it power, including:

- The size of the Company's holding of voting rights relative to the size and dispersion of holdings of the other vote holders
- Potential voting rights held by the Company, other vote holders or other parties.
- Rights arising from other contractual arrangements.
- Any additional facts and circumstances that indicate that the Company has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

When necessary, adjustments are made to the consolidated financial statements of subsidiaries to bring their accounting policies in line with those used by the Company.

All intragroup transactions, assets and liabilities, income and expenses and others relating to these, are eliminated in full on consolidation.

Non-controlling interests in subsidiaries are identified separately from the Group's equity therein. Those interests of non-controlling shareholders that present ownership interests entitling their holders to a proportionate share of net assets upon liquidation may initially be measured at 1) fair value or 2) at the non-controlling interests' proportionate share of the fair value of the acquiree's identifiable net assets. The choice of measurement is made on an acquisition-by-acquisition basis. Other non-controlling interests are initially measured at fair value. Subsequent to acquisition, the carrying amount of non-controlling interests is the amount of those interests at initial recognition, plus the non-controlling interests' share of subsequent changes in equity. Total comprehensive income is attributed to non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Changes in the Group's ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Group'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 the owners of the Group.

When the Group 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. All amounts previously recognized in other comprehensive income in relation to that subsidiary are accounted for as if the Group had directly disposed of the related assets or liabilities of the subsidiary (i.e., reclassified to profit or loss or transferred to another category of equity as required/permitted by applicable K-IFRS standards). 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.

4) The Group's investments in subsidiaries as of December 31, 2019, are as follows (Unit: Korean won in millions):

				Percentage of ownership and voting right held by the Group		As of and for the year ended December 31, 2018			
Subsidiary	Location	Main Sales Activities	Closing date	Dec. 31, 2019	Dec. 31, 2018	Assets	Liabilities	Sales	Net income
S&I Corporation (Serveone Co., Ltd.)	South Korea	Real estate rental business and others	12/31	100.00%	100.00%	₩ 2,536,716	₩ 1,261,627	₩ 1,700,673	₩ 316,879
Serveone (Nanjing). Co., Ltd(*1).	China	Wholesale and product brokerage	12/31	-	100.00%	-	-	-	-
S&I Nanjing Company Limited(*2)	China	Building and civil engineering service	12/31	100.00%	100.00%	261,392	219,960	436,732	9,240
Konjiam Yewon Co., Ltd.	South Korea	Seed, seedling cultivation and sales	12/31	90.00%	90.00%	9,209	1,574	1,030	(203)
SERVEONE Guangzhou Co., Ltd. (*1)	China	Material purchasing agency (B to B)	12/31	-	100.00%	-	-	-	-
SERVEONE VIETNAM Co., Ltd. (*1)	Vietnam	Material purchasing agency (B to B)	12/31	-	100.00%	-	-	-	-
S&I POLAND sp. Z o. o.(*2)	Poland	Building and civil engineering service	12/31	100.00%	100.00%	75,983	56,062	246,674	12,853
Mirae M	South Korea	Hotel business	12/31	100.00%	100.00%	58,849	49,197	13,101	(11,721)
Dream nuri	South Korea	Building general cleaning business, non-alcoholic beverage shop business and coffee shop operation business	12/31	100.00%	100.00%	1,079	215	1,345	284
Serveone Co., Ltd. (*3)	South Korea	Wholesale and retail	12/31	-	100.00%	-	-	-	-
S&I Vietnam construction Co., Ltd	Vietnam	Building and civil engineering service	12/31	100.00%	100.00%	3,317	2,783	13,548	929
SERVEONE EUROPE Sp. Z o. o.(*1)(*4)	Poland	Material purchasing agency (B to B)	12/31	-	-	-	-	-	-
S&I CM(*5)	South Korea	Construction management business	12/31	100.00%	-	38,917	10,502	27,795	3,523
S&I CM NANJING(*4)	China	Construction management business	12/31	100.00%	-	13,185	11,799	13,305	701
S&I CM POLAND SP. Z o. o (*4)	Poland	Construction management business	12/31	100.00%	-	5,641	5,171	5,286	(33)
S&I CM VIETNAM CO., LTD(*4)	Vietnam	Construction management business	12/31	100.00%	-	2,517	1,698	2,546	300
LG CNS Co., Ltd.	South Korea	IT system integration, management, consulting service	12/31	84.95%	84.95%	2,463,633	1,285,736	3,039,796	155,872
BizTechPartners Co., Ltd.	South Korea	Development, design, sales of computer software and provision of related services	12/31	96.09%	96.09%	29,062	11,573	104,488	1,964
LG CNS Philippines, Inc.	Philippines	IT system integration, management, consulting service	12/31	100.00%	100.00%	-	3,394	-	-
LG CNS Europe B.V.	Europe	IT system integration, management, consulting service	12/31	100.00%	100.00%	40,735	34,903	51,534	1,730
LG CNS America Inc.	USA	IT system integration, management, consulting service	12/31	100.00%	100.00%	37,582	33,482	70,553	(2,843)

Subsidiary	Location	Main Sales Activities	Closing date	Percentage of ownership and voting right held by the Group Dec. 31, 2019	Dec. 31, 2018	As of and for the year ended December 31, 2018 Assets	Liabilities	Sales	Net income
PT LG CNS Indonesia	Indonesia	IT system integration, management, consulting service	12/31	100.00%	100.00%	2,933	5,512	4,901	(107)
Entrue Brasil Services de T.I. Ltda.	Brazil	IT system integration, management, consulting service	12/31	100.00%	100.00%	1,727	504	4,196	160
UCESS PHILIPPINES, INC.(*6)	Philippines	IT system integration, management, consulting service	12/31	-	100.00%	-	-	-	-
LG CNS China, Inc.	China	IT system integration, management, consulting service	12/31	100.00%	100.00%	78,500	44,825	163,484	14,524
LG CNS India Pvt., Ltd.	India	IT system integration, management, consulting service	12/31	100.00%	100.00%	10,133	8,516	10,981	426
LG CNS Colombia SAS	Colombia	IT system integration, management, consulting service	12/31	100.00%	100.00%	17,022	17,820	17,213	365
Korea Elecom Co., Ltd.(*7)	South Korea	Manufacturing and sales of radar equipment and military science engagement training equipment and others	12/31	-	93.93%	-	-	-	-
LG CNS Malaysia Sdn Bhd	Malaysia	IT system integration, management, consulting service	12/31	100.00%	100.00%	3,268	5,225	4,802	215
LG CNS Saudi Arabia LLC	Saudi Arabia	IT system integration, management, consulting service	12/31	51.00%	51.00%	57	15	-	-
LG CNS JAPAN, Co., Ltd.	Japan	IT system integration, management, consulting service	12/31	100.00%	100.00%	9,905	2,777	10,382	39
LG CNS Uzbekistan, LLC	Uzbekistan	IT system integration, management, consulting service	12/31	51.00%	51.00%	191	698	390	(181)
Haengbokmaru Co., Ltd.	South Korea	Building general cleaning business, non-alcoholic beverage shop business and coffee shop operation business	12/31	100.00%	100.00%	1,746	454	2,902	133
LG CNS VIETNAM CO., LTD.	Vietnam	IT system integration, management, consulting service	12/31	100.00%	100.00%	11,350	10,388	21,160	486
LG CNS FUND I LLC	USA	Investment fund	12/31	100.00%	100.00%	4,412	83	-	(654)
Sejong Green Power(*8)	South Korea	Renewable energy power generation industry	12/31	100.00%	19.91%	27,936	4,959	8,579	(1,878)
Open source consulting(*9)	South Korea	IT system integration, management, consulting service	12/31	56.21%	-	9,787	3,883	4,532	(761)
LG Sports Ltd.	South Korea	Sports Professional Service Industry	12/31	100.00%	100.00%	138,584	53,287	66,705	(277)
LG Management Development Institute	South Korea	Management advisory, training, e-commerce, e-commerce business	12/31	100.00%	100.00%	98,000	57,113	91,695	5,015
LG Holdings Japan Co., Ltd.	Japan	Real estate rental business and others	12/31	100.00%	100.00%	301,036	82,747	8,975	2,834
LG Corp. U.S.A.(*7)	USA	Real estate rental business and others	12/31	-	100.00%	-	-	-	-

(*1) As subsidiaries of Serveone Co., Ltd., these are excluded from the scope of consolidation as the sale of 60.1% of the stake of Serveone Co., Ltd. in the current year.
(*2) Changed its name during current period.
(*3) During the current period, 60.1% of the stake in Serveone Co., Ltd. was sold and changed to affiliate. (See Note 13)
(*4) Newly established during current period.
(*5) It was established through the physical division of S&I Corporation.
(*6) Liquidated during the current year.
(*7) Disposed during current period.
(*8) During the previous period, the Group gained potential control. During the current period, the Group acquired issued shares and carried out a paid-in capital increase.
(*9) During the current period, the Group gained control by acquiring shares.

5) As of December 31, 2019, Consolidated financial status of major subsidiaries with significant non-controlling interests is as follows (Unit: Korean won in millions):

		LG CNS Co., Ltd.
Current assets	₩	1,670,395
Non-current assets		944,913
Total assets		2,615,308
Current liabilities		1,033,222
Non-current liabilities		359,248
Total liabilities		1,392,470
Equity attributable to owners of the Company		1,220,703
Equity attributable to non-controlling interests		2,135
Total equity	₩	1,222,838

6) For the year ended December 31, 2019, the consolidated financial performances of major subsidiaries that have non-controlling interests are as follows (Unit: Korean won in millions):

		LG CNS Co., Ltd.
Revenue	₩	3,283,314
Operating income		212,849
Profit for the year		163,452
Other comprehensive income		2,234
Total comprehensive income for the year	₩	165,686

7) For the year ended December 31, 2019, the consolidated cash flows of major subsidiaries that have non-controlling interests are as follows (Unit: Korean won in millions):

		LG CNS Co., Ltd.
Cash flows from operating activities	₩	198,515
Cash flows from investing activities		(68,013)
Cash flows from financing activities		(80,569)
Net change in cash and cash equivalents		49,933
Cash and cash equivalents at the beginning of year		439,346
Effects of exchange rate changes on the balance of cash held in foreign currencies		1,031
Cash and cash equivalents at the end of year	₩	490,310

8) The ownership interest held by non-controlling interests and details of financial position, results of operation and dividends vested in non-controlling interests by each of the major subsidiaries are as follows (in millions of Korean won):

		LG CNS Co., Ltd.
Ownership interest held by non-controlling interests		15.05%
Cumulative non-controlling interests	₩	185,822
Net income vested in non-controlling interests		24,264
Comprehensive income vested in non-controlling interests		24,619
Dividends paid to non-controlling interests	₩	6,298

(3) Business combinations

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 acquisition-date fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group 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 and K-IFRS 1019, respectively.
- Liabilities or equity instruments related to share-based payment arrangements of the acquiree or share-based payment arrangements of the Group 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 PHI in the acquiree (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

Non-controlling interests that are present ownership interests and entitle their holders to a proportionate share of the entity's net assets in the event of liquidation may be initially measured either at fair value or at the non-controlling interests' proportionate share of the recognized amounts of the acquiree's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis. Other types of non-controlling interests are measured at fair value or, when applicable, on the basis specified in another K-IFRS.

When the consideration transferred by the Group 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 qualify 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.

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement-period adjustments depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity. Other contingent consideration is remeasured to fair value at subsequent reporting dates with changes in fair value recognized in profit or loss.

When a business combination is achieved in stages, the Group’s PHI (including joint operations) in the acquired entity are remeasured to its acquisition-date (i.e., the date when the Group obtains control) fair value and the resulting gain or loss, if any, is recognized in profit or loss. Amounts arising from interests in the acquiree 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 was disposed of.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period (see above), or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

(4) Foreign currency translation

The individual financial statements of each group entity are presented in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the consolidated financial statements, the results of operations and financial position of each group entity are expressed in Korean won, which is the functional currency of the entity and the presentation currency for the consolidated financial statements.

In preparing the financial statements of the individual entities, transactions in currencies other than the entity's functional currency ("foreign currencies") are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences are recognized in profit or loss in the period in which they arise, except for:

- Exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings
- Exchange differences on transactions entered into in order to hedge certain foreign currency risks
- Exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore, forming part of the net investment in the foreign operation), which are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal or partial disposal of the net investment

For the purpose of presenting the consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in Korean won 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).

On the disposal of a foreign operation (i.e., a disposal of the Group's entire interest in a foreign operation, a disposal involving loss of control over a subsidiary that includes a foreign operation or partial disposal of an interest in a joint arrangement or an associate that includes a foreign operation of which the retained interest becomes a financial asset), all of the accumulated exchange differences in respect of that operation attributable to the owners of the Group are reclassified to profit or loss. Any exchange differences that have previously been attributed to non-controlling interests are derecognized, but they are not reclassified to profit or loss.

In the case of a partial disposal (i.e., no loss of control) of a subsidiary that includes a foreign operation, the proportionate share of accumulated exchange differences is reattributed to non-controlling interests in equity and are not recognized in profit or loss. For all other partial disposals (i.e., partial disposals of associates or joint arrangements that do not result in the Group losing significant influence or joint control), the proportionate share of the accumulated exchange differences is reclassified to profit 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. Exchange differences arising are recognized in other comprehensive income.

(5) Cash and cash equivalents

Cash and cash equivalents include cash, savings and checking accounts and highly liquid short-term investments (maturities of three months or less from the date of acquisition). Bank overdraft is accounted for as short-term borrowings.

(6) Financial instruments

Financial assets and financial liabilities are recognized in the Group's consolidated statements of financial position when it becomes a party to the contractual provisions of the instrument.
Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss (FVTPL) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at FVTPL are recognized immediately in profit or loss.

(7) Financial assets

All regular-way purchases or sales of financial assets are recognized and derecognized on a trade-date basis. Regular-way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

All recognized financial assets are measured subsequently in their entirety at either amortized cost or fair value, depending on the classification of the financial assets.

1) Classification of financial assets

Debt instruments that meet the following conditions are measured subsequently at amortized cost:
The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows.
The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Debt instruments that meet the following conditions are measured subsequently at fair value through other comprehensive income (FVTOCI):
The financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling the financial assets.
The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

By default, all other financial assets are measured subsequently at FVTPL.

Despite the foregoing, the Group may make the following irrevocable election/designation at initial recognition of a financial asset:
The Group may irrevocably elect to present subsequent changes in fair value of an equity investment in other comprehensive income if certain criteria are met (see 1-3) below).
The Group may irrevocably designate a debt investment that meets the amortized cost or FVTOCI criteria as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch (see 1–4) below).

1-1) Amortized cost and effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and allocating interest income over the relevant period. For financial assets other than purchased or originated credit-impaired financial assets (i.e., assets that are credit impaired on initial recognition), the effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts), excluding ECLs, through the expected life of the debt instrument, or, where appropriate, a shorter period, to the gross carrying amount of the debt instrument on initial recognition. For purchased or originated credit-impaired financial assets, a credit-adjusted effective interest rate is calculated by discounting the estimated future cash flows, including ECLs, to the amortized cost of the debt instrument on initial recognition.

The amortized cost of a financial asset is the amount at which the financial asset is measured at initial recognition, minus the principal repayments, plus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount, adjusted for any loss allowance. The gross carrying amount of a financial asset is the amortized cost of a financial asset before adjusting for any loss allowance.

Interest income is recognized using the effective interest method for debt instruments measured subsequently at amortized cost and at FVTOCI. For financial assets other than purchased or originated credit-impaired financial assets, interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit impaired (see below). For financial assets that have subsequently become credit impaired, interest income is recognized by applying the effective interest rate to the amortized cost of the financial asset. If, in subsequent reporting periods, the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit impaired, interest income is recognized by applying the effective interest rate to the gross carrying amount of the financial asset.

For purchased or originated credit-impaired financial assets, the Group recognizes interest income by applying the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The calculation does not revert to the gross basis even if the credit risk of the financial asset subsequently improves so that the financial asset is no longer credit impaired.

Interest income is recognized in profit or loss and is included in the "finance income - interest income" line item (see Note 25).

1-2) Debt instruments classified as at FVTOCI

Fair value is determined in the manner described in Note 34. The corporate bonds are initially measured at fair value, plus transaction costs. Subsequently, changes in the carrying amount of these corporate bonds as a result of foreign exchange gains and losses, impairment gains or losses and interest income calculated using the effective interest method are recognized in profit or loss. The amounts that are recognized in profit or loss are the same as the amounts that would have been recognized in profit or loss if these corporate bonds had been measured at amortized cost. All other changes in the carrying amount of these corporate bonds are recognized in other comprehensive income and accumulated under the heading of investments revaluation reserve. When these corporate bonds are derecognized, the cumulative gains or losses previously recognized in other comprehensive income are reclassified to profit or loss.

1-3) Equity instruments designated as at FVTOCI

On initial recognition, the Group may make an irrevocable election (on an instrument-by-instrument basis) to designate investments in equity instruments as at FVTOCI. Designation at FVTOCI is not permitted if the equity investment is held for trading or if it is contingent consideration recognized by an acquirer in a business combination.

A financial asset is held for trading if:
It has been acquired principally for the purpose of selling in the near term.
On initial recognition, it is part of a portfolio of identified financial instruments that the Group manages together and has evidence of a recent actual pattern of short-term profit taking.
It is a derivative (except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument).

Investments in equity instruments at FVTOCI are initially measured at fair value, plus transaction costs. Subsequently, they are measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in the investments revaluation reserve. The cumulative gain or loss is not reclassified to profit or loss on disposal of the equity investments; instead, it is transferred to retained earnings.

Dividends on these investments in equity instruments are recognized in profit or loss in accordance with K-IFRS 1109, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends are included in the ‘finance income’ line item (see Note 25) in profit or loss.

1-4) Financial assets at FVTPL

Financial assets that do not meet the criteria for being measured at amortized cost or FVTOCI are measured at FVTPL. Specifically:
Investments in equity instruments are classified as at FVTPL, unless the Group designates an equity investment that is neither held for trading nor a contingent consideration arising from a business combination as at FVTOCI on initial recognition (see 1–3) above).
Debt instruments that do not meet the amortized cost criteria or the FVTOCI criteria (see 1–1) and 1–2) above) are classified as at FVTPL. In addition, debt instruments that meet either the amortized cost criteria or the FVTOCI criteria may be designated as at FVTPL upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency (so called ‘accounting mismatch’) that would arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases. The Group has not designated any debt instruments as at FVTPL.

Financial assets at FVTPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognized in profit or loss to the extent they are not part of a designated hedging relationship. The net gain or loss recognized in profit or loss includes any dividend or interest earned on the financial asset and is included in the ‘other gains and losses’ line item (see Notes 25 and 26). Fair value is determined in the manner described in Note 34.

2) Foreign exchange gains and losses

The carrying amount of financial assets that are denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of each reporting period. Specifically:
For financial assets measured at amortized cost that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the ‘other gains and losses’ line item (see Note 26).
For debt instruments measured at FVTOCI that are not part of a designated hedging relationship, exchange differences on the amortized cost of the debt instrument are recognized in profit or loss in the ‘other gains and losses’ line item (see Note 26). Other exchange differences are recognized in other comprehensive income in the investments revaluation reserve.
For financial assets measured at FVTPL that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the ‘other gains and losses’ line item (see Note 26).
For equity instruments measured at FVTOCI, exchange differences are recognized in other comprehensive income in the investments revaluation reserve.

3) Impairment of financial assets

The Group recognizes a loss allowance for ECLs on investments in debt instruments that are measured at amortized cost or at FVTOCI, lease receivables, trade receivables and contract assets, as well as on financial guarantee contracts. The amount of ECLs is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The Group always recognizes lifetime ECL for trade receivables, contract assets and lease receivables. The ECLs on these financial assets are estimated using a provision matrix based on the Group’s historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current, as well as the forecast direction of conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the Group recognizes lifetime ECL when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month ECL.

Lifetime ECL represents the ECLs that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

3-1) Significant increase in credit risk

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Group compares the risk of a default occurring on the financial instrument at the reporting date with the risk of a default occurring on the financial instrument at the date of initial recognition. In making this assessment, the Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort. Forward-looking information considered includes the future prospects of the industries in which the Group's debtors operate, obtained from economic expert reports, financial analysts, governmental bodies, relevant think-tanks and other similar organizations, as well as consideration of various external sources of actual and forecast economic information that relate to the Group's core operations.

In particular, the following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:

- An actual or expected significant deterioration in the financial instrument's external (if available) or internal credit rating
- Significant deterioration in external market indicators of credit risk for a particular financial instrument, e.g., a significant increase in the credit spread, the credit default swap prices for the debtor, or the length of time or the extent to which the fair value of a financial asset has been less than its amortized cost
- An actual or expected significant deterioration in the operating results of the debtor
- Existing or forecast adverse changes in business, financial or economic conditions that are expected to cause a significant decrease in the debtor's ability to meet its debt obligations
- Significant increases in credit risk on other financial instruments of the same debtor
- An actual or expected significant adverse change in the regulatory, economic or technological environment of the debtor that results in a significant decrease in the debtor's ability to meet its debt obligations.

Irrespective of the outcome of the above assessment, the Group presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Group has a reasonable and supportable information that demonstrates otherwise.

Despite the foregoing, the Group assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date. A financial instrument is determined to have low credit risk if:
The financial instrument has a low risk of default.
The debtor has a strong capacity to meet its contractual cash flow obligations in the near term.
Adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil its contractual cash flow obligations.

The Group considers a financial asset to have low credit risk when the asset has external credit rating of 'investment grade' in accordance with the globally understood definition or if an external rating is not available, the asset has an internal rating of 'performing.' Performing means that the counterparty has a strong financial position and there are no past-due amounts.

For financial guarantee contracts, the date that the Group becomes a party to the irrevocable commitment is considered to be the date of initial recognition for the purposes of assessing the financial instrument for impairment. In assessing whether there has been a significant increase in the credit risk since initial recognition of a financial guarantee contracts, the Group considers the changes in the risk that the specified debtor will default on the contract.

The Group regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

3-2) Definition of default

The Group considers the following as constituting an event of default for internal credit risk management purposes as historical experience indicates that financial assets that meet either of the following criteria are generally not recoverable:

- When there is a breach of financial covenants by the debtor

Irrespective of the above analysis, the Group considers that default has occurred when a financial asset is more than 90 days past due, unless the Group has a reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

3-3) Credit-impaired financial assets

A financial asset is credit impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit impaired includes observable data about the following events:

(a) Significant financial difficulty of the issuer or the borrower.
(b) A breach of contract, such as a default or past-due event (see 3-2) above).
(c) The lender(s) of the borrower, for economic or contractual reasons relating to the borrower’s financial difficulty, having granted to the borrower a concession(s) that the lender(s) would not otherwise consider.
(d) It is becoming probable that the borrower will enter bankruptcy or other financial reorganization.
(e) The disappearance of an active market for that financial asset because of financial difficulties.

3-4) Write-off policy

The Group writes off a financial asset when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, e.g., when the debtor has been placed under liquidation or has entered into bankruptcy proceedings, or in the case of trade receivables, when the amounts are over two years past due, whichever occurs sooner. Financial assets written off may still be subject to enforcement activities under the Group’s recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognized in profit or loss.

3-5) Measurement and recognition of ECLs

The measurement of ECLs is a function of the probability of default, loss-given default (i.e., the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss-given default is based on historical data adjusted by forward-looking information as described above. As for the exposure at default, for financial assets, this is represented by the assets’ gross carrying amount at the reporting date; for financial guarantee contracts, the exposure includes the amount drawn down as at the reporting date, together with any additional amounts expected to be drawn down in the future by default date determined based on historical trend, the Group’s understanding of the specific future financing needs of the debtors and other relevant forward-looking information.

For financial assets, the ECL is estimated as the difference between all contractual cash flows that are due to the Group in accordance with the contract and all the cash flows that the Group expects to receive, discounted at the original effective interest rate. For a lease receivable, the cash flows used for determining the ECLs are consistent with the cash flows used in measuring the lease receivable in accordance with K-IFRS 1116 Leases.

For a financial guarantee contract, as the Group is required to make payments only in the event of a default by the debtor in accordance with the terms of the instrument that is guaranteed, the expected loss allowance is the expected payments to reimburse the holder for a credit loss that it incurs, less any amounts that the Group expects to receive from the holder, the debtor or any other party.

If the Group has measured the loss allowance for a financial instrument at an amount equal to lifetime ECL in the previous reporting period, but determines at the current reporting date that the conditions for lifetime ECL are no longer met, the Group measures the loss allowance at an amount equal to 12-month ECL at the current reporting date, except for assets for which simplified approach was used.

The Group recognizes an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVTOCI, for which the loss allowance is recognized in other comprehensive income and accumulated in the investment revaluation reserve, and does not reduce the carrying amount of the financial asset in the consolidated statements of financial position.

4) Derecognition of financial assets

The Group 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. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

On derecognition of a financial asset measured at amortized cost, the difference between the asset’s carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. In addition, on derecognition of an investment in a debt instrument classified as at FVTOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is reclassified to profit or loss. In contrast, on derecognition of an investment in equity instrument, which the Group has elected on initial recognition to measure at FVTOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is not reclassified to profit or loss, but is transferred to retained earnings.

(8) Inventories

Inventories are stated at the lower of cost or net realizable value. Cost of inventories, except for those in transit, is measured under the weighted-average method and consists of the purchase price, cost of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realizable value represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale.

The carrying amount of inventories sold in the period and the amount of any write-down of inventories to net realizable value and all losses of inventories in the period, less the amount of any reversal in the period of any write-down of the inventories, arising from an increase in net realizable value, is recognized as expense during that period.

(9) Investments in associates and joint ventures

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

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The results of operations and assets and liabilities of associates or joint ventures are incorporated in these consolidated financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case it is accounted for in accordance with K-IFRS 1105, *Non-Current Assets Held for Sale and Discontinued Operations*. Under the equity method, an investment in an associate or a joint venture is initially recognized in the consolidated statements of financial position at cost and adjusted thereafter to recognize the Group's share of the profit or loss and other comprehensive income of the associate or joint venture. When the Group's share of losses in an associate or a joint venture exceeds the Group's interest in that associate or joint venture (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate or joint venture), the Group discontinues recognizing its share of further losses. Additional losses are recognized only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate or joint venture.

An investment in an associate or a joint venture is accounted for using the equity method from the date on which the investee becomes an associate or a joint venture. On acquisition of the investment in an associate or a joint venture, any excess of the cost of the investment over the Group's share of the net fair value of the identifiable assets and liabilities of the investee is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of the investment, after reassessment, is recognized immediately in profit or loss in the period in which the investment is acquired.

The requirements of K-IFRS 1028 are applied to determine whether it is necessary to recognize any impairment loss with respect to the Group's investment in an associate or a joint venture. When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with K-IFRS 1036 as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs of disposal) with its carrying amount. Any impairment loss recognized is not allocated to any asset, including goodwill that 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.

The Group discontinues the use of the equity method from the date when the investment ceases to be an associate or a joint venture. When the Group retains an interest in the former associate or a joint venture and the retained interest is a financial asset, the Group measures the retained interest at fair value at that date and the fair value is regarded as its fair value on initial recognition in accordance with K-IFRS 1109. The difference between the carrying amount of the associate or a joint venture at the date the equity method was discontinued, and the fair value of any retained interest and any proceeds from disposing of a part interest in the associate or a joint venture is included in the determination of the gain or loss on disposal of the associate or joint venture. In addition, the Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate on the same basis as would be required if that associate had directly disposed of the related assets or liabilities. Therefore, if a gain or loss previously recognized in other comprehensive income by that associate or joint venture would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as a reclassification adjustment) when the associate or joint venture is disposed of.

When the Group reduces its ownership interest in an associate or a joint venture, but continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities. In addition, the Group applies K-IFRS 1105 to a portion of investment in an associate or a joint venture that meets the criteria to be classified as held for sale.

The Group continues to use the equity method when an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate. There is no remeasurement to fair value upon such changes in ownership interests.

When the Group reduces its ownership interest in an associate or a joint venture, but the Group continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities.

The Group applies K-IFRS 1109, including the impairment requirements, to long-term interests in an associate or joint venture to which the equity method is not applied and which form part of the net investment in the investee. Furthermore, in applying K-IFRS 1109 to long-term interests, the Group does not take into account adjustments to their carrying amount required by K-IFRS 1028 (i.e., adjustments to the carrying amount of long-term interests arising from the allocation of losses of the investee or assessment of impairment in accordance with K-IFRS 1028).

(10) Interests in joint operations

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement that exists only when decisions about the relevant activities require unanimous consent of the parties’ sharing control.

When a group entity undertakes its activities under joint operations, the Group, as a joint operator, recognizes in relation to its interest in a joint operation:

- Its assets, including its share of any assets held jointly
- Its liabilities, including its share of any liabilities incurred jointly
- Its revenue from the sale of its share of the output arising from the joint operation
- Its share of the revenue from the sale of the output by the joint operation
- Its expenses, including its share of any expenses incurred jointly

The Group accounts for the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the K-IFRSs applicable to the particular assets, liabilities, revenues and expenses.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a sale or contribution of assets), the Group is considered to be conducting the transaction with the other parties to the joint operation, and gains and losses resulting from the transactions are recognized in the Group's consolidated financial statements only to the extent of other parties' interests in the joint operation.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a purchase of assets), the Group does not recognize its share of the gains and losses until it resells those assets to a third party.

(11) Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business, less accumulated impairment losses, if any (see Note 2.(3)).

For the purpose of impairment testing, goodwill is allocated to each of the Group’s cash-generating units (or groups of cash-generating units) that is expected to benefit from the synergies of the combination.

A cash-generating unit to which goodwill has been allocated is tested for impairment annually or, more frequently, when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit on a pro rata basis based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognized directly in profit or loss in the consolidated statements of comprehensive income. An impairment loss recognized for goodwill is not reversed in subsequent periods.

On disposal of the relevant cash-generating unit, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

(12) Property, plant and equipment

Property, plant and equipment are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of an item of property, plant and equipment is directly attributable to their purchase or construction, which includes any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs are recognized at the carrying amount of an asset or as an asset if it is probable that future economic benefits associated with the assets will flow to the Group and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The Group does not depreciate land. Depreciation expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

	Estimated useful lives (years)
Buildings	10–50
Structures	5–40
Machinery	4–15
Other property	2–25

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

The Group 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.

(13) Investment properties

Investment properties are properties held to earn rentals and/or for capital appreciation (including property under construction for such purposes). Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are measured at fair value. Gains and losses arising from changes in the fair value of investment properties are included in profit or loss in the period in which they arise.

An investment property is derecognized upon disposal or when the investment property is permanently withdrawn from use and no future economic benefits are expected from the disposal. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognized.

While land is not depreciated, all other investment properties are depreciated based on the respective assets' estimated useful lives ranging from five to 50 years using the straight-line method. 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) Intangible assets

1) Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at cost, less accumulated amortization and accumulated impairment losses. Amortization is recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost, less accumulated impairment losses.

2) Internally generated intangible assets - research and development expenditure

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

An internally generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if, all of the following have been demonstrated:

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

The amount initially recognized for internally generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria listed above. Where no internally generated intangible asset can be recognized, development expenditure is recognized in profit or loss in the period in which it is incurred.

Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

3) Intangible assets acquired in a business combination

Intangible assets that are acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost). Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

4) Derecognition of intangible assets

An intangible asset is derecognized on disposal, or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss when the asset is derecognized.

5) Patents and trademarks

Patents and trademarks are measured initially at purchase cost and are amortized on a straight-line basis over their estimated useful lives.

(15) Impairment of tangible and intangible assets other than goodwill

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible assets 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 Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise, they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

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.

Recoverable amount is the higher of fair value, less costs to sell, or value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pretax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

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, unless the relevant asset is carried at a revalued amount, in which case the impairment loss is treated as a revaluation decrease.

(16) Financial liabilities and equity instruments

1) Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement and the definitions of financial liability and an equity instrument.

2) Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Group are recognized at the proceeds received, net of direct issue costs.

3) Financial liabilities

All financial liabilities are measured subsequently at amortized cost using the effective interest method or at FVTPL. However, financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies, and financial guarantee contracts issued by the Group, are measured in accordance with the specific accounting policies set out below.

4) Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL when the financial liability is (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) it is designated as at FVTPL.

A financial liability is classified as held for trading if:

- It has been acquired principally for the purpose of repurchasing in the near term.
- On initial recognition, it is part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit taking.
- It is a derivative that is not designated and effective as a hedging instrument.

A financial liability other than a financial liability held for trading or contingent consideration of an acquirer in a business combination may be designated as at FVTPL upon initial recognition if:

- Such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise.
- The financial liability forms part of a group of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Group's documented risk management or investment strategy, and information about the grouping is provided internally on that basis.
- It forms part of a contract containing one or more embedded derivatives, and K-IFRS 1109 permits the entire combined contract to be designated as at FVTPL.

Financial liabilities at FVTPL are measured at fair value, with any gains or losses arising on changes in fair value recognized in profit or loss to the extent that they are not part of a designated hedging relationship (see hedge accounting policy). The net gain or loss recognized in profit or loss incorporates any interest paid on the financial liability and is included in the ‘other gains and losses’ line item (see Note 26) in profit or loss.

However, for financial liabilities that are designated as at FVTPL, the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability is recognized in other comprehensive income, unless the recognition of the effects of changes in the liability’s credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. The remaining amount of change in the fair value of liability is recognized in profit or loss. Changes in fair value attributable to a financial liability’s credit risk that is recognized in other comprehensive income are not subsequently reclassified to profit or loss; instead, they are transferred to retained earnings upon derecognition of the financial liability.

Gains or losses on financial guarantee contracts issued by the Group that are designated by the Group as at FVTPL are recognized in profit or loss.

Fair value is determined in the manner described in Note 34.

5) Financial liabilities measured subsequently at amortized cost

Financial liabilities that are not (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) designated as at FVTPL are measured subsequently at amortized cost using the effective interest method.

The effective interest method is a method of calculating the amortized cost of a financial liability and allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or, where appropriate, a shorter period, to the amortized cost of a financial liability.

6) Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of debt instruments.

Financial guarantee contract liabilities are measured initially at their fair values and, if not designated as at FVTPL and do not arise from a transfer of an asset, are measured subsequently at the higher of:

- The amount of the loss allowance determined in accordance with K-IFRS 1109 (see financial assets above).
- The amount recognized initially less, where appropriate, cumulative amortization recognized in accordance with the revenue recognition policies set out above.

7) Foreign exchange gains and losses

For financial liabilities that are denominated in a foreign currency and are measured at amortized cost at the end of each reporting period, the foreign exchange gains and losses are determined based on the amortized cost of the instruments. These foreign exchange gains and losses are recognized in the ‘other gains and losses’ line item in profit or loss (see Note 26) for financial liabilities that are not part of a designated hedging relationship. For those which are designated as a hedging instrument for a hedge of foreign currency risk, foreign exchange gains and losses are recognized in other comprehensive income and accumulated in a separate component of equity.

The fair value of financial liabilities denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of the reporting period. For financial liabilities that are measured as at FVTPL, the foreign exchange component forms part of the fair value gains or losses and is recognized in profit or loss for financial liabilities that are not part of a designated hedging relationship.

8) Derecognition of financial liabilities

The Group derecognizes financial liabilities when, and only when, the Group’s obligations are discharged, cancelled or expired. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

When the Group exchanges with the existing lender one debt instrument into another one with the substantially different terms, such exchange is accounted for as an extinguishment of the original financial liability and the recognition of a new financial liability. Similarly, the Group accounts for substantial modification of terms of an existing liability or part of it as an extinguishment of the original financial liability and the recognition of a new liability. It is assumed that the terms are substantially different if the discounted present value of the cash flows under the new terms, including any fees paid, net of any fees received and discounted using the original effective rate, is at least 10% different from the discounted present value of the remaining cash flows of the original financial liability. If the modification is not substantial, the difference between (1) the carrying amount of the liability before the modification and (2) the present value of the cash flows after modification should be recognized in profit or loss as the modification gain or loss within other gains and losses.

(17) Leases

The Group has chosen the cumulative catch-up approach at the date of initial application of K-IFRS 1116. Therefore, the Group does not restate the comparative information. The detailed accounting policies that applied under K-IFRS 1017 and K-IFRS 1116 are below:

1) Accounting policy applied on or after January 1, 2019

1-1) The Group as lessee

The Group assesses whether a contract is, or contains, a lease, at inception of the contract. The Group recognizes a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low-value assets (such as tablets and personal computers, small items of office furniture and telephones). For these leases, the Group recognizes the lease payments as an operating expense on a straight-line basis over the term of the lease, unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate.

Lease payments included in the measurement of the lease liability comprise:

- Fixed lease payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date
- The amount expected to be payable by the lessee under residual value guarantees
- The exercise price of purchase options, if the lessee is reasonably certain to exercise the options
- Payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease

The lease liability is presented as a separate line in the consolidated statements of financial position.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Group remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:

- The lease term has changed or there is a significant event or change in circumstances resulting in a change in the assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.
- The lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is remeasured by discounting the revised lease payments using an unchanged discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used).
- A lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured based on the lease term of the modified lease by discounting the revised lease payments using a revised discount rate at the effective date of the modification.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day, less any lease incentives received and any initial direct costs. They are subsequently measured at cost, less accumulated depreciation and impairment losses.

Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognized and measured under IAS 37. To the extent that the costs relate to a right-of-use asset, the costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

Right-of-use assets are depreciated over the shorter period of lease term and useful life of the underlying asset. If a lease transfer's ownership of the underlying asset or the cost of the right-of-use asset reflects that the Group expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease.

The right-of-use assets are presented as a separate line in the consolidated statements of financial position.

The Group applies K-IFRS 1036 to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss as described in the 'Property, Plant and Equipment' policy.

Variable rents that do not depend on an index or rate are not included in the measurement of the lease liability and the right-of-use asset. The related payments are recognized as an expense in the period in which the event or condition that triggers those payments occurs and are included in profit or loss.

As a practical expedient, K-IFRS 1116 permits a lessee not to separate non-lease components, and instead account for any lease and associated non-lease components as a single arrangement. The Group has not used this practical expedient. For contracts that contain a lease component and one or more additional lease or non-lease components, the Group allocates the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components.

1-2) The Group as lessor

Leases for which the Group is a lessor are classified as finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as a finance lease. All other leases are classified as operating leases.

When the Group is an intermediate lessor, it accounts for the head lease and the sublease as two separate contracts. The sublease is classified as a finance or operating lease by reference to the right-of-use asset arising from the head lease.

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized on a straight-line basis over the lease term.

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

When a contract includes both lease and non-lease components, the Group applies K-IFRS 1115 to allocate the consideration under the contract to each component.

2) Accounting policy applied before January 1, 2019

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

2-1) The Group as lessee

Assets held under finance leases are initially recognized as assets of the Group at their fair value at the inception of the lease or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the consolidated statements of financial position as a finance lease obligation.

Lease payments are apportioned between finance expenses and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognized immediately in profit or loss, unless they are directly attributable to qualifying assets, in which case they are capitalized in accordance with the Group's general policy on borrowing costs (see Note 2. (18)). Contingent rentals are recognized as expenses in the periods in which they are incurred.

Operating lease payments are recognized as an expense on a straight-line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. Contingent rentals arising under operating leases are recognized as an expense in the period in which they are incurred.

In the event that lease incentives are received to enter into operating leases, such incentives are recognized as a liability. The aggregate benefit of incentives is recognized as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

2-2) The Group as lessor

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized on a straight-line basis over the lease term.

(18) 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.

To the extent that variable rate borrowings are used to finance a qualifying asset and are hedged in an effective cash flow hedge of interest rate risk, the effective portion of the derivative is recognized in other comprehensive income and reclassified to profit or loss when the qualifying asset impacts profit or loss. To the extent that fixed-rate borrowings are used to finance a qualifying asset and are hedged in an effective fair value hedge of interest rate risk, the capitalized borrowing costs reflect the hedged interest rate.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

(19) Derivative financial instruments

The Group enters into a variety of derivative financial instruments to manage its exposure to interest rate and foreign exchange rate risk, including foreign exchange forward contracts, interest rate swaps and cross-currency swaps.

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 which case the timing of the recognition in profit or loss depends on the nature of the hedge relationship. The Group 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) or hedges of net investments in foreign operations (net investment hedges).

A derivative with a positive fair value is recognized as a financial asset; 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) Embedded derivatives

An embedded derivative is a component of a hybrid contract that also includes a non-derivative host – with the effect that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative.

Derivatives embedded in hybrid contracts with a financial asset host within the scope of K-IFRS 1109 are not separated. The entire hybrid contract is classified and subsequently measured as either amortized cost or fair value as appropriate.

Derivatives embedded in hybrid contracts with hosts that are not financial assets within the scope of K-IFRS 1109 (e.g., financial liabilities) are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are not closely related to those of the host contracts and the host contracts are not measured at FVTPL.

An embedded derivative is presented as a non-current asset or non-current liability if the remaining maturity of the hybrid instrument to which the embedded derivative relates is more than 12 months and is not expected to be realized or settled within 12 months.

2) Hedge accounting

The Group designates certain derivatives as hedging instruments in respect of foreign currency risk and interest rate risk in fair value hedges, cash flow hedges or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedge relationship, the Group 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 Group documents whether the hedging instrument is effective in offsetting changes in fair values or cash flows of the hedged item attributable to the hedged risk, which is when the hedging relationships meet all of the following hedge effectiveness requirements:

- There is an economic relationship between the hedged item and the hedging instrument.
- The effect of credit risk does not dominate the value changes that result from that economic relationship.
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group actually hedges and the quantity of the hedging instrument that the Group actually uses to hedge that quantity of hedged item.

If a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio, but the risk management objective for that designated hedging relationship remains the same, the Group adjusts the hedge ratio of the hedging relationship (i.e., rebalances the hedge) so that it meets the qualifying criteria again.

The Group designates the full change in the fair value of a forward contract (i.e., including the forward elements) as the hedging instrument for all of its hedging relationships involving forward contracts.

The Group designates only the intrinsic value of option contracts as a hedged item, i.e., excluding the time value of the option. The changes in the fair value of the aligned time value of the option are recognized in other comprehensive income and accumulated in the cost of hedging reserve. If the hedged item is transaction-related, the time value is reclassified to profit or loss when the hedged item affects profit or loss. If the hedged item is time-period related, then the amount accumulated in the cost of hedging reserve is reclassified to profit or loss on a rational basis – the Group applies straight-line amortization. Those reclassified amounts are recognized in profit or loss in the same line as the hedged item. If the hedged item is a non-financial item, then the amount accumulated in the cost of hedging reserve is removed directly from equity and included in the initial carrying amount of the recognized non-financial item. Furthermore, if the Group expects that some or all of the loss accumulated in cost of hedging reserve will not be recovered in the future, that amount is immediately reclassified to profit or loss.

3) Fair value hedges

The fair value change on qualifying hedging instruments is recognized in profit or loss except when the hedging instrument hedges an equity instrument designated at FVTOCI in which case it is recognized in other comprehensive income.

The carrying amount of a hedged item not already measured at fair value is adjusted for the fair value change attributable to the hedged risk with a corresponding entry in profit or loss. For debt instruments measured at FVTOCI, the carrying amount is not adjusted as it is already at fair value, but the hedging gain or loss is recognized in profit or loss instead of other comprehensive income. When the hedged item is an equity instrument designated at FVTOCI, the hedging gain or loss remains in other comprehensive income to match that of the hedging instrument.

Where hedging gains or losses are recognized in profit or loss, they are recognized in the same line as the hedged item.

The Group discontinues hedge accounting only when the hedging relationship (or a part thereof) ceases to meet the qualifying criteria (after rebalancing, if applicable). This includes instances when the hedging instrument expires or is sold, terminated or exercised. The discontinuation is accounted for prospectively. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

4) Cash flow hedges

The effective portion of changes in the fair value of derivatives and other qualifying hedging instruments that are designated and qualify as cash flow hedges is recognized in other comprehensive income and accumulated under the heading of cash flow hedging reserve, limited to the cumulative change in fair value of the hedged item from inception of the hedge. 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 affects profit or loss, in the same line as the recognized hedged item. However, when the hedged forecast transaction results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously recognized in other comprehensive income and accumulated in equity are removed from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability. This transfer does not affect other comprehensive income. Furthermore, if the Group expects that some or all of the loss accumulated in the cash flow hedging reserve will not be recovered in the future, that amount is immediately reclassified to profit or loss.

The Group discontinues hedge accounting only when the hedging relationship (or a part thereof) ceases to meet the qualifying criteria (after rebalancing, if applicable). This includes instances when the hedging instrument expires or is sold, terminated or exercised. The discontinuation is accounted for prospectively. Any gain or loss recognized in other comprehensive income and accumulated in cash flow hedge reserve at that time remains in equity and is reclassified to profit or loss when the forecast transaction occurs. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in cash flow hedge reserve is reclassified immediately to profit or loss.

5) Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the foreign currency forward contracts relating to the effective portion of the hedge is recognized in other comprehensive income and accumulated in the foreign currency translation reserve. 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.

Gains and losses on the hedging instrument accumulated in the foreign currency translation reserve are reclassified to profit or loss on the disposal or partial disposal of the foreign operation.

(20) Employee benefits

Contributions to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

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 annual reporting period. Remeasurements comprising actuarial gains and losses, the effect of the asset ceiling (if applicable) and the return on plan assets (excluding interest) are recognized immediately in the statements of financial position with a charge or credit to the statements of comprehensive income in the period in which they occur. Remeasurements recognized in the statements of comprehensive income are not reclassified. Past service cost is recognized in profit or loss when the plan amendment or curtailment occurs, or when the Group recognizes related restructuring costs or termination benefits, if earlier. Gains or losses on settlement of a defined benefit plan are recognized when the settlement occurs.

Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are composed of service cost (including current service cost and past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement.

The Group presents the service cost expenses Cost of Sales and Sales and Management Expenses, and the remeasurement component in other comprehensive income. Curtailment gains and losses are accounted for as past service costs.

The retirement benefit obligation recognized in the consolidated statements of financial position represents the actual deficit or surplus in the Group's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

(21) Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive); as a result of a past event, it is probable that the Group will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material). The discount rate used is a pretax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage is recognized in profit or loss as borrowing cost.

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.

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. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

1) Onerous contracts

Present obligations arising under onerous contracts are recognized and measured as provisions. An onerous contract is considered to exist where the Group has a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from the contract.

2) Warranties

Provisions for the expected cost of warranty obligations under local sale of goods legislation are recognized at the date of sale of the relevant products, at the directors' best estimate of the expenditure required to settle the Group's obligation.

3) Restoration provisions

Provisions for the costs to restore leased plant assets to their original condition, as required by the terms and conditions of the lease, are recognized when the obligation is incurred, either at the commencement date or as a consequence of having used the underlying asset during a particular period of the lease, at the directors' best estimate of the expenditure that would be required to restore the assets. Estimates are regularly reviewed and adjusted as appropriate for new circumstances.

(22) Government grants

Government grants are not recognized until there is a reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

The benefit of a government loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates.

Government grants related to assets are presented in the statements of financial position by deducting the grant from the carrying amount of the asset (including property, plant and equipment). The related grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation expense.

Government grants related to income are recognized in profit or loss on a systematic basis over the periods in which the Group recognizes as expenses the related costs for which the grants are intended to compensate.

Government grants towards staff retraining costs are recognized as income over the periods necessary to match them with the related costs and are deducted in reporting the related expense.

Government grants relating to the acquisition of property, plant and equipment are treated as deferred income and released to profit or loss over the expected useful lives of the assets concerned.

(23) Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable, net of value-added tax ("VAT"), returns, rebates and discounts. The Group recognizes revenue when it is reliably measurable and the inflows of future economic benefits are likely. For each type of revenue, the Group recognizes it as follows:

1) Sale of goods

The Group recognizes revenue from sale of goods when significant risks and rewards from ownership of goods have been transferred, and retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods. Therefore, the Group recognizes revenue for the manufactured goods at acceptance and merchandises at delivery. Revenue is recognized, net of discounts, and returns derived from previous experience and provision are set for estimated return amounts, and if the past experience reveals that the return amounts or the return policy is immaterial, the gross sales amount will be recognized as revenue.

2) Rendering of service

The Group recognizes revenue from rendering service by the progress standards. The Group estimates the percentage of completion using surveys of work performed, services performed to date as a percentage of total services to be performed and the proportion of costs incurred to date in order to reliably measure the rendered services.

3) Construction contracts

Where the outcome of a construction contract can be estimated reliably, revenues and costs are recognized by reference to the stage of completion of the contract activity at the end of the reporting period, measured based on the proportion of contract costs incurred for work performed to date relative to the estimated total contract costs, except where this would not be representative of the stage of completion. Variations in contract work, claims and incentive payments are included to the extent that the amount can be measured reliably and their receipt is considered probable.

Where the outcome of a construction contract cannot be estimated reliably, contract revenue is recognized to the extent it is probable that contract costs incurred will be recoverable. Contract costs are recognized as expenses in the period in which they are incurred.

When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognized as an expense immediately.

Where contract costs incurred to date, plus recognized profits, less recognized losses exceed progress billings, the surplus is shown as amounts due from customers for contract work. For contracts where progress billings exceed contract costs incurred to date, plus recognized profits, less recognized losses, the surplus is shown as the amount due to customers for contract work. Amounts received before the related work is performed are included in the consolidated statements of financial position, as a liability, as advances received. Amounts billed for work performed, but not yet paid by the customer, are included in the consolidated statements of financial position under trade and other receivables.

4) Dividend income and interest income

Dividend income from investments is recognized when the shareholders' 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 of the asset's net carrying amount on initial recognition.

5) Royalty revenue

Royalty revenue is recognized on an accrual basis in accordance with the substance of the relevant agreement.

6) Rental income

Rental income from the provision of real estate rental services is recognized over the period. The Group's policy for recognition of revenue from operating leases is summarized in Note 2. (17).

(24) Current and deferred taxes

Income tax expense represents the sum of the tax currently payable and deferred tax.

1) Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the consolidated statements of comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

2) Deferred tax

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 liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint ventures, except where the Group 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 it is probable that there will be sufficient taxable profits against which 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 it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

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. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset if, and only if, the Group has a legally enforceable right to set off current tax assets against current tax liabilities and the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities, which intend either to settle current tax liabilities and assets on a net basis or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

3) Current and deferred taxes for the year

Current and deferred taxes are recognized in profit 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, respectively. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

(25) Treasury stock

When the Group repurchases its equity instruments (treasury stock), the incremental costs that increase in relation to capital transactions, net of tax effect, are deducted from equity and recognized as other capital items deducted from the total equity in the consolidated statements of financial position. In addition, profits or losses from purchase, sale or retirement of treasury stocks are directly recognized in equity and not in current profit or loss.

(26) Assets held for sale

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

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 continued 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 commit to a plan to sell the assets and is expected to meet the requirements within one year’s time.

If the Group commits to a plan to sell assets to lose control of a subsidiary, then all the assets and liabilities of that subsidiary are classified as held for sale when the above-mentioned conditions are met, regardless of whether the Group will retain a non-controlling interest in its former subsidiary after the sale.

When the Group is committed to a sale plan involving disposal of an investment, or a portion of an investment, in an associate or joint venture, the investment or the portion of the investment that will be disposed of is classified as held for sale when the criteria described above are met, and the Group discontinues the use of the equity method in relation to the portion that is classified as held for sale. Any retained portion of an investment in an associate or a joint venture that has not been classified as held for sale continues to be accounted for using the equity method. The Group discontinues the use of the equity method at the time of disposal when the disposal results in the Group losing significant influence over the associate or joint venture.
After the disposal takes place, the Group accounts for any retained interest in the associate or joint venture in accordance with K-IFRS 1039, *Financial Instruments: Recognition and Measurement*, unless the retained interest continues to be an associate or a joint venture, in which case the Group uses the equity method

(27) Fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these consolidated financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of K-IFRS 1102, *Share-Based Payment;* leasing transactions that are within the scope of K-IFRS 1017, *Leases;* and measurements that have some similarities to fair value, but are not fair value, such as net realizable value in K-IFRS 1002, *Inventories,* or value in use in K-IFRS 1036, *Impairment of Assets*.

In addition, for financial reporting purposes, fair value measurements are categorized into Levels 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the asset or liability.

3. SIGNIFICANT CONSIDERATION AND MAJOR SOURCES OF ESTIMATION UNCERTAINTIES:

In applying the Group's accounting policies described in Note 2, management must make judgments that have a significant effect on the amounts recognized in the consolidated financial statements (except for those related to the estimates) and are not readily identifiable from other sources of estimates and assumptions about the carrying amounts of assets and liabilities. Estimates and related assumptions are based on historical experience and other factors considered relevant. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. The amendments to the accounting estimates are recognized in the period in which the amendment is made if such amendment affects only that period, and in the period in which amendments are made and in the future periods if they affect both the current and future periods.

(1) Critical judgments made during the application of accounting policies

The following items are significant judgments that are different from those related to the estimates (see Note 3 (2)), which is the result of the management's application of the Group's accounting policies and is most important to the amounts recognized in the consolidated financial statements. It affects things.

1) Deferred income tax assets
Future feasibility for deferred tax assets depends on a number of factors, including our ability to generate taxable income during the period in which the temporary difference is realized, the overall economic environment and industry outlook. The Company reviews these items periodically and recognizes deferred tax assets for temporary differences that it deems feasible as of the end of the reporting period.

(2) Main sources of estimated uncertainty

The principal sources of significant assumptions and other estimated uncertainties for the future, at the end of the reporting period, which have significant risk factors that could cause significant adjustments to the carrying amounts of assets and liabilities in the next financial year are as follows.

1) Uncertainty in total contract revenue estimates
Total contract revenue is measured initially at the contracted amount, but can be increased or decreased as a result of changes in the terms of the contract in the course of performing the contract so that the measurement of contract revenue is subject to various uncertainties related to the outcome of future events. The Group includes in the contract revenue when it is more likely that the customer will approve the change in the amount of revenue due to changes in the terms of the contract or if it is more likely than not that the performance criteria will be met and the amount can be reliably measured.

2) Estimated total contract cost
The amount of the construction revenues is affected by the progress based on the cumulative incurred contract costs and the total contract costs are estimated based on future expectations, such as material costs, labor costs, project duration, etc. The Group estimates that the significant changes are reviewed periodically and the changes are reflected in the calculation of progress as of the end of the reporting period.

3) Impairment inspection
The recoverable amount of the cash-generating unit to be reviewed for impairment is determined based on the value in use or the fair value, less costs to sell and is estimated based on future estimates.

4) Defined benefit retirement benefit system
The fair value of a financial instrument that is not traded in an active market is determined principally using valuation techniques. The Group makes judgments on the selection of various valuation techniques and assumptions based on important market conditions as of the end of the reporting period.

5) Fair value assessment of financial instruments
The fair value of a financial instrument that is not traded in an active market is determined principally using valuation techniques. The Group makes judgments on the selection of various valuation techniques and assumptions based on important market conditions as of the end of the reporting period.

4. SEGMENT INFORMATION:

(1) The Group divides its business into four business segments based on the types of goods sold and/or services rendered information reported to the chief operating decision maker. The four business segments are LG Corp., S&I Corporation Co., Ltd., LG CNS Co., Ltd. and others. Each segment serves as the basis for reporting the primary segment information of the Group, and the accounting policies for each business segment are the same as those described in the summary of significant accounting policies.

(2) Revenue and equity method profits and profit before income tax for each business segment of the Group ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

		Revenue and gain (loss) on valuation by equity method (*1)		Profit before income tax (*2)	
Reporting sector	Business sector	Year ended December 31, 2019	Year ended December 31, 2018	Year ended December 31, 2019	Year ended December 31, 2018
LG Corp.	LG Corp.	₩ 874,672	₩ 757,197	₩ 657,320	₩ 553,960
S&I Corporation Co., Ltd.(formerly Serveone Co., Ltd.)	S&I Corporation Co., Ltd.	1,700,673	2,350,400	68,493	168,353
	Konjiam Yewon Co., Ltd.	1,030	1,325	(203)	(161)
	S&I Nanjing Company Limited(*3)	436,732	413,206	15,532	19,953
	Mirae M	13,101	4,880	(11,721)	(8,327)
	Dream nuri	1,345	719	288	130
	S&I VIETNAM CONSTRUCTION CO.,LTD.	13,548 -	-	929	(1,462)
	SERVEONE VIETNAM Co., Ltd.(*4)	-	75,814	-	12,919
	S&I POLAND sp. z o. o.(*3)	246,674	176,136	24,320	7,587
	S&I CM(*5)	27,795	-	4,645	-
	S&I CM NANJING(*6)	13,305	-	884	-
	S&I CM POLAND sp. z o. o.(*6)	5,286	-	787	-
	S&I CM VIETNAM CO., LTD(*6)	2,546	-	350	-
LG CNS Co., Ltd.	LG CNS Co., Ltd.	3,039,796	2,828,574	191,394	148,929
	LG CNS China, Inc.	163,484	136,181	19,149	17,247
	LG CNS Europe B.V.	51,534	27,457	2,524	843
	LG CNS America, Inc.	70,553	84,730	(3,600)	(9,775)
	LG CNS India Pvt., Ltd.	10,981	11,739	426	639
	PT LG CNS Indonesia	4,901	9,839	267	(91)
	Entrue Brasil Servicos de T.I. Ltda.	4,196	3,988	475	734
	BizTechPartners Co., Ltd.	104,488	96,567	2,230	2,557
	LG N-Sys Co., Ltd.	-	67,197	-	(379)
	Korea Elecom Co., Ltd.(*7)	-	1,268	-	1,705
	LG CNS Colombia SAS	17,213	13,174	923	(5,645)
	LG CNS Malaysia Sdn Bhd	4,802	6,062	283	(1,283)
	LG CNS JAPAN Co., Ltd.	10,382	37,536	573	403
	LG CNS UZBEKISTAN, LLC	390	1,144	(181)	(78)
	Haengbokmaru Co., Ltd.	2,902	2,635	142	448
	LG CNS VIETNAM Co., Ltd	21,160	21,221	486	623
	LG CNS FUND LLC	-	-	(654)	(275)
	Sejong Green Power Co., Ltd	8,579	1,406	(1,676)	(380)
	Open Source Consulting Inc.(*8)	4,532	-	(782)	-
Others	LG Sports Ltd.	66,705	60,495	8	632
	LG Holdings Japan Co., Ltd.	8,975	7,943	3,830	3,859
	LG Management Development Institute	91,695	86,851	6,807	5,969
	LG Corp. U.S.A.(*7)	-	-	-	(731)
Subtotal		7,023,975	7,285,684	984,248	918,903
Consolidation adjustments (*9)		(448,636)	457,671	26,840	854,338
Total		₩ 6,575,339	₩ 7,743,355	₩ 1,011,088	₩ 1,773,241

(*1) Revenue by reporting segment is based on the amount before eliminating intercompany profit and loss.
(*2) Income before income tax expense by reportable segment is the profit or loss of each segment that does not allocate revenue and expenses to the common segment.
(*3) Changed name during current period.
(*4) During the current period, it was replaced with discontinued operations, and the amount of the previous period is the amount incurred in businesses other than MRO, which is a discontinued operation.
(*5) Established through the physical division of S & I Corporation Co., Ltd.
(*6) Newly established during the year.
(*7) Sold during the current term.
(*8) Newly acquired during the current period.
(*9) Amount of elimination of internal transactions and amount of equity method valuation.

(3) Assets for each business segment of the Group as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Business sector	December 31, 2019	December 31, 2018
LG Corp.	₩ 9,577,962	₩ 9,327,642
S&I Corporation Co., Ltd.	3,006,804	4,912,630
LG CNS Co., Ltd.	2,749,979	2,604,510
Others	537,621	675,169
Subtotal	15,872,366	17,519,951
Consolidation adjustments (*1)	6,562,264	5,315,960
Total	₩ 22,434,630	₩ 22,835,911

(*1) Consolidation adjustments consist of elimination of intercompany transactions with regard to assets of each segment and valuation of associates and joint ventures using the equity method.

(4) Inventories sold and services rendered for each business segment of the Group for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Business sector	Inventories sold and services rendered	Year ended December 31, 2019	Year ended December 31, 2018
LG Corp.	Others	₩ 874,672	₩ 757,197
S&I Corporation Co., Ltd.	Merchandise	3,770	2,972
	Service	777,678	887,789
	Construction	1,638,759	2,100,836
	Others	41,828	30,882
LG CNS Co., Ltd.	Service	1,306,616	1,233,385
	Construction	1,403,898	1,377,011
	Merchandise	809,379	739,208
	Manufactured goods	-	1,115
Others	Service	91,695	86,850
	Others	75,680	68,439
Subtotal		7,023,975	7,285,684
Consolidation adjustments (*)		(448,636)	457,671
Total		₩ 6,575,339	₩ 7,743,355

(*) Consolidation adjustments consist of elimination of intercompany transactions with regard to assets of each segment and valuation of associates and joint ventures using the equity method.

(5) Regional revenue of the Group before elimination of intersegment transactions and valuation by equity method for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Business sector	December 31, 2019		December 31, 2018	
Korea	₩	5,937,312	₩	6,259,257
China		613,521		549,644
Other Asia		77,686		171,300
America		91,962		101,891
Europe		303,494		203,592
Total	₩	7,023,975	₩	7,285,684

(6) Regional non-current assets of the Group before elimination of intersegment transactions and valuation by equity method for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Business sector	December 31, 2019		December 31, 2018	
Korea	₩	11,046,755	₩	11,450,189
China		4,491		26,859
Other Asia		299,265		272,768
America		5,928		195,963
Europe		1,080		545
Total	₩	11,357,519	₩	11,946,324

5. CLASSIFICATION OF FINANCIAL INSTRUMENTS AND FAIR VALUE:

(1) The carrying amount and fair value of financial assets and liabilities as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

1) Financial assets

Financial assets	Account	December 31, 2019 Carrying amount	December 31, 2019 Fair value	December 31, 2018 Carrying amount	December 31, 2018 Fair value
Cash and cash equivalents:	Cash and cash equivalents	₩ 1,337,102	₩ 1,337,102	₩ 1,054,293	₩ 1,054,293
Financial assets measured at FVTPL	Derivative assets for trading purposes	2,250	2,250	1,241	1,241
	Unmarketable equity securities	7,724	7,724	11,290	11,290
	Debt securities	11,474	11,474	5,114	5,114
	Subtotal	21,448	21,448	17,645	17,645
Financial assets measured at FVTOCI	Marketable equity securities	39,477	39,477	35,755	35,755
	Unmarketable equity securities	68,387	68,387	65,058	65,058
	Subtotal	107,864	107,864	100,813	100,813
Financial assets (liabilities) measured at amortized cost	Financial institution deposits	567,976	567,976	348,699	348,699
	Trade receivables	1,477,248	1,477,248	2,780,989	2,780,989
	Loans	11,188	11,188	11,143	11,143
	Other accounts receivable	57,250	57,250	45,667	45,667
	Accrued income	6,212	6,212	3,551	3,551
	Deposits	14,143	14,143	9,520	9,520
	Subtotal	2,134,017	2,134,017	3,199,569	3,199,569
	Total	₩ 3,600,431	₩ 3,600,431	₩ 4,372,320	₩ 4,372,320

2) Financial liabilities

Financial liabilities	Account	December 31, 2019 Carrying amount	December 31, 2019 Fair value	December 31, 2018 Carrying amount	December 31, 2018 Fair value
Financial liabilities at FVTPL	Financial liabilities designated at FVTPL	₩ 8,465	₩ 8,465	₩ -	₩ -
	Derivative liabilities for trading purposes	276	276	181	181
	Subtotal	8,741	8,741	181	181
Financial liabilities measured at amortized cost	Trade payables	836,117	836,117	1,634,670	1,634,670
	Borrowings	136,571	136,571	282,406	282,406
	Other accounts payable	93,284	93,284	110,917	110,917
	Accrued expenses	166,025	166,025	175,900	175,900
	Accrued dividends	361	361	342	342
	Deposits received	348,537	351,859	359,783	361,457
	Debentures	978,442	993,249	1,237,131	1,246,461
	Subtotal	2,559,337	2,577,466	3,801,149	3,812,153
Lease liabilities	Lease liabilities	48,236	48,236	-	-
	Total	₩ 2,616,314	₩ 2,634,443	₩ 3,801,330	₩ 3,812,334

6. CASH AND CASH EQUIVALENTS:

The cash and cash equivalents in the consolidated statements of cash flows are the same as the cash and cash equivalents in the consolidated statements of financial position. Details of cash and cash equivalents as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019	December 31, 2018
Cash	₩ 320	₩ 3,151
Bank deposits	1,186,521	783,177
Other cash equivalents	150,261	267,965
Subtotal	1,337,102	1,054,293
Assets held for sale	-	-
Total	₩ 1,337,102	₩ 1,054,293

7. TRADE AND OTHER RECEIVABLES:

(1) Details of trade and other receivables before deducting accumulated impairment losses as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	December 31, 2019					
Description	Receivables neither impaired nor overdue	Receivables overdue but not impaired	Impaired receivables	Total	Consolidated adjustment	Consolidated
Trade receivables	₩ 1,450,278	₩ 185,413	₩ 22,918	₩ 1,658,609	₩ (151,589)	₩ 1,507,020
Other receivables	134,685	12,645	5,893	153,223	(60,182)	93,041
Total	₩ 1,584,963	₩ 198,058	₩ 28,811	₩ 1,811,832	₩ (211,771)	₩ 1,600,061

	December 31, 2018					
Description	Receivables neither impaired nor overdue	Receivables overdue but not impaired	Impaired receivables	Total	Consolidated adjustment	Consolidated
Trade receivables	₩ 2,791,709	₩ 204,879	₩ 27,527	₩ 3,024,115	₩ (208,917)	₩ 2,815,198
Other receivables	507,076	12,494	7,318	526,888	(451,696)	75,192
Total	₩ 3,298,785	₩ 217,373	₩ 34,845	₩ 3,551,003	₩ (660,613)	₩ 2,890,390

(2) Aging of trade and other receivables that are overdue, but not impaired as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019	December 31, 2018
1–29 days	₩ 76,801	₩ 78,386
30–60 days	16,201	21,289
61–90 days	19,788	19,359
91–120 days	11,409	12,119
More than 121 days	73,859	86,220
Total	₩ 198,058	₩ 217,373

Since the experience of past credit losses of the Group shows significant loss of different customer segments, the provisioning rate based on past delinquency days is divided into different customer groups.

Meanwhile, the credit grant period is 60 to 120 days for each type of sales, and no interest is charged for accounts receivable. The Group measures the allowance for losses on trade receivables at an amount equal to the expected total ECLs. The ECLs on trade receivables are estimated using the default experience of the borrower and the provisional setup table based on the borrower's experience of the default and the current state of the borrower and are based on the specific factors of the borrower, and the general economic situation of the industry to which the borrower belongs and forecast directions. There are no estimating techniques or significant assumptions during the current period.

(3) Changes in accumulated impairment losses for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Beginning balance	₩ 34,208	₩ 5,310	₩ 26,488	₩ 13,668
Changes due to business combination	27	-	-	-
Impairment loss	4	289	10,057	(141)
Disposals of accounts receivable	(3,791)	(976)	(3,289)	(19,167)
Reversal of allowance for doubtful accounts	(588)	-	(1,197)	(529)
Effect of foreign currency translation	238	-	(630)	-
Others	1	477	5,562	11,481
Changes in the Group	(327)	(852)	(2,783)	(2)
Ending balance	₩ 29,772	₩ 4,248	₩ 34,208	₩ 5,310

(4) Aging of impaired trade and other receivables as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019	December 31, 2018
Less than seven months	₩ 3,274	₩ 4,355
7–12 months	28	650
More than one year	25,509	29,840
Total	₩ 28,811	₩ 34,845

8. INVENTORIES:

Details of inventories as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019		
	Acquisition cost	Carrying amount	Valuation allowance
Merchandise	₩ 58,559	₩ 57,022	₩ (1,537)
Work in progress	-	-	-
Raw materials	4,295	4,295	-
Stored goods	338	338	-
Inventories in transit	-	-	-
Other inventories	1,112	747	(365)
Total	₩ 64,304	₩ 62,402	₩ (1,902)

Description	December 31, 2018		
	Acquisition cost	Carrying amount	Valuation allowance
Merchandise	₩ 108,234	₩ 106,321	₩ (1,913)
Work in progress	133	133	-
Raw materials	7,017	5,717	(1,300)
Stored goods	322	322	-
Inventories in transit	3,655	3,655	-
Other inventories	408	-	(408)
Total	₩ 119,769	₩ 116,148	₩ (3,621)

9. OTHER ASSETS:

Details of other assets as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019 Current	December 31, 2019 Non-current	December 31, 2018 Current	December 31, 2018 Non-current
Advance payments	₩ 50,949	₩ 2,827	₩ 47,532	₩ 3,110
Prepaid expenses	28,428	727	36,086	6,309
Prepaid VAT	11,894	-	13,165	-
Due from customers for contract work	336,933	-	208,564	-
Others	159	-	44	-
Total	₩ 428,363	₩ 3,554	₩ 305,391	₩ 9,419

10. PROPERTY, PLANT AND EQUIPMENT:

(1) Composition of the Group's property, plant and equipment as of December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

	December 31, 2019									
Description	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Furniture and fixtures	Construction in progress	Other property	Total
Acquisition cost	₩ 380,738	₩1,141,951	₩268,281	₩ 144,149	₩28,602	₩ 3,843	₩ 209,577	₩ 3,420	₩ 509,661	₩2,690,222
Accumulated depreciation	-	(346,246)	(116,418)	(90,498)	(12,912)	(2,877)	(136,157)	-	(324,804)	(1,029,913)
Accumulated impairment	-	-	(321)	(12,085)	-	(7)	(5,929)	-	(238)	(18,580)
Government subsidies	-	(1,278)	-	(6)	(191)	(15)	(95)	-	(11)	(1,596)
Carrying amounts	₩ 380,738	₩ 794,427	₩151,542	₩ 41,560	₩15,499	₩ 944	₩ 67,396	₩ 3,420	₩ 184,608	₩1,640,134

	December 31, 2018									
Description	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Furniture and fixtures	Construction in progress	Other property	Total
Acquisition cost	₩ 440,166	₩ 1,223,552	₩ 266,671	₩ 144,772	₩26,134	₩ 4,948	₩ 216,109	₩ 36,726	₩ 490,935	₩ 2,850,013
Accumulated depreciation	-	(323,849)	(105,592)	(83,370)	(11,036)	(3,534)	(135,485)	-	(295,271)	(958,137)
Accumulated impairment	-	-	-	(12,085)	-	-	-	-	(235)	(12,320)
Government subsidies	-	(1,332)	-	-	(245)	(2)	(145)	-	(84)	(1,808)
Carrying amounts	₩ 440,166	₩ 898,371	₩ 161,079	₩ 49,317	₩14,853	₩ 1,412	₩ 80,479	₩ 36,726	₩ 195,345	₩ 1,877,748

(2) Changes in property, plant and equipment for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019									
Description	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Furniture and fixtures	Construction in progress	Other property	Total
Beginning balance	₩ 440,166	₩ 898,371	₩161,079	₩ 49,317	₩14,853	₩ 1,412	₩ 80,479	₩ 36,726	₩ 195,345	₩1,877,748
Acquisitions	2,853	2,592	724	331	3,165	343	11,797	10,504	27,654	59,963
Disposals	(217)	-	(16)	(9)	(65)	(3)	(52)	(241)	(332)	(935)
Depreciation	-	(34,399)	(11,921)	(7,940)	(2,437)	(487)	(18,194)	-	(38,003)	(113,381)
Transfers in	12,093	24,693	5,312	5,273	-	9	1,730	-	-	49,110
Transfers out	(13,284)	(28,932)	(420)	-	-	-	-	(38,885)	-	(81,521)
Government subsidies	-	(33)	-	(7)	-	(16)	(8)	-	-	(64)
Effect of consolidation of scope changes(*1)	-	-	-	-	-	-	34	-	88	122
Sale of subsidiries(*2)	(60,873)	(68,440)	(2,940)	(5,407)	(15)	(326)	(2,812)	(710)	(64)	(141,587)
Impairment loss	-	-	(321)	-	-	(7)	(5,929)	-	-	(6,257)
Others	-	27	23	-	-	-	327	(4,325)	(134)	(4,082)
Effect of foreign currency translation	-	548	22	2	(2)	19	24	351	54	1,018
Ending balance	₩ 380,738	₩ 794,427	₩151,542	₩ 41,560	₩15,499	₩ 944	₩ 67,396	₩ 3,420	₩ 184,608	₩1,640,134

(*1) These are the tangible assets of Open Source Consulting Inc. and S&I CM., which were included in the scope of consolidation during the current period.

(*2) These are tangible assets of segment of Serveone Co., Ltd and four others and Korea Elecom Co., Ltd sold during the current period.

	Year ended December 31, 2018									
Description	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Furniture and fixtures	Construction in progress	Other property	Total
Beginning balance	₩ 482,683	₩ 674,799	₩167,104	₩ 41,361	₩13,021	₩ 1,667	₩ 70,272	₩ 260,127	₩ 200,506	₩1,911,540
Acquisitions	2,202	36,704	346	83	1,821	386	17,353	93,408	37,713	190,016
Disposals	(2,371)	(53)	(42)	(15)	(181)	(4)	(254)	(24,543)	(1,623)	(29,086)
Depreciation	-	(44,321)	(12,780)	(7,796)	(2,074)	(669)	(18,427)	-	(42,018)	(128,085)
Transfers in	11,808	308,839	6,294	-	2,539	87	12,803	-	-	342,370
Transfers out	(54,156)	(79,253)	(759)	-	-	-	-	(294,895)	-	(429,063)
Government subsidies	-	(341)	-	-	(273)	(2)	(53)	-	-	(669)
Effect of consolidation of scope changes(*1)	-	5,093	(12)	15,679	-	-	(21)	-	(558)	20,181
Impairment loss	-	-	-	-	-	-	-	-	(75)	(75)
Others	-	(3,032)	930	1	-	(64)	(1,190)	2,455	1,279	379
Effect of foreign currency translation	-	(64)	(2)	4	-	11	(4)	174	121	240
Ending balance	₩ 440,166	₩ 898,371	₩161,079	₩ 49,317	₩14,853	₩ 1,412	₩ 80,479	₩ 36,726	₩ 195,345	₩1,877,748

(*1) During the previous period, S&I VIETNAM CONSTRUCTION CO., LTD. and Sejong Green Power Co., Ltd. were included in the scope of consolidation.

(3) Changes in government grants for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019											
Description	Buildings		Machinery		Tools and equipment		Vehicles	Furniture and fixtures		Other property		Total
Beginning balance	₩	1, 332	₩	-	₩	2	245	₩	145	₩	84	₩ 1,808
Receipt		33		7		16	-		8		-	64
Offsetting depreciation		(87)		(1)		(3)	(54)		(58)		(73)	(276)
Ending balance	₩	1, 278	₩	6	₩	15	191	₩	95	₩	11	₩ 1,596

	Year ended December 31, 2018								
Description	Buildings		Tools and equipment	Vehicles	Furniture and fixtures		Other property		Total
Beginning balance	₩	1,073	-	-	₩	152	₩	160	₩ 1,385
Receipt		391	2	273		75		-	741
Offsetting depreciation		(82)	-	(28)		(60)		(76)	(246)
Others		(50)	-	-		(22)		-	(72)
Ending balance	₩	1, 332	2	245	₩	145	₩	84	₩ 1,808

11. INVESTMENT PROPERTY:

(1) Composition of investment property as of December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

	December 31, 2019									
Description	Land		Buildings		Structures		Construction in progress		Total	
Acquisition cost	₩	787,218	₩	674,015	₩	10,409	₩	90,516	₩	1,562,158
Accumulated depreciation		-		(165,347)		(4,849)		-		(170,196)
Carrying amounts	₩	787,218	₩	508,668	₩	5,560	₩	90,516	₩	1,391,962

	December 31, 2018									
Description	Land		Buildings		Structures		Construction in progress		Total	
Acquisition cost	₩	767,752	₩	603,890	₩	10,198	₩	181,412	₩	1,563,252
Accumulated depreciation		-		(141,946)		(4,395)		-		(146,341)
Carrying amounts	₩	767,752	₩	461,944	₩	5,803	₩	181,412	₩	1,416,911

(2) Changes in investment property for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019									
Description		Land		Buildings		Structures		Construction in progress		Total
Beginning balance	₩	767,752	₩	461,944	₩	5,803	₩	181,412	₩	1,416,911
Acquisitions		90,263		54,628		5		141,586		286,482
Depreciation		-		(29,370)		(1,202)		-		(30,572)
Transfers		2,556		28,735		1,120		-		32,411
Disposals		(6,911)		(47)		-		-		(6,958)
Effect of consolidation scope changes		(74,851)		(8,515)		(211)		(234,897)		(318,474)
Others		8,409		1,293		45		2,415		12,162
Ending balance	₩	787,218	₩	508,668	₩	5,560	₩	90,516	₩	1,391,962

	Year ended December 31, 2018									
Description		Land		Buildings		Structures		Construction in progress		Total
Beginning balance	₩	708,472	₩	443,686	₩	5,373	₩	84,013	₩	1,241,544
Acquisitions		-		1,383		590		91,147		93,120
Depreciation		-		(22,283)		(1,156)		-		(23,439)
Transfers		48,231		37,527		935		-		86,693
Disposals		(2,403)		(41)		-		-		(2,444)
Others		13,452		1,672		61		6,252		21,437
Ending balance	₩	767,752	₩	461,944	₩	5,803	₩	181,412	₩	1,416,911

(3) Details of the fair value of investment property as of December 31, 2019, are as follows (Unit: Korean won in millions):

Description	Date of revaluation	December 31, 2019 Land	December 31, 2019 Buildings and structures	December 31, 2019 Total
Book value of investment property:				
Book value (*1)		₩ 903,720	₩ 840,067	₩1,743,787
Results of valuation:				
Twin Tower (*1), (*2)	2019-11-12	627,750	302,250	930,000
Gasandong building (*1)	2019-11-12	95,402	104,603	200,005
Gwanghwamun building (*1)	2019-10-23	241,060	98,940	340,000
Buho building (*1)	2019-11-12	22,935	1,227	24,162
Seoul Station building (*3)	2019-10-23	226,845	128,155	355,000
Sangdodong Hi Plaza (*3)	2017-06-30	5,445	1,760	7,205
Dogokdong Gangnam building (*3)	2017-12-31	167,077	74,788	241,865
Sangam DDMC (*1), (*4)	2014-10-01		260,635	260,635
Incheon IT Center (*1), (*4)	2009-01-01	15,391	9,169	24,560
Kyobashi Trust Tower (*1), (*3)	2014-04-01	177,789	115,048	292,837
Others (*3)	2016-02-26	755	-	755
Total				₩2,677,024

(*1) Includes the value of investment property (Book value that is subject to valuation: ₩351,824 million) occupied by the owner.
(*2) It is the whole valuation amount of Twin Tower.
(*3) Acquisition cost is considered as fair value.
(*4) It is the whole valuation amount of Incheon IT Center and Sangam DDMC. Sangam DDMC is an appraisal value of the entire real estate, including land, buildings and structures. The amount of appraisal value allocated to the holding area ratio of the consolidated entity is ₩78,191 million.

Fair value assessment was performed by an independent third party, Nara Appraisal Co., Ltd. and Samchang Appraisal Co., Ltd.

The fair value of investment property is classified as Level 3 based on the input variables that are used in the valuation method.

The valuation method for measurement of fair value is the method of discounted cash flow, so the fair value of investment property is measured by the discounted present value that the net cash flow from the investment property is discounted by the discount rate of risk adjustment by reflecting the cost in relation to rental promotion, such as estimated success rate of rental market, vacant period, rental rate, free rental period and other costs that the lessee does not pay. Main input variables that are significant for measuring the fair value, but not observable, are estimated success rate of rental market, vacant rate, free rental period and discount rate of risk adjustment.

Meanwhile, the Group recognized rental income of ₩141,259 million and ₩128,111 million, respectively, for investment property.

12. INTANGIBLE ASSETS:

(1) Composition of the Group's intangible assets as of December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Description	December 31, 2019 Development costs	Intellectual property rights	Memberships	Goodwill	Construction in progress	Computer software and other assets	Total
Acquisition cost	₩ 28,761	₩ 21,475	₩ 23,429	₩ 12,348	₩ 12,663	₩ 171,277	₩ 269,953
Accumulated depreciation	(20,259)	(12,551)	-	-	-	(115,554)	(148,364)
Accumulated impairment	(2,746)	(5)	(3,260)	(5,435)	-	(387)	(11,833)
Government grants	-	-	-	-	-	(12)	(12)
Total	₩ 5,756	₩ 8,919	₩ 20,169	₩ 6,913	₩ 12,663	₩ 55,324	₩ 109,744

Description	December 31, 2018 Development costs	Intellectual property rights	Memberships	Goodwill	Construction in progress	Computer software and other assets	Total
Acquisition cost	₩ 41,185	₩ 18,682	₩ 27,439	₩ 15,242	₩ 8,489	₩ 190,132	₩ 301,169
Accumulated depreciation	(27,564)	(11,125)	-	-	-	(137,065)	(175,754)
Accumulated impairment	(6,850)	(1)	(4,854)	(13,576)	(46)	(196)	(25,523)
Government grants	-	-	-	-	-	(53)	(53)
Total	₩ 6,771	₩ 7,556	₩ 22,585	₩ 1,666	₩ 8,443	₩ 52,818	₩ 99,839

(2) Changes in intangible assets for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019 Development costs	Intellectual property rights	Memberships	Goodwill	Construction in progress	Computer software and other assets	Total
Beginning balance	₩ 6,771	₩ 7,556	₩ 22,585	₩ 1,665	₩ 8,443	₩ 52,819	₩ 99,839
Acquisitions	82	583	621	-	17,249	13,862	32,397
Increase due to internal development	892	-	-	-	1,427	-	2,319
Disposals	-	(3)	(3,329)	-	-	(7)	(3,339)
Transfers in	-	-	-	-	-	13,799	13,799
Transfers out	-	-	-	-	(13,799)	-	(13,799)
Increase due to business combination	-	1,009	-	5,248	-	3,587	9,844
Disposals of subsidiaries (*1)	-	(22)	-	-	(406)	(15,388)	(15,816)
Impairment loss	-	(4)	-	-	-	(386)	(389)
Reversal of impairment loss	-	-	890	-	-	-	890
Amortization	(1,968)	(1,433)	-	-	-	(16,714)	(20,115)
Others	(22)	1,233	(600)	-	(241)	3,745	4,115
Effect of foreign currency translation	1	-	2	-	(10)	7	-
Ending balance	₩ 5,756	₩ 8,919	₩ 20,169	₩ 6,913	₩ 12,663	₩ 55,324	₩ 109,744

(*1) These were intangible assets of segment of Serveone Co., Ltd., disposed of during the current period (see Note 36).

Description	Year ended December 31, 2018						
	Development costs	Intellectual property rights	Memberships	Goodwill	Construction in progress	Computer software and other assets	Total
Beginning balance	₩ 1,760	₩ 7,407	₩ 21,539	₩ 1,665	₩ 8,365	₩ 53,658	₩ 94,394
Acquisitions	(9)	8	1,024	-	15,218	10,854	27,095
Increase due to internal development	-	-	-	-	698	-	698
Disposals	(29)	(4)	(321)	-	-	(1,098)	(1,452)
Transfers in	7,970	4	500	-	65	6,778	15,317
Transfers out	-	-	-	-	(15,317)	-	(15,317)
Increase due to business combination	-	-	-	779	-	(29)	750
Amortization	(2,922)	(1,297)	-	-	-	(18,175)	(22,394)
Impairment loss	-	-	(100)	(779)	-	-	(879)
Others	-	1,438	(56)	-	(586)	840	1,636
Effect of foreign currency translation	1	-	(1)	-	-	(9)	(9)
Ending balance	₩ 6,771	₩ 7,556	₩ 22,585	₩ 1,665	₩ 8,443	₩ 52,819	₩ 99,839

(3) Details of book value of goodwill that is allocated to cash-generating unit are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		
	Acquisition cost	Accumulated depreciation	Book value
BizTechPartners Co., Ltd.	₩ 1,665	₩ -	₩ 1,665
Sejong Green Power (*2)	779	(779)	-
Open Source Consulting Inc.(*3)	5,248	-	5,248
Total	₩ 7,692	₩ (779)	₩ 6,913

Description	Year ended December 31, 2018		
	Acquisition cost	Accumulated depreciation	Book value
BizTechPartners Co., Ltd.	₩ 1,665	₩ -	₩ 1,665
Korea Elecom Co., Ltd.(*1)	7,964	(7,964)	-
Sejong Green Power (*2)	779	(779)	-
Total	₩ 10,408	₩ (8,743)	₩ 1,665

(*1) Sold during the current period.
(*2) Transferred to the scope of consolidation during the previous period and the related goodwill was fully impaired.
(*3) Transferred to the scope of consolidation during the current period.

(4) Changes in government grants for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019 Computer software and other assets	December 31, 2018 Computer software and other assets
Beginning balance	₩ 53	₩ 125
Offsetting amortization	(41)	(55)
Disposal	-	(17)
Ending balance	₩ 12	₩ 53

(5) The costs related to research and development, accounted for as expenses, for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	2019	2018
Selling and administrative expenses	₩ 36,661	₩ 33,731
Total	₩ 36,661	₩ 33,731

13. INVESTMENTS IN ASSOCIATES AND JOINT VENTURES:

(1) Composition of the Group's investments in associates and joint ventures as of December 31, 2019, is as follows:

Companies	Location of incorporation	Major business activities	Closing date	Number of shares held and investments in capital: Common stock	Number of shares held and investments in capital: Preferred stock	Number of shares issued: Common stock	Number of shares issued: Preferred stock	Percentage of ownership (%)	Percentage of ownership (common stock) (%)
LG Chem Ltd.	South Korea	Manufacturing of basic petrochemicals	12-31	23,534,211	-	70,592,343	7,688,800	30.06%	33.34%
LG Household & Health Care Ltd.	South Korea	Manufacturing of toothpastes, soap and detergents	12-31	5,315,500	-	15,618,197	2,099,697	30.00%	34.03%
LG Electronics Inc.	South Korea	Manufacturing of electronic components, computers, image, acoustic and communication equipment	12-31	55,094,582	-	163,647,814	17,185,992	30.47%	33.67%
LG Uplus Corp.	South Korea	Telecommunications	12-31	157,376,777	-	436,611,361	-	36.05%	36.05%
LG International Corp.	South Korea	Trade and resource development	12-31	9,571,336	-	38,760,000	-	24.69%	24.69%
LG Hitachi Co., Ltd.	South Korea	Consult computer system integration and establishment	12-31	245,000	-	500,000	-	49.00%	49.00%
GIIR Corporation	South Korea	Holdings company	12-31	5,798,593	-	16,567,409	-	35.00%	35.00%
LG Hausys, Ltd.	South Korea	Manufacturing of construction plastic materials	12-31	3,006,673	-	8,967,670	1,032,330	30.07%	33.53%
LG MMA Corp. (*1)	South Korea	Manufacturing of other basic organic chemicals	12-31	1,200,000	-	2,400,000	-	50.00%	50.00%
Silicon Works Co., Ltd.	South Korea	Design and manufacturing of semiconductor	12-31	5,380,524	-	16,264,300	-	33.08%	33.08%
ZKW Holding GmbH (*2)	Austria	Vehicle headlamp manufacturing	12-31	-	-	-	-	30.00%	30.00%
ZKW Austria Immobilien Holding GmbH(formerly, Mommert Gewebelmmobilien Verwaltungs Gmbh)(*2)(*3)	Austria	Real estate management	12-31	-	-	-	-	30.00%	30.00%
Combustion Synthesis Co., Ltd.	Japan	Manufacturing of the combustion synthesis power and manufactured goods	12-31	975,000	-	2,271,000	-	42.93%	42.93%
Tmoney Co., Ltd.(*3)	South Korea	System software development and supply	12-31	3,927,167	-	11,934,085	-	32.91%	32.91%
Songdo U-Life LLC (*4)	South Korea	Health care, integrated wireless environment, integrated smart cards and building management	12-31	5,880	-	35,880	-	16.39%	16.39%
Recaudo Bogota S.A.S.	Colombia	Public system development and service	12-31	2,126	-	10,630	-	20.00%	20.00%
Hellas SmarTicket Societe Anonyme	Greece	Public system development and service	12-31	22,500	-	75,000	-	30.00%	30.00%
Ulleungdo Natural Energy Independent Island Co., Ltd.	South Korea	New and renewable energy	12-31	1,600,000	-	5,360,000	-	29.85%	29.85%
Dongnam Solar Energy Co., Ltd.	South Korea	The sun optical-the development business	12-31	174,608	-	672,000	-	25.98%	25.98%
Daegu Clean Energy Co., Ltd.	South Korea	Energy supply	12-31	25,000	-	100,000	-	25.00%	25.00%
KEPCO-LG CNS Mangilao Holdings LLC(*5)	America	New and renewable energy	12-31	-	-	-	-	30.00%	30.00%
Serveone Co., Ltd.(*6)	South Korea	Wholesale and retail business and others	12-31	798,000		2,000,000		39.90%	39.90%

(*1) Corresponds to joint venture.
(*2) The company does not issue real shares, the number of shares is not shown.
(*3) The company's name was changed during the current year.
(*4) Although the Group owns less than 20% of its shares, the Group has significant influence over the contractual right to appoint one director to the board of directors.
(*5) Established during the previous year and has committed to investing 30% before or after investing. The Company has significant influence over the board of directors by the contractual right to appoint a director.
(*6) The Company was classified as an associate of the Group through the sale of shares during the current period.

Fair values of marketable equity securities for investments in associates as of December 31, 2019, are as follows (Unit: Korean won in millions):

Description	LG Chem Ltd.	LG Household & Health Care Ltd.	LG Electronics Inc.	LG Uplus Corp.	LG International Corp.	GIIR Corporation	LG Hausys, Ltd.	Silicon Works Co., Ltd.
Fair values of equity securities	₩ 7,472,112	₩ 6,702,846	₩ 3,972,319	₩ 2,234,750	₩ 144,049	₩ 37,981	₩ 164,465	₩ 214,145

(2) Changes in investments in associates and joint ventures for the years ended December 31, 2019 and 2018, are as follows (Korean won in millions):

	Year ended December 31, 2019							
Companies	Beginning balance	Adjustment from revised K-IFRS	Acquisitions	Dividends received	Equity method gains and losses	Other capital changes and others	Disposal and others	Ending balance
LG Chem Ltd.	₩ 5,128,462	₩ -	₩ -	₩ (141,205)	₩ 38,415	₩ 21,080	₩ -	₩ 5,046,752
LG Household & Health Care Ltd.	1,107,467	-	-	(49,168)	247,603	3,701	-	1,309,603
LG Electronics Inc.	4,243,102	(2,540)	-	(41,321)	(7,206)	77,577	-	4,269,612
LG Uplus Corp.	2,430,739	-	-	(62,951)	151,747	(13,185)	-	2,506,350
LG International Corp.	278,434	-	-	(2,393)	(22,972)	6,792	-	259,861
LG Hitachi Co., Ltd.	8,665	-	-	(23)	(233)	201	-	8,610
GIIR Corporation	56,478	-	-	(1,450)	(8,033)	448	-	47,443
LG Hausys, Ltd.	270,191	-	-	(752)	4,444	(2,903)	-	270,980
LG MMA Corp.	288,757	-	-	(72,000)	39,759	(360)	-	256,156
Silicon Works Co., Ltd.	181,607	-	-	(4,466)	10,983	183	-	188,307
LG Fuel Cell Systems Inc. (*1)	-	-	-	-	-	-	-	-
ZKW Holding GmbH	409,528	-	-	-	20,663	2,567	-	432,758
Momment Gewerbelmmobilien Verwaltungs GmbH	15,387	-	-	-	857	44	-	16,288
Combustion Synthesis Co., Ltd.	1,978	-	-	-	(323)	25	252	1,932
Tmoney Co., Ltd.(formerly Korea Smart Card Co., Ltd.)	47,787	-	-	-	4,936	75	-	52,798
Songdo U-Life LLC	711	-	-	-	(99)	1	-	613
Recaudo Bogota S.A.S.	-	-	-	-	(741)	1,242	-	501
Hellas SmarTicket Societe Anonyme	3,738	-	-	(473)	843	55	-	4,163
Ulleungdo Natural Energy Independent Island Co., Ltd.	4,558	-	-	-	34	-	-	4,592
Dongnam Solar Energy Co., Ltd.	639	-	-	-	52	-	-	691
Daegu Clean Energy Co., Ltd. (*2)	-	-	-	-	-	-	-	-
KEPCO-LG CNS Mangilao Holdings LLC(*3)	-	-	-	-	-	-	-	-
Serveone Co., Ltd.			304,402	-	18,675	(2,714)		320,363
Total	₩14,478,228	₩(2,540)	₩ 304,402	₩ (376,202)	₩ 499,404	₩ 94,829	₩ 252	₩14,998,373

(*1) Liquidated during the current year
(*2) Due to the cumulative loss during the year, the application of the equity method was discontinued and the equity method loss of ₩ 3 million was not recognized.
(*3) Accumulated equity method losses of ₩ 1,117 million and accumulated other comprehensive income of ₩ 60 million were recognized in short-term loans.

	Year ended December 31, 2018							
Companies	Beginning balance	Adjustment from revised K-IFRS	Acquisitions	Dividends received	Gain (loss) from valuation	Gain from valuation recognized in accumulated other comprehensive income	Disposal and others	Ending balance
LG Chem Ltd.	₩ 4,845,564	₩ -,	₩ -	₩ (141,205)	₩ 454,254	₩ (30,151)	₩ -	₩ 5,128,462
LG Household & Health Care Ltd.	943,955	(741)	-	(47,840)	216,691	(4,598)	-	1,107,467
LG Electronics Inc.	3,941,795	1,079	-	(22,038)	365,464	(43,198)	-	4,243,102
LG Uplus Corp.	1,853,940	469,794	-	(62,951)	166,397	3,559	-	2,430,739
LG International Corp.	296,741	1,089	-	(2,393)	(19,404)	2,401	-	278,434
LG Hitachi Co., Ltd.	8,704	-	-	(3)	756	(792)	-	8,665
GIIR Corporation	52,316	(582)	-	(1,450)	6,553	(359)	-	56,478
LG Hausys, Ltd.	290,933	(78)	-	(5,412)	(16,024)	772	-	270,191
LG MMA Corp.	254,010	-	-	(51,000)	86,691	(944)	-	288,757
Silicon Works Co., Ltd.	173,578	(375)	-	(3,766)	12,703	(533)	-	181,607
LG Fuel Cell Systems Inc. (*1)	24,096	-	4,529	-	(11,962)	193	(16,856)	-
ZKW Holding GmbH	-	-	404,713		8,495	(3,680)		409,528
Momment Gewerbelmmobilien Verwaltungs GmbH	-	-	15,289		60	38		15,387
Combustion Synthesis Co., Ltd.	1,562	-	-	-	(303)	1	718	1,978
Korea Smart Card Co., Ltd.	45,635	-	-	-	2,890	(738)	-	47,787
Songdo U-Life LLC	7,914	-	-	-	(465)	-	(6,738)	711
Recaudo Bogota S.A.S. (*2)	2,575	-	-	-	(1,378)	(1,197)	-	-
Sejong Green Power Co., Ltd. (*3)	-	-	-	-	-	-	-	-
Hellas SmarTicket Societe Anonyme	2,920	-	-	-	831	(13)	-	3,738
Ulleungdo Natural Energy Independent Island Co., Ltd.	6,371	-	-	-	(1,748)	6	(71)	4,558
Dongnam Solar Energy Co., Ltd.	607	-	-	-	32	-	-	639
Daegu Clean Energy Co., Ltd.	10	-	-	-	5	-	(15)	-
KEPCO-LG CNS Mangilao Holdings LLC(*4)	-	-	-	-	-	-	-	-
Total	₩ 12,753,226	₩470,186	₩ 424,531	₩ (338,058)	₩1,270,538	₩ (79,233)	₩ (22,962)	₩14,478,228

(*1) Recognized the total amount of impairments during the previous period.
(*2) Due to the cumulative loss during the previous year, the application of the equity method was discontinued and the equity method loss of ₩ 230 million was not recognized.
(*3) During the previous year, it was incorporated as a subsidiary by acquiring control.
(*4) Accumulated equity method losses of ₩ 658 million and accumulated other comprehensive income of ₩ 77 million were recognized in short-term loans.

(3) Adjustments to the book value of investments in associates and joint ventures from the net asset value of associates and joint ventures as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Companies	As of and for the year ended December 31, 2019					
	Net assets (A)	Ownership rate of the Group (B)	Controlling interest of net assets (A x B)(*)	(+)Goodwill	(-)Elimination of intercompany transactions	Ending balance
LG Chem Ltd.	₩ 17,004,977	30.72%	₩ 5,223,674	₩ 6,154	₩ (183,076)	5,046,752
LG Household & Health Care Ltd.	4,146,734	31.72%	1,315,460	-	(5,857)	1,309,603
LG Electronics Inc.	14,330,085	30.60%	4,384,547	-	(114,935)	4,269,612
LG Uplus Corp.	7,080,861	36.05%	2,552,296	-	(45,946)	2,506,350
LG International Corp.	1,171,482	24.76%	290,038	(27,484)	(2,693)	259,861
LG Hitachi Co., Ltd.	17,588	49.00%	8,618	-	(8)	8,610
GIIR Corporation	142,887	35.00%	50,010	2,352	(4,919)	47,443
LG Hausys, Ltd.	914,200	30.13%	275,427	-	(4,447)	270,980
LG MMA Corp.	521,775	50.00%	260,888	-	(4,732)	256,156
Silicon Works Co., Ltd.	472,207	33.08%	156,215	33,747	(1,655)	188,307
ZKW Holding GmbH	712,570	30.00%	213,771	218,987	-	432,758
Momment Gewerbelmmobilien Verwaltungs GmbH	16,658	30.00%	4,997	11,291	-	16,288
Combustion Synthesis Co., Ltd.	892	42.93%	383	1,589	(40)	1,932
Korea Smart Card Co., Ltd.	133,981	32.91%	44,089	8,777	(68)	52,798
Songdo U-Life LLC	23,536	16.39%	3,857	3,494	(6,738)	613
Recaudo Bogota S.A.S.	5,980	20.00%	1,196	-	(695)	501
Hellas SmarTicket Societe Anonyme	13,863	30.00%	4,163	-	-	4,163
Ulleungdo Natural Energy Independent Island Co., Ltd.	15,621	29.85%	4,663	-	(71)	4,592
Dongnam Solar Energy Co., Ltd.	2,654	25.98%	691	-	-	691
Daegu Clean Energy Co., Ltd.	48	25.00%	12	-	(12)	-
Serveone Co., Ltd.	585,475	39.90%	233,605	88,897	(2,139)	320,363

(*)The equity ratio reflects the effect of treasury stock and may be a different from ownership percentage.

Companies	As of and for the year ended December 31, 2018					
	Net assets (A)	Ownership rate of the Group (B)	Controlling interest of net assets (A x B)(*)	(+)Goodwill	(-)Elimination of intercompany transactions	Ending balance
LG Chem Ltd.	₩ 17,083,044	30.72%	₩ 5,247,672	₩ 6,154	₩ (125,364)	₩ 5,128,462
LG Household & Health Care Ltd.	3,512,066	31.72%	1,114,129	-	(6,662)	1,107,467
LG Electronics Inc.	14,253,268	30.47%	4,342,539	-	(99,437)	4,243,102
LG Uplus Corp.	6,853,231	36.05%	2,470,250	-	(39,511)	2,430,739
LG International Corp.	1,128,497	24.69%	278,669	1,116	(1,351)	278,434
LG Hitachi Co., Ltd.	17,699	49.00%	8,673	-	(8)	8,665
GIIR Corporation	168,439	35.00%	58,954	2,352	(4,828)	56,478
LG Hausys, Ltd.	916,748	30.07%	275,636	-	(5,445)	270,191
LG MMA Corp.	587,938	50.00%	293,969	-	(5,212)	288,757
Silicon Works Co., Ltd.	446,614	33.08%	147,748	35,201	(1,342)	181,607
LG Fuel Cell Systems Inc.	6,663	20.90%	1,392	15,473	(16,865)	-
ZKW Holding GmbH	612,339	30.00%	183,702	226,055	(229)	409,528
Momment Gewerbelmmobilien Verwaltungs GmbH	13,506	30.00%	4,052	11,344	(9)	15,387
Combustion Synthesis Co., Ltd.	889	48.01%	427	1,551	-	1,978
Korea Smart Card Co., Ltd.	118,517	32.91%	39,001	8,777	9	47,787
Songdo U-Life LLC	24,139	16.39%	3,956	3,493	(6,738)	711
Recaudo Bogota S.A.S.	3,476	20.00%	695	-	(695)	-
Hellas SmarTicket Societe Anonyme	12,460	30.00%	3,738	-	-	3,738
Ulleungdo Natural Energy Independent Island Co., Ltd.	15,508	29.85%	4,629	-	(71)	4,558
Dongnam Solar Energy Co., Ltd.	2,454	25.98%	638	1	-	639
Daegu Clean Energy Co., Ltd.	61	25.00%	15	-	(15)	-

(*)The equity ratio reflects the effect of treasury stock and may be a different from ownership percentage.

(4) Summary of financial position for associates as of December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Companies	December 31, 2019								
	Current assets	Non-current assets	Total assets	Current liabilities	Non-current liabilities	Total liabilities	Equity attributable to the owners of the parent company	Non-controlling interests	Total equity
LG Chem Ltd. (*)	₩11,869,724	₩ 22,154,702	₩34,024,426	₩8,941,529	₩7,699,108	₩16,640,637	₩17,004,977	₩378,812	₩ 17,383,789
LG Household & Health Care Ltd.	2,163,075	4,275,571	6,438,646	1,716,180	485,378	2,201,558	4,146,734	90,354	4,237,088
LG Electronics Inc. (*)	19,753,485	25,106,390	44,859,875	17,657,916	10,776,821	28,434,737	14,330,085	2,095,053	16,425,138
LG Uplus Corp.(*)	4,805,494	13,144,732	17,950,226	4,648,853	5,951,757	10,600,610	7,080,861	268,755	7,349,616

(*) LG Chem Ltd., LG Electronics Inc. and LG Uplus Corp. each recorded ₩19,573 million, ₩14,746 million,₩207,183 million, respectively, of assets (liabilities) held for sale as of December 31, 2019.

Companies	December 31, 2018								
	Current assets	Non-current assets	Total assets	Current liabilities	Non-current liabilities	Total liabilities	Equity attributable to the owners of the parent company	Non-controlling interests	Total equity
LG Chem Ltd. (*)	₩12,088,512	₩ 16,855,625	₩ 28,944,137	₩ 7,273,534	₩ 4,348,475	₩ 11,622,009	₩17,083,044	₩ 239,084	₩ 17,322,128
LG Household & Health Care Ltd.	1,691,203	3,584,671	5,275,874	1,358,883	322,971	1,681,854	3,512,066	81,954	3,594,020
LG Electronics Inc. (*)	19,362,854	24,965,588	44,328,442	17,135,028	10,886,507	28,021,535	14,253,268	2,053,639	16,306,907
LG Uplus Corp.	4,247,244	9,692,705	13,939,949	3,832,967	3,253,613	7,086,580	6,853,231	138	6,853,369

(*) LG Chem Ltd. and LG Electronics Inc. each recorded ₩13,170 million(70 million) and ₩25,376 million, respectively, of assets (liabilities) held for sale as of December 31, 2018.

(5) Summary of profit and loss for associates for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Companies	Year ended December 31, 2019					
	Revenue	Operating income	Income tax expense	Profit (loss) from discontinued operations after tax	Accumulated other comprehensive income (loss)	Total comprehensive income
LG Chem Ltd.	₩ 28,625,042	₩ 895,648	₩ 184,457	₩ -	₩ 72,416	₩ 448,520
LG Household & Health Care Ltd.	7,685,424	1,176,411	303,908	-	13,688	801,861
LG Electronics Inc.	62,306,175	2,436,139	348,690	-	197,452	377,400
LG Uplus Corp.	12,381,969	686,244	133,029	-	(36,580)	402,251

Companies	Year ended December 31, 2018					
	Revenue	Operating income	Income tax expense	Profit (loss) from discontinued operations after tax	Accumulated other comprehensive income (loss)	Total comprehensive income
LG Chem Ltd.	₩ 28,183,013	₩ 2,246,070	₩ 420,735	₩ -	₩ (86,477)	₩ 1,432,835
LG Household & Health Care Ltd.	6,747,537	1,039,250	263,726	-	203	692,482
LG Electronics Inc.	61,341,664	2,703,291	535,760	-	(140,567)	1,332,247
LG Uplus Corp.	12,125,051	730,945	166,658	-	14,993	496,603

14. DEBENTURES AND BORROWINGS:

(1) The Group's short-term borrowings as of December 31, 2019 and 2018, consist of the following (Unit: Korean won in millions):

Description	Creditor	Annual interest rate (%)	December 31, 2019	December 31, 2018
Korean currency short-term borrowings	Kookmin Bank and others	2.85–3.92	₩ 20,975	₩ 20,521
Overdraft	Kookmin Bank	3.29–3.62	9,952	7,303
Foreign currency short-term borrowings	The Export-Import Bank of Korea and others	0.68–8.00	25,202	45,132
Total			₩ 56,129	₩ 72,956

(2) The Group's long-term borrowings as of December 31, 2019 and 2018, consist of the following (Unit: Korean won in millions):

			December 31, 2019		December 31, 2018	
Description	Creditor	Annual interest rate (%)	Current	Non-current(*1)	Current	Non-current
Korean currency long-term borrowings	Shinhan Bank	2.94	₩ 1,652	₩ 5,368	₩ 51,651	₩ 85,286
Foreign currency long-term borrowings	SMBC	0.62-0.67	-	74,443	-	74,070
Debentures in Korean won	Public offering bonds	2.07–2.98	300,000	680,000	110,000	1,130,000
Discount on debentures			(152)	(1,405)	(126)	(2,744)
Present value discount account			-	(1,021)	-	(1,557)
Total			₩ 301,500	₩ 757,385	₩ 161,526	₩ 1,285,055

(*1) Information on non-current long-term borrowings as of December 31, 2019, is as follows (Unit: Korean won in millions):

Remaining maturity	1 year-2 years	2 years-3 years	More than 3 years
Balance	₩ 1,652	₩ 1,652	₩ 76,507

(3) The Group's debentures as of December 31, 2019 and 2018, consist of the following (Unit: Korean won in millions):

Company	Description	Issuance date	Maturity date	Annual interest rate	December 31, 2019	December 31, 2018
LG CNS Co., Ltd.	9-2nd public offering	2015-04-16	2020-04-16	2.07%	₩ 100,000	₩ 100,000
	9-3rd public offering	2015-04-16	2022-04-16	2.44%	50,000	50,000
	10-1st public offering	2017-04-11	2020-04-11	2.10%	110,000	110,000
	10-2nd public offering	2017-04-11	2022-04-11	2.45%	40,000	40,000
	11-1st public offering	2018-04-11	2021-04-11	2.55%	90,000	90,000
	11-2nd public offering	2018-04-11	2023-04-11	2.83%	110,000	110,000
	2-2nd public offering(*1)	2015-05-29	2020-05-29	2.89%	20,000	20,000
S&I Corporation Co., Ltd.	1-1st public offering	2016-10-27	2019-10-27	1.92%	-	110,000
	1-2nd public offering	2016-10-27	2021-10-27	2.10%	90,000	90,000
	2-1st public offering	2017-11-01	2020-11-01	2.64%	70,000	70,000
	2-2nd public offering	2017-11-01	2022-11-01	2.99%	130,000	130,000
	3-1st public offering	2018-05-04	2021-05-04	2.62%	70,000	70,000
	3-2nd public offering	2018-05-04	2023-05-04	2.98%	100,000	100,000
Serveone Co., Ltd.	1-1st public offering(*2)	2015-10-01	2020-10-01	2.24%	-	150,000
	Subtotal				980,000	1,240,000
	Discount on debentures				(1,557)	(2,869)
	Current debentures (*3)				(299,848)	(109,875)
	Total				₩ 678,595	₩ 1,127,256

(*1) The LG N-Sys Inc. was merged into LG CNS Co., Ltd. during the previous term. 2-2nd public offering debentures issued by LG N-Sys Inc. were transferred from LG CNS Co., Ltd.
(*2) Excluded from the scope of consolidation due to the sale of shares during the current period. (see Note 36)
(*3) This is the amount deducted from the discount on bonds.

15. PROVISIONS:

Changes in provisions for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019							
Description	Beginning balance	Effect of accounting policy change	Increase	Using	Reversal	Effect of foreign currency translation	Other	Ending balance
Provision for construction (product) warranties	₩ 17,703	₩ (2,167)	₩ 15,811	₩ (8,451)	₩ (2,589)	₩ 3	₩ -	₩ 20,310
Restoration liabilities (*)	3,477	(196)	231	-	(159)	6	-	3,359
Others	36,275	(3,108)	9,924	(10,878)	(5,626)	60	3,809	30,456
Total	₩ 57,455	₩ (5,471)	₩ 25,966	₩ (19,329)	₩ (8,374)	₩ 69	₩ 3,809	₩ 54,125

	Year ended December 31, 2018							
Description	Beginning balance	Effect of accounting policy change	Increase	Using	Reversal	Effect of foreign currency translation	Other	Ending balance
Provision for construction (product) warranties	₩ 19,890	₩ -	₩ 11,256	₩ (11,772)	₩ (1,720)	₩ 49	₩ -	₩ 17,703
Restoration liabilities (*)	6,784	-	993	(3,694)	(608)	2	-	3,477
Others	40,480	2,077	18,067	(20,480)	(3,887)	18	-	36,275
Total	₩ 67,154	₩ 2,077	₩ 30,316	₩ (35,946)	₩ (6,215)	₩ 69	₩ -	₩ 57,455

(*) The increase due to the valuation of the present value is included.

16. RETIREMENT BENEFIT PLAN:

(1) Defined contribution plan

The Group operates a defined contribution plan for its employees. Obligation of the Group is to make payments to third-party funds, and the benefits for employees are determined by the payments made to the funds and the investment earnings from the funds. Plan asset is managed by the third party and is segregated from the Group's assets. Contributions to defined contribution plan during the current period and the previous period are ₩42,141 million and ₩33,575 million, respectively, and payable amounts related to defined contribution plans as of December 31, 2019 and 2018, are ₩6,558 million and ₩5,331 million, respectively.

(2) Defined benefit plan

The Group operates a defined benefit plan for its employees and according to the plan, employees will be paid his or her average salary of the final three months multiplied by the number of years vested, adjusted for payment rate and other. The actuarial valuation of plan assets and the defined benefit liabilities is performed by a reputable actuary using the projected unit credit method.

1) As of December 31, 2019 and 2018, amounts recognized in the consolidated statements of financial position related to retirement benefit obligation are as follows (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Present value of defined benefit obligation	₩	175,263	₩	192,693
Fair value of plan assets		(158,304)		(182,291)
Net defined benefit liabilities	₩	16,959	₩	10,402

2) Changes in defined benefit obligation for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Beginning balance	₩	192,693	₩	209,355
Current service cost		23,365		25,643
Interest cost		3,940		5,362
Actuarial gain (loss)		10,733		10,489
Past service cost		3,455		(313)
Gain (loss) from reduction/settlement		-		(15,105)
Effect of foreign currency translation		11		(5)
Benefits paid		(30,307)		(42,325)
Others		1,926		(408)
Changes in the Group		(30,553)		-
Ending balance	₩	175,263	₩	192,693

3) Income and loss related to defined benefit plan for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Service cost	₩	26,820	₩	25,330
Current service cost		23,365		25,643
Past service cost		3,455		(313)
Net interest on the net defined benefit liability (asset)		352		298
Interest cost on defined benefit obligation		3,940		5,362
Comprising interest on plan assets		(3,588)		(5,064)
Others		317		587
Total	₩	27,489	₩	26,215

Total costs for the years ended December 31, 2019 and 2018, are included in cost of sales for ₩12,546 million and ₩8,238 million, respectively, in selling and administrative expenses for ₩13,566 million and ₩17,977 million, respectively, in profit from discontinued operations for ₩1,377 million during the current period.

4) Changes in plan assets for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description		Year ended December 31, 2019		Year ended December 31, 2018
Beginning balance	₩	182,291	₩	196,658
Comprising interest on plan assets		3,588		5,064
Remeasurements – return on plan assets		(362)		(1,752)
Contributions from the employer		28,327		18,189
Contributions from the employee		-		12,200
Benefits paid		(26,226)		(33,510)
Others		(64)		(14,558)
Changes in the Group		(29,250)		-
Ending balance	₩	158,304	₩	182,291

5) All of the plan assets are invested in financial instruments that guarantee principal and interest rate as of December 31, 2019 and 2018.

6) Actuarial assumptions used as of December 31, 2019 and 2018, are as follows:

Description	December 31, 2019	December 31, 2018
Discount rate (%)	1.76–5.98	2.27–7.05
Expected rate of salary increase (%)	2.39–9.79	2.70–9.79

7) The sensitivity analysis of the defined benefit obligation as of December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

	December 31, 2019					
Description	Center scenario		+ 1%		- 1%	
Change in discount rate	₩	175,263	₩	163,777	₩	188,940
Change in rate of salary increase		175,263		188,819		163,912

(*) The above sensitivity is estimated based on the assumption that all the other respective assumptions remain unchanged.

	December 31, 2018					
Description	Center scenario		+ 1%		- 1%	
Change in discount rate	₩	192,693	₩	180,562	₩	206,147
Change in rate of salary increase		192,693		205,762		180,657

(*) The above sensitivity is estimated based on the assumption that all the other respective assumptions remain unchanged.

8) Remeasurement related to net defined benefit liabilities for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Actuarial gains (losses) arising from changes in demographic assumptions	₩	2,560	₩	(110)
Actuarial gains (losses) arising from changes in financial assumptions		3,700		6,899
Actuarial gains (losses) arising from experience		1,834		3,667
Return on plan assets, excluding amounts included in interest income		362		1,752
Actuarial gains (losses) arising from transfer in/out adjustments		2,639		33
Total	₩	11,095	₩	12,241

Meanwhile, the Group deducted ₩(2,569) million and ₩(3,040) million arising from income tax effect for actuarial gain (loss) during the current and previous periods, respectively.

9) Estimates of contributions expected to be paid in the fiscal year beginning after the reporting period is as follows:

Description	2020	
Amount expected to be paid to institutional assets	₩	10,710

17. OTHER LIABILITIES:

Other liabilities as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019				December 31, 2018			
	Current		Non-current		Current		Non-current	
Advance receipts	₩	34,054	₩	-	₩	55,750	₩	-
Advances from lease revenue		-		4,861		-		5,218
VAT withheld		58,010		-		68,543		-
Withholdings		54,039		-		73,557		-
Unearned income		4,133		20,998		4,086		23,927
Contract liability (formerly: Overcharged construction)		183,131		-		159,695		-
Government subsidies		12		-		-		-
Other long-term employee benefits		-		12,312		-		10,996
Total	₩	333,379	₩	38,171	₩	361,631	₩	40,141

18. CONSTRUCTION CONTRACTS:

(1) Construction contracts as of December 31, 2019 and 2018, are as follows. (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Construction contracts	₩	342,818	₩	215,376
Deductions: Allowance for losses		(5,885)		(6,812)
Total	₩	336,933	₩	208,564

Management estimates the allowance for doubtful receivables in accordance with the Practical Uncertainty Law of K-IFRS 1109 as the ECL for the whole period. As of the end of the current period, there are no overdue bonds.

No changes in estimates or assumptions are used in assessing the allowance for contract assets in construction contracts during the year.

(2) Changes in ECLs of contractual assets during the year are as follows (Unit: Korean won in millions):

Description	December 31, 2019	
Beginning balance	₩	6,812
Decrease of allowance for loss		(927)
Ending balance	₩	5,885

As of December 31, 2019, the Company has no overdue receivables. Based on past default experience and future prospects for the clients' businesses, management believes that there are no impaired contracts.

(3) Construction liability as of December 31, 2019 and 2018 is as follows. (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Construction type contract	₩	126,269	₩	150,042
Equipment supply and maintenance		56,861		9,653
Total	₩	183,130	₩	159,695

No significant change in the contractual liability balance during the reporting period.

(4) Revenue recognized in current operations in respect of the contractual obligations carried forward is as follows, and there is no revenue recognized in the current year in relation to the obligation to fulfill the contract.

Description	December, 2019	
S&I Corporation Co., Ltd.	₩	88,671
LG CNS Co., Ltd		68,250
Consolidation adjustments		(49)
Total	₩	156,872

(5) As of January 1, 2019, the first application date of K-IFRS 1115, changes in estimates of total contractual costs and contractual costs relating to contracts recognized in profit or loss over the period by applying the cost-based input method. The effect of changes in the fair value of derivative financial instruments on profit and loss, contract assets and liabilities in the current and future periods is as follows (Unit: Korean won in millions):

Description	Change in estimated contract amount		Changes in estimated total contract costs		Effect on current profit or loss		Effect on future profit or loss		Changes in contractual assets (liabilities)	
S&I Corporation Co., Ltd.	₩	379,502	₩	304,138	₩	49,613	₩	25,751	₩	49,613
LG CNS Co., Ltd.		90,367		92,698		(1,759)		(572)		(1,714)
Consolidation adjustments		28		22		(22)		28		(21)
Total	₩	469,897	₩	396,858	₩	47,832	₩	25,207	₩	47,878

Changes in these estimates are excluded from contracts outstanding at the beginning of the period and include contracts that are in process and ended in prior periods.

(6) None of the contracts that recognize progress-based revenue made by applying the cost-based input method during current period exceeded 5% of previous sales.

19. ISSUED CAPITAL:

Details of issued capital as of December 31, 2019, are as follows (Unit: Korean won in millions):

Type of stock	Number of authorized shares	Number of issued shares	Number of shares owned by related party	Par value (in Korean won)	Amount of issued capital
Common stock	700,000,000	172,557,131	79,633,446	₩ 5,000	₩ 862,786
Preferred stock (*)	-	3,314,677	-	₩ 5,000	₩ 16,573

(*) Preferred stocks are stocks without voting rights that are eligible for an additional 1%, based on the face value of the stock compared to common stocks, when receiving cash dividends. In case of no dividend payout, they are granted voting rights from the date of shareholders' meeting when it is resolved not to pay dividends to the date of shareholders' meeting when it is resolved to pay dividends.

The Group has 93,789 shares of common stock and 6,810 shares of preferred stock as of December 31, 2019 and 2018, respectively; the carrying amounts of common stocks are ₩2,334 million (preferred stock: ₩51 million).

20. CAPITAL SURPLUS:

(1) Composition of capital surplus as of December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Description	December 31, 2019	December 31, 2018
Asset revaluation reserve	₩ 338,100	₩ 338,100
Paid-up capital in excess of par value	898,266	898,266
Other capital surplus	1,126,781	1,129,179
Total	₩ 2,363,147	₩ 2,365,545

(2) Changes in capital surplus as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	2019	2018
Beginning balance	₩ 2,365,545	₩ 2,365,549
Changes in the share of subsidiaries	(2,398)	(4)
Ending balance	₩ 2,363,147	₩ 2,365,545

21. ACCUMULATED OTHER COMPREHENSIVE INCOME:

(1) Details of accumulated other comprehensive income (loss) as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Changes in investment valuation using equity method	₩	(155,176)	₩	(312,898)
Gain on valuation of other financial assets		37,062		35,844
Loss on valuation of other financial assets		(2,400)		(2,064)
Overseas operations translation		8,216		(13,232)
Loss on valuation of derivatives instruments entered into for cash flow hedge		59		59
Gain and loss on disposals of other financial assets		(127)		(127)
Total	₩	(112,366)	₩	(292,418)

(2) Changes in investment valuation using equity method for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Beginning balance	₩	(312,898)	₩	(259,160)
Effect of change in accounting policy of affiliated companies		-		(5,477)
Beginning balance after adjustment		(312,898)		(264,637)
Changes in capital of associates and joint ventures		161,318		(36,541)
Effect on income taxes		(3,596)		(11,720)
Ending balance	₩	(155,176)	₩	(312,898)

(3) Changes in gain valuation on other financial assets for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Beginning balance	₩	35,844	₩	41,925
Effect of change in accounting policy		-		(839)
Beginning balance after adjustment		35,844		41,086
Changes in gain on valuation of other financial assets		1,607		(6,915)
Effect on income taxes		(389)		1,673
Ending balance	₩	37,062	₩	35,844

(4) Changes in loss on valuation of other financial assets for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Beginning balance	₩	(2,064)	₩	(565)
Effect of change in accounting policy		-		(957)
Beginning balance after adjustment		(2,064)		(1,522)
Changes in loss valuation on other financial assets		(406)		(1,580)
Effect on income taxes		70		1,038
Ending balance	₩	(2,400)	₩	(2,064)

(5) Changes in overseas operations translation for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description		Year ended December 31, 2019		Year ended December 31, 2018
Beginning balance	₩	(13,232)	₩	(30,663)
Changes in overseas operations translation		21,448		17,431
Ending balance	₩	8,216	₩	(13,232)

(6) Changes in loss on valuation of derivatives instruments entered into for cash flow hedge for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description		Year ended December 31, 2019		Year ended December 31, 2018
Beginning balance	₩	59	₩	(1,907)
Net gain (loss) on derivatives instruments entered into for cash flow hedge		-		1,966
Currency forward contract		-		36
Interest rate swap		-		1,938
Income taxes by loss on valuation of derivatives instruments entered into for cash flow hedge		-		(8)
Ending balance	₩	59	₩	59

22. RETAINED EARNINGS AND DIVIDENDS:

Changes in retained earnings for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description		2019		2018
Beginning balance	₩	15,048,624	₩	13,010,406
Effect of change of accounting policy		(2,482)		454,755
Beginning balance after adjustment		15,046,142		13,465,161
Profit for the year attributable to the owners of the Company		1,079,949		1,863,880
Dividends (*)		(351,708)		(228,668)
Remeasurement of net defined benefit liability		(8,591)		(9,118)
Changes in retained earnings by equity method		(66,526)		(42,631)
Ending balance	₩	15,699,266	₩	15,048,624

(*) Details of dividends for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019						
Type of stock	Number of issued shares	Number of treasury stocks	Number of dividend shares		Dividend per share (Korean won)		Total dividends (Korean won in millions)
Common stock	172,557,131	93,789	172,463,342	₩	2,000	₩	344,927
Preferred stock	3,314,677	6,810	3,307,867		2,050		6,781

	Year ended December 31, 2018						
Type of stock	Number of issued shares	Number of treasury stocks	Number of dividend shares		Dividend per share (Korean won)		Total dividends (Korean won in millions)
Common stock	172,557,131	93,789	172,463,342	₩	1,300	₩	224,202
Preferred stock	3,314,677	6,810	3,307,867		1,350		4,466

23. PROFIT (LOSS) FROM OPERATIONS:

Details of profit (loss) from operations for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019	Year ended December 31, 2018
Revenue and gain (loss) valuation by equity method		
Sales of goods	₩ 763,966	₩ 688,320
Sales of finished goods	672	1,115
Sales of merchandise	763,294	687,205
Service revenue	1,926,718	1,976,270
Construction revenue	2,898,931	3,343,915
Gain on valuation by equity method	498,945	1,269,966
Other revenue	486,779	464,884
	6,575,339	7,743,355
Cost of sales		
Cost of sales of goods	658,183	605,752
Cost of sales of service	1,704,747	1,760,633
Cost of sales of construction	2,537,336	2,964,144
Cost of sales of others	316,391	288,837
	5,216,657	5,619,366
Gross profit	1,358,682	2,123,989
Selling and administrative expenses		
Salaries and wages	149,692	141,234
Retirement benefits	13,132	11,131
Welfare	32,165	27,801
Amusement expenses	3,861	4,135
Depreciation	16,118	10,239
Amortization of intangible assets	7,310	6,363
Taxes and dues	12,438	11,152
Advertising expenses	6,563	6,348
Usual development expenses/survey and research	36,661	33,731
Commission	21,435	18,011
Insurance premium	2,579	2,797
Transportation expenses	130	186
Travel expenses	4,495	4,697
Service contract expenses	8,431	1,122
Rental expenses	4,571	9,118
Allowance (reversal) of bad debt	(239)	9,550
Allowance (reversal) of accrual of provision	342	(1,865)
Others	14,900	6,983
	334,584	302,733
Operating income	₩ 1,024,098	₩ 1,821,256

24. CLASSIFICATION OF EXPENSES BY NATURE:

Details of expenses by nature for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019			
Account	Changes in inventories	Selling and administrative expenses	Manufacturing statement	Nature of expenses
Changes in inventories	₩ 48,668	₩ -	₩ 857,618	₩ 906,286
Work in process	133	-	-	133
Merchandise	49,299	-	608,538	657,837
Other inventories	(764)	-	249,080	248,316
Used raw material	-	-	129,833	129,833
Employee benefits	-	194,989	819,232	1,014,221
Depreciation and amortization	-	23,428	157,160	180,588
Commission expenses	-	21,435	582,105	603,540
Lease expenses	-	4,571	61,801	66,372
Professional fees	-	8,431	2,145,292	2,153,723
Other expenses and consolidation adjustments	-	81,730	414,948	496,678
Total	₩ 48,668	₩ 334,584	₩ 5,167,989	₩ 5,551,241

	Year ended December 31, 2018			
Account	Changes in inventories	Selling and administrative expenses	Manufacturing statement	Nature of expenses
Changes in inventories	₩ (5,853)	₩ -	₩ 944,119	₩ 938,266
Work in process	(74)	-	-	(74)
Merchandise	(5,803)	-	608,553	602,750
Other inventories	24	-	335,566	335,590
Used raw material	-	-	160,140	160,140
Employee benefits	-	180,165	716,958	897,123
Depreciation and amortization	-	16,603	146,510	163,113
Commission expenses	-	18,012	675,813	693,825
Lease expenses	-	9,118	112,475	121,593
Professional fees	-	1,122	2,438,845	2,439,967
Other expenses and consolidation adjustments	-	77,713	430,359	508,072
Total	₩ (5,853)	₩ 302,733	₩ 5,625,219	₩ 5,922,099

25. FINANCIAL INCOME AND FINANCIAL EXPENSES:

(1) Financial income for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Account	Year ended December 31, 2019		Year ended December 31, 2018	
Interest income	₩	27,951	₩	22,764
Dividend income		1,078		2,278
Gain on foreign currency transaction		4,803		8,117
Gain on foreign currency translation		1,111		1,082
Gain on valuation of financial assets at FVTPL		225		108
Financial guarantee fee income		-		3
Total	₩	35,168	₩	34,352

(2) Interest income included in financial income for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Account	Year ended December 31, 2019		Year ended December 31, 2018	
Financial institution deposits and others	₩	27,843	₩	21,983
Other loans and receivables		836		2,258
Subtotal		28,679		24,241
Consolidation adjustment		(728)		(1,477)
Consolidated total	₩	27,951	₩	22,764

(3) Financial expenses for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Account	Year ended December 31, 2019		Year ended December 31, 2018	
Interest expenses	₩	37,718	₩	39,413
Loss on foreign currency transaction (non-operating)		4,916		3,015
Loss on foreign currency translation (non-operating)		142		371
Loss on valuation of financial assets at FVTPL		305		292
Loss on disposals of other financial assets		1		1
Loss on disposals of trade receivables		-		45
Financial guarantee cost		33		1,199
Total	₩	43,115	₩	44,336

(4) Interest expenses included in financial expenses for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Account	Year ended December 31, 2019		Year ended December 31, 2018	
Bank overdrafts and loan interest	₩	5,898	₩	7,137
Interest expenses (discount on bonds payable)		27,635		32,401
Interest expenses of lease liabilities		3,935		-
Other interest expenses		3,724		5,426
Less: Capitalized interest expenses included in qualified assets (*)		(421)		(903)
Subtotal		40,771		44,061
Consolidation adjustment		(3,053)		(4,648)
Consolidated total	₩	37,718	₩	39,413

(*) Capitalization interest rates used for the years ended December 31, 2019 and 2018, are 1.92%–3.10% and 1.92%–3.10%, respectively.

26. OTHER NON-OPERATING INCOME AND EXPENSES:

Other non-operating income and expenses for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019	Year ended December 31, 2018
Other non-operating income		
Rental income	₩ 2,262	₩ 560
Commission income	171	163
Gain on foreign currency transaction	19,167	8,810
Gain on foreign currency translation	4,264	2,693
Gain on disposals of tangible assets	482	1,127
Gain on disposals of intangible assets	3	226
Gain on transactions of derivatives	8,534	7,381
Gain on valuation of derivatives	1,981	1,271
Gain on disposals of investments in subsidiaries	12,032	1,546
Gain on disposals of investments in associates	252	718
Miscellaneous income	2,440	3,130
Reversal of impairment loss on intangible assets	890	-
Other reversal of allowance for doubtful accounts	-	529
Others	336	495
Total	₩ 52,814	₩ 28,649
Other non-operating expenses		
Loss on foreign currency transaction	₩ 16,727	₩ 13,227
Loss on foreign currency translation	3,155	3,899
Loss on disposals of tangible assets	5,994	441
Loss on disposals of intangible assets	147	716
Loss on transactions of derivatives	15,911	13,467
Loss on valuation of derivatives	330	5,424
Loss on disposals of investments in associates	1,712	-
Impairment losses of investments in associates	-	23,680
Loss on disposals of investments in subsidiaries	462	625
Donations and contributions	3,098	1,345
Other bad debt expenses	290	(141)
Impairment losses of intangible assets	389	879
Impairment losses of tangible assets	6,257	75
Miscellaneous loss	2,436	2,147
Others	969	896
Total	₩ 57,877	₩ 66,680

27. NET GAINS (LOSSES) FROM FINANCIAL INSTRUMENTS:

Net gains (losses) from financial instruments for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019	Year ended December 31, 2018
Financial assets:		
Cash and cash equivalents	₩ 25,294	₩ 24,936
Financial assets at FVTPL	10,731	(5,677)
Financial assets at FVTOCI	1,929	10,958
Financial assets measured at amortized cost	14,908	(4,216)
Subtotal	52,862	26,001
Financial liabilities:		
Financial liabilities at FVTPL	(16,319)	(13,396)
Financial liabilities measured at amortized cost	(43,551)	(48,850)
Subtotal	(59,870)	(62,246)
Total	₩ (7,008)	₩ (36,245)

28. INCOME TAX:

(1) Composition of income tax expense for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019	Year ended December 31, 2018
Current income tax	₩ 192,934	₩ 295,961
Adjustment related to prior income tax expense	(6,791)	(236)
Changes in deferred tax assets:	11,154	(318,331)
Foreign currency translation effects	35	54
Beginning deferred tax assets due to temporary differences	(60,586)	(278,556)
Ending deferred tax assets due to temporary differences	(87,301)	(60,586)
Deferred tax directly reflected in equity	(1,346)	(3,995)
Changes in scope of consolidation	(89,390)	(96,420)
Classified as assets held for sale	75,140	-
Effect of change in accounting policy	59	(22,859)
Others and consolidation adjustments	6,563	(3,675)
Income tax expense for continuing operations	₩ 203,919	₩ (49,140)

(2) Changes in deferred tax assets (liabilities) for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	December 31, 2019			
Description	Beginning balance	Reflected in income (loss) or in equity	Changes in scope of consolidation	Ending balance
Temporary differences:				
Cash flow hedging	₩ (181)	₩ (232)	₩ -	₩ (413)
Investments in subsidiaries, associates and joint ventures	(60,608)	(30,176)	-	(90,784)
Property, plant and equipment	29,612	1,071	-	30,683
Intangible assets	1,518	(1,417)	-	101
Other financial assets	3,603	(8,806)	-	(5,203)
Provisions	29,391	1,850	-	31,241
Doubtful receivables	121	864	-	985
Other financial liabilities	2,638	11	-	2,649
Others	41,252	(34,115)	-	7,137
Tax deficit and tax credits:				
Tax deficit	143	(143)	-	-
Others	1,313	166,506	(89,390)	78,429
Deferred tax assets (liabilities)	48,802	95,862	(89,390)	55,274
Consolidation adjustment	(109,388)	(33,187)	-	(142,575)
Consolidated balance	₩ (60,586)	₩ 62,675	₩ 89,390)	₩ (87,301)

	December 31, 2018			
Description	Beginning balance	Reflected in income (loss) or in equity	Changes in scope of consolidation.	Ending balance
Temporary differences:				
Cash flow hedging	₩ 29	₩ (210)	₩ -	₩ (181)
Investments in subsidiaries, associates and joint ventures	(142,138)	81,530	-	(60,608)
Property, plant and equipment	25,107	4,505	-	29,612
Intangible assets	1,793	(275)	-	1,518
AFS financial assets	(5,360)	8,963	-	3,603
Provisions	31,375	(1,984)	-	29,391
Doubtful receivables	1,570	(1,449)	-	121
Other financial liabilities	5,206	(2,568)	-	2,638
Others	(2,445)	43,697	-	41,252
Tax deficit and tax credits:				
Tax deficit	-	143	-	143
Others	3,218	94,515	(96,420)	1,313
Deferred tax assets (liabilities)	(81,645)	226,867	(96,420)	48,802
Consolidation adjustment	(196,911)	87,523	-	(109,388)
Consolidated balance	₩(278,556)	₩ 314,390	₩ (96,420)	₩ (60,586)

(3) Details of income tax that are directly reflected to the capital for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Valuation gain (loss) of derivatives for cash flow hedge	₩	-	₩	(9)
Valuation gain (loss) of other financial assets		(319)		4,695
Remeasurement of defined benefit plans		2,569		3,039
Change of capital from equity method		(3,596)		(11,720)
Total	₩	(1,346)	₩	(3,995)

(4) Details of deferred tax liabilities related to assets held for sale as of December 31, 2016, are as follows (Unit: Korean won in millions):

Description	December 31, 2019	
Liabilities related to assets held for sale	₩	(75,140)

(*) In accordance with the contract for the sale of the stake in LG CNS Co., Ltd. in the current term, the temporary difference corresponding to the ratio of the stake in the sale (35% based on the total number of shares issued) is recognized as a deferred tax liability. Meanwhile, deferred tax liabilities related to the sale of shares in LG CNS Co., Ltd. were replaced by liabilities related to assets held for sale.

(5) As of December 31, 2019 and 2018, unrecognized deferred tax assets, excluding investment assets, are as follows (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Temporary differences	₩	317	₩	9,840
Tax deficit		16,136		52,099
Tax credits unused		55		-

(6) As of December 31, 2019 and 2018, the temporary differences related to investment assets and equity interest not recognized as deferred tax assets (liabilities) are as follows (Unit: Korean won in millions):

Description	December 31, 2019		December 31, 2018	
Investments in subsidiaries	₩	(1,659,685)	₩	(1,443,094)
Investments in associates and joint ventures		1,413,535		1,379,639
Total	₩	(246,150)	₩	(63,455)

29. EARNINGS PER SHARE:

(1) Net income per share for the years ended December 31, 2019 and 2018, is as follows (Unit: Korean won):

Description	December 31, 2019		December 31, 2018	
Basic earnings per share of common share				
Continuing operation	₩	4,439	₩	10,293
Discontinued operation		1,704		310
Total basic earnings per share of common share	₩	6,143	₩	10,603
Basic earnings per share of Pre-1996 Commercial Law Amendment preferred share (*)				
Continuing operation	₩	4,489	₩	10,343
Discontinued operation		1,704		310
Total basic earnings per share of Pre-1996 Commercial Law Amendment preferred share	₩	6,193	₩	10,653

(*) Basic earnings per share are calculated for preferred share, which K-IFRS 1033, *Earnings per Share*, clarifies as common share, such as having no priority rights for dividend of profit and distribution of residual property.

(2) Net income and weighted-average number of shares used to calculate earnings per share of common share for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Profit for the year attributable to owners of the Company	₩	1,079,949	₩	1,863,881
Less dividends for Pre-1996 Commercial Law Amendment preferred share		(6,781)		(4,466)
Less Pre-1996 Commercial Law Amendment preferred stock portion of residual profit		(13,705)		(30,773)
Net income used to calculate basic earnings per share of common share		1,059,463		1,828,642
Profit from continuing operations used for continuing operations' basic earnings per share of common share		765,515		1,775,237
Less discontinued operations' profit used for discontinued operations' basic earnings per share of common share		293,948		53,404
Weighted-average number of common shares		172,463,342 shares		172,463,342 shares

(3) Net income and weighted-average number of shares used to calculate earnings per share of Pre-1996 Commercial Law Amendment preferred share for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019		Year ended December 31, 2018	
Dividends for Pre-1996 Commercial Law Amendment preferred share and Pre-1996 Commercial Law Amendment preferred stock portion of residual profit	₩	20,486	₩	35,239
Net income used to calculate basic earnings per share of Pre-1996 Commercial Law Amendment preferred share		20,486		35,239
Profit from continuing operations used for continuing operations' Pre-1996 Commercial Law Amendment preferred earnings per share of preferred share		14,848		34,215
Less discontinued operations' profit used for discontinued operations' Pre-1996 Commercial Law Amendment preferred earnings per share of preferred share		5,638		1,024
Weighted-average number of Pre-1996 Commercial Law Amendment preferred shares		3,307,867 shares		3,307,867 shares

(4) As there are no potential common shares of the Group, diluted earnings per share of common shares and Pre-1996 Commercial Law Amendment preferred shares are equal to basic earnings per share.

(5) Effect of changing accounting policy

The impact on basic earnings per share and diluted earnings per share due to changes in accounting policies are as follows (Unit: Korean won in millions):

	2019	
Impact of continued operating profit through the introduction of K-IFRS 1116	₩	(2,170)
Impact on basic earnings per share of continuous operation (Unit: Korean won)		(13)
Impact of continued earnings on diluted earnings per share (Unit: Korean won)		(13)

30. RELATED-PARTY TRANSACTIONS:

(1) Details of related parties as of December 31, 2019 and 2018, are as follows:

December 31, 2019		
Entities with direct ownership	Subsidiaries of entities with direct ownership (domestic) (*1)	Subsidiaries of entities with direct ownership (overseas) (*1)
Associates:		
Tmoney Co., Ltd.(*2)	Tmoney CS Partners(*3)	T-Money America, Inc. and others
	SMDev.Co.,Ltd	
Songdo U-Life LLC	U-Life Solutions	
	Songdo International Sports Club LLC	
Recaudo Bogota S.A.S.		
Dongnam Solar Energy Co., Ltd.		
Combustion Synthesis Co., Ltd.		
Hellas SmarTicket Societe Anonyme		
Ulleungdo Natural Energy Independent Island Co., Ltd.		
Daegu Clean Energy Co., Ltd.		
KEPCO-LGCNS Mangilao Holdings LLC		Mangilao Investment LLC and others
LG Electronics Inc.	Hi Plaza Inc.	LG Electronics Mexico S.A. DE C.V. and others
	Hi-M Solutec Co., Ltd.	
	HITeleservice Co., Ltd.	
	Ace R&A Co., Ltd.	
	LG Innotek Co., Ltd.	
	Innowith	
	Hanuri	
	LG Innotek Alliance Fund	
	ZKW Lighting Systems Korea Co., Ltd.(*4)	
LG Chem Ltd.	Haengboknuri	LG Chem America, Inc. and others
	FarmHannong Co., Ltd.	
	Ujimak Korea Co., Ltd.	
LG Hausys, Ltd.	Greennuri, Ltd.	LG Hausys America, Inc. and others
LG Uplus Corp.	CS Leader	DACOM America Inc. and others
	Ain Teleservice	
	CS One Partner	
	Medialog Corp.	
	With U Co., Ltd.	
	LG HelloVision Corp.(*5)	
	LG HelloVision Hana Corp.(*5)	
LG Household & Health Care Ltd.	Coca-Cola Beverage Co.	Beijing LG Household Chemical Co., Ltd. and others
	Hankook Beverage Co., Ltd.	
	The FaceShop Co., Ltd.	
	HAITAI HTB CO., LTD.	
	CNP Cosmetics Co., Ltd.	
	K&I Co., Ltd.	
	Balkeunnuri Co., Ltd.	
	Fmji Co., Ltd.	
	Oriental Biomed Lab Ltd.	
	LG Farouk Co.	
	Taegeuk Pharmaceutical Co., Ltd.	
	JS Pharmaceutical Co., Ltd.	
	Ulleung Spring Water Co., Ltd.(*4)	
	RUCIPELLO KOREA INC.(*6)	
	MiGenstory Co. Ltd(*7)	
LG International Corp.	Dangjin Tank Terminal Co., Ltd.	LG International (America) Inc. and others
	Pantos Logistics Co., Ltd.	PANTOS LOGISTICS (CHINA) CO., LTD. and others
	Pantos Busan Newport Logistics Center Co., Ltd.	
	Helistar Air Co., Ltd.	
	Hanultari Co., Ltd.	
GIIR Corporation	HS Ad Co., Ltd.	GIIR America Inc. and others
	L. Best	
LG Hitachi Co., Ltd.		
Silicon Works Co., Ltd.		Silicon Works Inc. and others
ZKW Holding GmbH	ZKW Lighting Systems Korea Co., Ltd.(*4)	ZKW Group GmbH and others
ZKW Austria Immobilien Holding GmbH(*8)		ZKW Austria Immobilien GmbH(*9)
SERVEONE Co., Ltd(*10)		SERVEONE(Nanjing).Co., LTD and others

December 31, 2019		
Entities with direct ownership	Subsidiaries of entities with direct ownership (domestic) (*1)	Subsidiaries of entities with direct ownership (overseas) (*1)
Joint ventures:		
LG MMA Corp.		
Other related parties' affiliates by the Act: (*11)		
LG Display Co., Ltd.	Nanumnuri Co., Ltd.	LG Display Nanjing Co., Ltd. and others
Sal de Vida Korea Corp.		
LG Tostem BM Co., Ltd.		
SEETEC Co., Ltd.		
Clean Soul Ltd.		
DACOM Crossing Corporation		
Robostar Co., Ltd.	Robomedi Co., Ltd.	ROBOSTAR(SHANGHAI)CO.,LTD

(*1) Joint ventures of associates are excluded.
(*2) The company's name was changed during the current year (formerly Korea Smart Card Co., Ltd.)
(*3) The company's name was changed during the current year (formerly Korea Smart Card CS Partners Co., Ltd.)
(*4) Newly established during the current year.
(*5) Classified as a subsidiary of LG Uplus Corp. due to the acquisition of shares during the current period.
(*6) Classified as a subsidiary of LG Household & Health Care Ltd. due to the acquisition of shares during the current period.
(*7) Due to the exercise of the right to convert convertible bonds during the current period, the company was classified as a subsidiary from an associate of LG Household & Health Care Ltd.
(*8) The company's name was changed during the current year (formerly MGIV GmbH)
(*9) The company's name was changed during the current year (formerly Mommert Immobilien GmbH)
(*10) Classified as an associate of the Group through the sale of shares during the current period.
(*11) These companies are not related parties as defined in paragraph 9 of K-IFRS 1024. However, the companies are designated by the Fair Trade Commission as related parties in accordance with the resolution of the Securities and Futures Commission in accordance with the substantive relationship stipulated in paragraph 10 of K-IFRS 1024.

December 31, 2018		
Entities with direct ownership	Subsidiaries of entities with direct ownership (domestic) (*1)	Subsidiaries of entities with direct ownership (overseas) (*1)
Associates:		
Korea Smart Card Co., Ltd.	Korea Smart Card CS Partners Co., Ltd.	T-Money America, Inc. and others
	SMDev.Co.,Ltd	
Songdo U-Life LLC	U-Life Solutions	
	Songdo International Sports Club LLC	
Recaudo Bogota S.A.S.		
Dongnam Solar Energy Co., Ltd.		
Combustion Synthesis Co., Ltd.		
Hellas SmarTicket Societe Anonyme		
Ulleungdo Natural Energy Independent Island Co., Ltd.		
Daegu Clean Energy Co., Ltd.		
KEPCO-LGCNS Mangilao Holdings LLC		Mangilao Investment LLC and others
LG Electronics Inc.	Hi Plaza Inc.	LG Electronics Mexico S.A. DE C.V. and others
	Hi-M Solutec Co., Ltd.	
	HITeleservice Co., Ltd.	
	New Growth Venture Fund(*2)	
	New Growth Venture Fund II(*2)	
	Ace R&A Co., Ltd.	
	Hientech Co., Ltd.(*3)	
	LG-Hitachi Water Solutions Co., Ltd.(*3)	
	LG Innotek Co., Ltd.	
	Innowith	
	Hanuri	
	LG Innotek Alliance Fund	
LG Chem Ltd.	Haengboknuri	LG Chem America, Inc. and others
	FarmHannong Co., Ltd.	
	Ujimak Korea Co., Ltd. (*4)	
LG Hausys, Ltd.	Greennuri, Ltd. (*5)	LG Hausys America, Inc. and others
LG Uplus Corp.	CS Leader	DACOM America Inc.
	Ain Teleservice	
	CS One Partner	

December 31, 2018		
Entities with direct ownership	Subsidiaries of entities with direct ownership (domestic) (*1)	Subsidiaries of entities with direct ownership (overseas) (*1)
	Medialog Corp.	
	With U Co., Ltd.	
LG Household & Health Care Ltd.	Coca-Cola Beverage Co.	Beijing LG Household Chemical Co., Ltd. and others
	Hankook Beverage Co., Ltd.	
	The FaceShop Co., Ltd.	
	HAITAI HTB CO., LTD.	
	CNP Cosmetics Co., Ltd.	
	K&I Co., Ltd.	
	Balkeunnuri Co., Ltd.	
	Fmji Co., Ltd. (*6)	
	Oriental Biomed Lab Ltd.	
	LG Farouk Co.	
	Ulleung Mountain Chu Spring Water Development Company(*2)	
	Taegeuk Pharmaceutical Co., Ltd. (*4)	
	JS Pharmaceutical Co., Ltd. (*4)	
LG International Corp.	Dangjin Tank Terminal Co., Ltd.	LG International (America) Inc. and others
	Pantos Logistics Co., Ltd.	PANTOS LOGISTICS (CHINA) CO., LTD. and others
	Pantos Busan Newport Logistics Center Co., Ltd.	
	Helistar Air Co., Ltd.	
	Hanultari Co., Ltd. (*5)	
GIIR Corporation	HS Ad Co., Ltd.	GIIR America Inc. and others
	L. Best	
LG Hitachi Co., Ltd.		
Silicon Works Co., Ltd.		Silicon Works Inc.
LG Fuel Cell Systems Inc.(*2)	LG Fuel Cell Systems (Korea) Inc.(*2)	
ZKW Holding GmbH (*7)		ZKW Group GmbH and others
MGIV GmbH (*7)		Mommert Immobilien GmbH
Joint ventures:		
LG MMA Corp.		
Other related parties' affiliates by the Act: (*9)		
LG Display Co., Ltd.	Nanumnuri Co., Ltd.	LG Display Nanjing Co., Ltd. and others
Sal de Vida Korea Corp.		
Global Dynasty Overseas Resource Development Private Investment Specialty Company(*8)		
LG Tostem BM Co., Ltd.		
SEETEC Co., Ltd.		
MiGenstory Co., Ltd.		
Clean Soul Ltd.		
DACOM Crossing Corporation		
Robostar Co., Ltd. (*4)	Robomedi Co., Ltd. (*4)	ROBOSTAR(SHANGHAI)CO.,LTD

(*1) Joint ventures of associates are excluded.
(*2) Liquidation is completed during the current year.
(*3) Excluded from LG Electronics' subsidiaries due to the sale of shares during the current period.
(*4) Acquired and classified as investments in associates during previous period.
(*5) Newly established and classified as associates during previous period.
(*6) Changed the name of the company during previous period (Zenith Co., Ltd.).
(*7) The Company has been classified as a related party due to the acquisition of equity interest of the Group during the previous year.
(*8) During the current year, LG International Corp. lost control of the company and was excluded from other related parties' affiliates by the Act.
(*9) These companies are not related parties defined in paragraph 9 of K-IFRS 1024. However, the companies are designated by the Fair Trade Commission as related parties in accordance with the resolution of the Securities and Futures Commission in accordance with the substantive relationship stipulated in paragraph 10 of K-IFRS 1024.

(2) Transactions within the Group and subsidiaries are eliminated before consolidation, and the details of other transactions with related parties as of December 31, 2019 and 2018, are as follows:

1) Transactions with related parties for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019			
Description	Revenue and others (*1)(*3)	Purchase of raw material	Acquisitions of property, plant and equipment	Other purchase (*4)
Associates and their subsidiaries:				
Korea Smart Card Co., Ltd.	₩ 24,958	₩ -	₩ -	₩ 664
LG Chem Ltd. (*2)	1,732,071	4,426	3,103	17,916
LG Household & Health Care Ltd. (*2)	146,636	676	-	4,132
LG Electronics Inc. (*2)	1,488,802	30,083	1,374	171,208
LG Uplus Corp. (*2)	577,389	-	-	32,555
LG Hitachi Co., Ltd.	384	-	-	960
GIIR Corporation (*2)	7,806	-	7	21,625
LG Hausys, Ltd. (*2)	81,103	1,720	-	29,784
Silicon Works Co., Ltd.	9,042	-	-	-
Dongnam Solar Energy Co., Ltd.	409	-	-	-
Sejong Green Power Co., Ltd.	-	-	-	-
LG Fuel Cell Systems Inc. (*2)	14	-	-	-
Ulleungdo Natural Energy Independent Island Co., Ltd. (*2)	-	-	-	-
LG International Corp. (*2)	62,853	1,725	133,909	1,300
Serveone Co., Ltd.(*2)	18,658	17,498	1,051	11,095
Joint ventures:				
LG MMA Corp.	32,516	24	-	-
Other related parties' affiliates by the Act: (*5)				
LG Display Co., Ltd. and others(*2)	1,058,533	-	532	398
Total	₩ 5,241,174	₩ 56,152	₩ 139,976	₩ 291,637

Description	Year ended December 31, 2018 Revenue and others (*1)(*3)	Purchase of raw material	Acquisitions of property, plant and equipment	Other purchase
Associates and their subsidiaries:				
Korea Smart Card Co., Ltd.	₩ 26,571	₩ -	₩ -	₩ 3,211
LG Chem Ltd. (*2)	1,946,272	18,862	857	61,293
LG Household & Health Care Ltd. (*2)	325,565	1,317	-	4,512
LG Electronics Inc. (*2)	2,549,716	63,126	2,229	147,288
LG Uplus Corp. (*2)	525,271	7	8	32,755
LG Hitachi Co., Ltd.	285	-	-	1,074
GIIR Corporation (*2)	10,335	-	892	21,180
LG Hausys, Ltd. (*2)	146,236	3,392	945	34,279
Silicon Works Co., Ltd.	24,202	19	-	133
Dongnam Solar Energy Co., Ltd.	395	-	-	-
Sejong Green Power Co., Ltd.	4,705	-	-	-
LG Fuel Cell Systems Inc. (*2)	141	-	-	-
Ulleungdo Natural Energy Independent Island Co., Ltd. (*2)	2,804	-	-	-
LG International Corp. (*2)	112,518	5,035	-	2,017
Joint ventures:				
LG MMA Corp.	96,142	199	-	-
Other related parties' affiliates by the Act: (*5)				
LG Display Co., Ltd. and others(*2)	2,273,437	-	-	388
Total	₩ 8,044,595	₩ 91,957	₩ 4,931	₩ 308,130

(*1) Dividends received from associates are disclosed in Note 13.
(*2) Includes transactions with an associate's subsidiary.
(*3) The Company recorded contractual assets of ₩169,611 million and contractual liabilities of ₩47,243 million for LG Electronics Co., Ltd. and others, and ₩44,292 million and contractual liabilities of ₩77,000 million for LG Electronics Co., Ltd. and others.
(*4) In addition to the transaction details above, LG Electronics Co., Ltd. and others has right-of-use assets of ₩4,293 million and lease liabilities of ₩4,341 million as of December 31, 2019.
(*5) These companies are not related parties defined in paragraph 9 of K-IFRS 1024. However, the companies are designated by the Fair Trade Commission as related parties in accordance with the resolution of the Securities and Futures Commission in accordance with the substantive relationship stipulated in paragraph 10 of K-IFRS 1024.

2) Outstanding receivables and payables from transactions with related parties as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	December 31, 2019							
Description	Account receivables and others (*1)		Loans		Account payables and others (*2)		Borrowings	
Associates and their subsidiaries:								
Korea Smart Card Co., Ltd.	₩	2,737	₩	-	₩	155	₩	-
LG Chem Ltd. (*3)		467,341		-		49,615		-
LG Household & Health Care Ltd. (*3)		16,552		-		16,726		-
LG Electronics Inc. (*3)		288,471		-		146,274		-
LG Uplus Corp. (*3)		195,292		-		28,728		-
LG Hitachi Co., Ltd.		109		-		497		-
GIIR Corporation (*3)		7,980		-		22,992		-
LG Hausys, Ltd. (*3)		11,422		-		24,621		-
Recaudo Bogota S.A.S.		18,317		-		-		-
Dongnam Solar Energy Co., Ltd.		28		174		-		-
KEPCO-LGCNS Mangilao Holdings LLC(*4)		93		7,864		-		-
Silicon Works Co., Ltd.		1,059		-		300		-
LG Fuel Cell Systems Inc. (*3)		-		-		-		-
LG International Corp. (*3)		10,044		-		20,215		-
Serveone Co., Ltd.(*3)(*5)		5,142		-		16,894		-
Joint ventures:								-
LG MMA Corp.		10,088		-		1,377		-
Other related parties' affiliates by the Act: (*6)								
LG Display Co., Ltd. and others(*3)		235,253		-		35,833		-
Total	₩	1,269,928	₩	8,038	₩	364,227	₩	-

Description	December 31, 2018 Account receivables and others (*1)	Loans	Account payables and others (*2)	Borrowings
Associates and their subsidiaries:				
Korea Smart Card Co., Ltd.	₩ 4,890	₩ -	₩ 543	₩ -
LG Chem Ltd. (*3)	647,881	-	60,263	-
LG Household & Health Care Ltd. (*3)	36,913	-	18,815	-
LG Electronics Inc. (*3)	662,817	-	157,312	-
LG Uplus Corp. (*3)	195,538	-	29,500	-
LG Hitachi Co., Ltd.	56	-	522	-
GIIR Corporation (*3)	9,264	-	20,336	-
LG Hausys, Ltd. (*3)	28,816	-	14,218	-
Recaudo Bogota S.A.S.	17,688	-	-	-
Dongnam Solar Energy Co., Ltd.	105	175	-	-
KEPCO-LGCNS Mangilao Holdings LLC(*4)	-	7,594	-	-
Silicon Works Co., Ltd.	910	-	304	-
LG Fuel Cell Systems Inc. (*3)	12	-	-	-
LG International Corp. (*3)	11,075	-	18,184	-
Joint ventures:				-
LG MMA Corp.	30,670	-	1,111	-
Other related parties' affiliates by the Act: (*6)				
LG Display Co., Ltd. and others(*3)	606,238	-	38,071	-
Total	₩ 2,252,873	₩ 7,769	₩ 359,179	₩ -

(*1) Receivables from related parties are composed of mainly trade receivables, other receivables arising from transactions.
(*2) Payables to related parties are composed of mainly trade payables and other payables arising from transactions.
(*3) Includes transactions with an associate's subsidiary.
(*4) Provision for bad debts of ₩1,057 million are set for loans from associates.
(*5) Acquired and classified as investments in associates during the current period.
(*6) These companies are not related parties defined in paragraph 9 of K-IFRS 1024. However, the companies are designated by the Fair Trade Commission as related parties in accordance with the resolution of the Securities and Futures Commission in accordance with the substantive relationship stipulated in paragraph 10 of K-IFRS 1024.

3) Fund transactions with the related parties for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019					
	Payment in cash (reduction of capital)	Sale of interests	Loans		Borrowings	
			Loans	Payback	Borrowings	Repayments
Associates:						
LG Electronics Co., Ltd.(*)	₩ -	₩ 192,473	₩ -	₩ -	₩ -	₩ -
Total	₩ -	₩ 192,473	₩ -	₩ -	₩ -	₩ -

(*)LG Corp.U.S.A. Stocks was sold to LG Electronics U.S.A., Inc. on the current period.

Description	Year ended December 31, 2018					
	Payment in cash (reduction of capital)	Sale of interests	Loans		Borrowings	
			Loans	Payback	Borrowings	Repayments
Associates:						
LG Fuel Cell Systems Inc.	₩ 4,530	₩ -	₩ -	₩ -	₩ -	₩ -
Total	₩ 4,530	₩ -	₩ -	₩ -	₩ -	₩ -

(3) The compensation and benefits for the Group's key managements (registered executives, including non-permanent and non-registered executives) who have significant control and responsibility on planning, operating and controlling the activities of the Group for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	Year ended December 31, 2019	Year ended December 31, 2018
Short-term employee benefits	₩ 62,179	₩ 62,510
Severance benefits	7,964	10,148
Other long-term employee benefits	3	4
Total	₩ 70,146	₩ 72,662

(4) Details of payment guarantees provided to related parties as of December 31, 2019, are as follows (Unit: EUR and Korean won in millions):

Company provided	Details	Insurance company	Limit amount	Limit amount (Korean won)	Warranty
Hellas SmarTicket Societe Anonyme	Payment guarantees	The Export-Import Bank of Korea	EUR 28,000,000	36,328	2016.03.04 - 2027.03.04

31. FUNDING ARRANGEMENTS AND PLEDGING:

(1) As of December 31, 2019, commitments related to the Group's funding are as follows (Unit: Korean won in millions):

Category	Limit	Used
Import	₩ 54,069	₩ -
Overdraft	44,000	9,952
Credit line	5,000	256
Corporate facility fund borrowings	239,849	101,462
Working capital borrowings	131,949	1,559
Forwards	112,422	15,361
Receivable-backed borrowings	223,000	33,800
Other borrowing agreements	65,600	9,110
Others	5,000	-

(2) Restricted financial assets as of December 31, 2019, are as follows (Unit: Korean won in millions):

Account	December 31, 2019	Remark
Cash and cash equivalents	₩ 7,294	Deposits for issuing notes and pledges against borrowings
Financial institution deposits	13,000	Win-Win Cooperation Fund and L/C agreements
Long-term deposits	29	Deposits for overdraft accounts

(3) Details of pledging as of December 31, 2019, are as follows:

Provider	Recipient	Details
S&I Corporation	LG Chem, Ltd.	Providing one piece of durable paper (equivalent to ₩23,757 million) for the purpose of guaranteeing the performance of contracts and defects.
	The Korea Development Bank and 21 others	Stock collateral security pledged, ₩3,602 million with respect to BTL (Build Transfer Lease) projects.
	NH Bank	₩873 million of associate stock provided as pledged to PF (Project Financing).
	Construction Guarantee	₩722 million of capital stock investment provided a combination as mortgage.
	Electric Contractors Financial Cooperative	₩66 million of capital stock investment provided a combination as mortgage.
	Engineering Guarantee Insurance	₩68 million of capital stock investment provided a combination as mortgage.
	Korea Specialty Contractor Financial Cooperative	₩78 million of capital stock investment provided a combination as mortgage.
	Information & Communication Financial Cooperative	₩24 million of capital stock investment provided a combination as mortgage.
	Korea Facilities Construction Financial Cooperative	₩52 million of capital stock investment provided a combination as mortgage.
LG Holdings Japan	SMBC	Provide Tokyo KTT Tower land and buildings as collateral (book value: JPY 19,303 million).
LG CNS Co., Ltd.	Korea Software Financial Cooperative	₩1,300 million of capital stock investment provided a combination as mortgage.
	Engineering Guarantee Insurance	₩779 million of capital stock investment provided a combination as mortgage.
LG Sports Co., Ltd.	Kookmin Bank	Provide land as collateral (book value: ₩95,535 million and amount limit: ₩48,000 million).

(4) Performance guarantee

The Group provides the following performance guarantees and warranties to customers through third-party guarantee insurance agreements as of December 31, 2019 (Unit: Korean won in millions):

Description	Provider	Amounts of guarantees		Insurance company
Guarantee of contract and warranties, etc.	S&I Corporation Co., Ltd., LG CNS Co., Ltd. and others	₩	237,386	Seoul Guarantee Insurance
			315,395	Korea Software Financial Cooperative
			651	Engineering Financial Cooperative
			12,304	The Export-Import Bank of Korea
			132,321	KEB Hana Bank and others
Total		₩	698,057	

(5) Other terms and conditions

1) S & I Corporation, a subsidiary, has entered into an agreement to pay the shortfall to the sales reserve account when the annual photovoltaic power generation revenue is less than certain amount regarding borrowings (11 billion KRW) of Nonghyup Bank Co., Ltd. with Gwangmyeong Electric Co., Ltd. and Daekyung Enertech Co., Ltd.

2) The Group has an agreement to pay to the ClearLink Business Services Limited by applying certain percentage to the shortfall if the average annual gross profit from transactions within the scope of the Group does not reach the agreed standard when selling for shares in SERVEONE Co., Ltd.

32. OPERATING LEASE CONTRACTS:

(1) The Group as lessee

1) The book value of right-of-use assets as of December 31, 2019, is as follows (Unit: Korean won in millions):

Description	Buildings		Vehicles		Furniture, fixtures and others		Total	
Acquisition cost	₩	48,529	₩	7,455	₩	5,073	₩	61,057
Accumulated depreciation		(7,238)		(2,755)		(1,687)		(11,680)
Book value	₩	41,291	₩	4,700	₩	3,386	₩	49,377

About 25% of lease expired during the current year, and the expired contract was replaced by a new lease of the same underlying asset. As a result, the book value of right-of-use assets increased by ₩11,236 million during the current period.

2) The amounts recognized in profit or loss during the current period are as follows.
(Unit: Korean won in millions)

Description	2019	
Depreciation	₩	12,033
Interest expenses on lease liabilities		1,165
Short-term and small asset lease related expenses		8,961

As of December 31, 2019, the Group's short-term lease commitment is ₩1,175 million, and the total cash outflow of the lease, including short-term leases, is KRW 19,989 million.

3) As of December 31, 2019, the current liquid components of the lease liabilities are as follows.
(Unit: Korean won in millions)

Description	2019
Current liabilities	₩ 21,555
Non-current liabilities	26,681
Total	₩ 48,236

4) As of December 31, 2019, the maturity analysis of lease liabilities is as follows.
(Unit: Korean won in millions)

Description	Minimum lease payments	Present value of minimum lease payments
Less than one year	₩ 23,463	₩ 21,555
1 year–5 years	21,382	20,389
More than five years	7,011	6,292
Total	₩ 51,856	₩ 48,236

(2) The Group as lessor

1) The companies included in the Group have operating lease contracts, such as real estate rental.

2) The operating lease contracts as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

December 31, 2019			
Less than 1 year	1 year–5 years	More than 5 years	Total
₩ 130,265	₩ 56,016	₩ 38,840	₩ 225,121

December 31, 2018			
Less than 1 year	1 year–5 years	More than 5 years	Total
₩ 117,866	₩ 55,428	₩ 56,267	₩ 229,561

3) The Group recognized rental profit related to operating lease contracts for the years ended December 31, 2019 and 2018, in the amounts of ₩142,254 million and ₩127,577 million, respectively. For the years ended December 31, 2019 and 2018, ₩2 million and ₩115 million, respectively, were included as account of profit or loss from discontinued operations.

33. PENDING LITIGATIONS:

1) Pending litigations as of December 31, 2019, are claims for return of other receivables (defendant: Asan Social Welfare Foundation and the amount of lawsuit: ₩10,000 million) and 13 others, and the total amount of lawsuits is ₩24,356 million. The cases that the Group is sued are the claims for software copyright infringement (plaintiff: KB Bank and the amount of lawsuit: ₩48,903 million) and 15 others, and the total amount of lawsuits is ₩222,855 million. Meanwhile, the results of lawsuits and the effects on the consolidated financial statements cannot be reasonably predicted at the end of the reporting date.

2) During the previous period, a fire occurred in a building entrusted by S&I Corporation, a subsidiary, and the Group believes that it is liable to indemnify some of the losses caused by the fire accident. The Group sets the related provision ₩2,113 million as the best estimate as of December 31, 2019.

34. RISK MANAGEMENT:

(1) Capital risk management

The Group performs capital risk management to maintain the ability to continuously provide profits to shareholders and interested parties and to maintain optimum capital structure to reduce capital expenses. In order to maintain such optimum structure, the Group may adjust dividend payments, redeem paid-up capital to shareholders, issue stocks to reduce liability or sell assets.

The Group's capital structure consists of net liability, which is borrowings, less cash and cash equivalents and equity; the overall capital risk management policy of the Group is unchanged from the prior period. In addition, items managed as capital by the Group as of December 31, 2019 and 2018, are as follows
(Unit: Korean won in millions):

	December 31, 2019		December 31, 2018	
Total borrowings	₩	1,115,014	₩	1,519,537
Less: Cash and cash equivalents		(1,337,102)		(1,054,293)
Borrowings, net		(222,088)		465,244
Total equity	₩	19,021,021	₩	18,164,478
Debt-to-equity ratio(*)		-		2.56%

(*) As of December 31, 2019, net borrowings ratio was not calculated because net borrowings were negative.

(2) Financial risk management

The Group is exposed to various financial risks, such as market risk (foreign exchange risk, interest rate risk and price risk), credit risk and liquidity risk related to financial instruments. The purpose of risk management of the Group is to identify potential risks of financial performance and reduce, eliminate and evade those risks to a degree acceptable to the Group. The Group makes use of derivative financial instruments to hedge certain risks, such as foreign exchange and interest rate risks. Overall financial risk management policy of the Group is the same as one of the prior period.

1) Foreign currency risk

The Group is exposed to foreign currency risk since it makes transactions in foreign currencies. The book value of the Group's monetary assets and liabilities denominated in foreign currency that is not the functional currency as of December 31, 2019, is as follows (Unit: Korean won in millions):

Currency	Assets		Liabilities	
USD	₩	145,480	₩	69,453
EUR		88,537		44,466
JPY		1,828		1,367
CNY		29,749		1,160
Others		84,594		18,661
Total	₩	350,188	₩	135,107

The Group internally assesses the foreign currency risk from changes in exchanges rates on a regular basis. The Group's sensitivity analysis to a 10% increase and decrease in the Korean won (functional currency of the Group) against major foreign currencies as of December 31, 2019, is as follows (Unit: Korean won in millions):

Currency	10% increase against foreign currency		10% decrease against foreign currency	
USD	₩	5,752	₩	(5,752)
EUR		3,483		(3,483)
JPY		37		(37)
CNY		2,190		(2,190)
Others		4,992		(4,992)
Total	₩	16,454	₩	(16,454)

Sensitivity analysis above is conducted for monetary assets and liabilities denominated in foreign currencies other than the functional currency as of December 31, 2019.

As of December 31, 2019, the Group entered into cross-currency forward contracts and currency swap contracts to manage its foreign currency exchange rate risk related to its expected sale and purchase. The evaluation of unsettled currency forward contracts and currency swap contracts as of and for the year ended December 31, 2019, is as follows (Unit: Korean won in millions):

Description	Notional amount	Valuation gain and loss		Accumulated other comprehensive income(*)	Fair value	
		Gain	Loss		Assets	Liabilities
Currency forward	₩ 267,132	₩ 1,981	₩ 330	₩ -	₩ 2,250	₩ 276

(*) The amount after reflecting the corporate tax effect.

2) Interest rate risk

The Group borrows a floating rate and is exposed to cash flow risk arising from interest rate changes. Also, because of AFS debt securities that are measured at fair value, the Group is exposed to fair value interest rate risk.

The book value of assets and liabilities exposed to interest rate risk as of December 31, 2019, is as follows (Unit: Korean won in millions):

Description	December 31, 2019
Borrowings	₩ 98,624
Total	₩ 98,624

The Group internally assesses the cash flow risk from changes in interest rates on a regular basis.

Effect of changes in interest rates of 1% to net income as of December 31, 2019, is as follows (Unit: Korean won in millions):

Description	1% increase		1% decrease	
	Gain (loss)	Net assets	Gain (loss)	Net assets
Borrowings	₩ (582)	₩ -	₩ 582	₩ -
Total	₩ (582)	₩ -	₩ 582	₩ -

3) Price risk

The Group is exposed to price risks from AFS equity instruments. As of December 31, 2019, the fair value of AFS equity instruments is ₩39,477 million, and when all the other variables are constant and when the price of equity instrument changes by 10%, the effect of after tax to equity will be ₩2,992 million.

4) Credit risk

Credit risk refers to risk of financial losses to the Group when the counterparty defaults on the obligations of the contract.
The maximum amount of the financial loss that the Company will incur due to the non-fulfillment of obligations of the counterparty in the event that collateral or other credit enhancement is not taken into consideration is the carrying amount of each financial asset in the consolidated financial statements. Regardless of the likelihood of an event, the maximum amount that the Company will be required to pay for guarantees due to the financial guarantees provided by the Group is the amount of ₩36,328 million (the financial guarantee limit is described in Note 30 (4)).

To minimize credit risk, we use independent external credit rating agencies' credit rating information to classify exposure based on the extent of default. If information from credit rating agencies is not available, we use officially available financial information to determine the ratings of key customers and other debtors. Our total exposure and the counterparty's credit rating are constantly reviewed and the total amount of these transactions is evenly distributed among the authorized accounts.

Meanwhile, maximum exposure amount of credit risk of the consolidated entity for the loss of non-consolidation structured entity that is explained in Note 35 is ₩91,744 million.

5) Liquidity risk
The Group establishes short-term and long-term fund management plans. The Group analyzes and reviews actual cash outflow and its budget to correspond to the maturity of financial liabilities to that of financial assets. Management of the Group believes that the financial liability may be redeemed by cash flow arising from operating activities and financial assets.

Maturity analysis of non-derivative financial liabilities according to their remaining maturity as of December 31, 2019, is as follows (Unit: Korean won in millions):

Description	Within 1 year	1 year–5 years	More than 5 years	Total
Non-interest financial instrument	₩ 1,360,086	₩ 6,434	₩ 106,522	₩ 1,473,042
Floating-rate financial instrument	26,441	20,801	56,545	103,787
Fixed-rate financial instrument	344,520	726,079	-	1,070,599
Lease liabilities	21,555	20,389	6,292	48,236
Payment guarantee(*)	36,328	-	-	36,328
Total	₩ 1,788,930	₩ 773,703	₩ 169,359	₩ 2,731,992

(*) The limit of payment guarantee (EUR 28,000,000) provided to financial institutions for the credit of Hellas SmarTicket Societe Anonyme, an overseas affiliate, as described in Note 30. (4). This is the maximum amount. Based on the forecast as of the end of the reporting period, we believe that there is a higher probability of not paying the deposit than the possibility of paying the deposit in accordance with the guarantee of payment. However, the above estimates may fluctuate because the probability that the warrantee may request payment to us under the warranty contract may fluctuate due to the possibility of credit loss in the financial bond held by the warrantee.

Maturity analysis above is based on the book value and the earliest maturity date by which the payments should be made. Maturity analysis of derivative financial liabilities according to their remaining maturity as of December 31, 2019, is as follows (Unit: Korean won in millions):

Description	Flow	Within 1 year	1 year–5 years	Total
Derivatives for trading:				
Foreign currency derivatives	Outflow	₩ (262,169)	₩ -	₩ (262,169)
	Inflow	264,142	-	264,142
Subtotal		1,973	-	1,973
Other derivatives :				
Other derivatives(*)	-	-	(8,465)	(8,465)
Subtotal		-	(8,465)	(8,465)
Total		₩ 1,973	₩ (8,465)	₩ (6,492)

(*) Regarding the arrangements described in Note 31 (5) 2), the Group is liable for compensation when the average annual gross profit for the agreed period is less than the agreed standard. The option can be exercised in or before 2029, and the Group believes that the likelihood of an outflow of funds from exercising the option is unlikely. As of December 31, 2019, the amount of the obligation to pay and the amount of the payment have not been confirmed. The Group recognized the fair value of KRW 8.5 billion for the option as a financial liability at FVTPL.

(3) Estimation of fair value

The fair values of financial instruments (i.e., financial assets held for trading and AFS financial assets) traded on active markets are determined with reference to quoted market prices. The Group uses the current bid price as the quoted market price for its financial assets.

The fair values of financial instruments not traded on an active market (i.e., over-the-counter derivatives) are determined using a valuation technique. The Group uses various valuation techniques using assumptions based on current market conditions. The fair values of long-term liabilities and financial liabilities available for settlement are determined using prices from observable current market transactions and dealer quotes for similar instruments. Where such prices are not available, a discounted cash flow analysis or other valuation technique is performed to measure their fair values.

The fair values of trade receivables and trade payables are approximated at their carrying value, less impairment loss. The Group estimates the fair values of financial liabilities as the present value of future contractual cash flows discounted based on current market rates applied to similar financial instruments.

Financial instruments that are measured subsequent to initial recognition at fair value are grouped into Levels 1 to 3, based on the degree to which the fair value is observable, as described below:

- Level 1: Fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).
- Level 3: Fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

1) Financial instruments that are measured subsequent to initial recognition at fair value by fair value hierarchy levels as of December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

Description	December 31, 2019 Level 1		Level 2		Level 3		Total	
Derivative assets for trading	₩	-	₩	2,250	₩	-	₩	2,250
Financial assets measured at FVTPL		-		-		19,198		19,198
Financial assets at FVTOCI		39,477		-		68,387		107,864
Total of financial assets	₩	39,477	₩	2,250	₩	87,585	₩	129,312
Other derivative assets	₩	-	₩	-	₩	8,465	₩	8,465
Derivative liabilities for trading		-		276		-		276
Total of financial liabilities	₩	-	₩	276	₩	8,465	₩	8,741

Description	December 31, 2018 Level 1		Level 2		Level 3		Total	
Derivative assets for trading	₩	-	₩	1,241	₩	-	₩	1,241
Financial assets measured at FVTPL		-		-		16,404		16,404
Financial assets at FVTOCI		35,755		-		65,058		100,813
Total of financial assets	₩	35,755	₩	1,241	₩	81,462	₩	118,458
Derivative liabilities for trading	₩	-	₩	181	₩	-	₩	181
Total of financial liabilities	₩	-	₩	181	₩	-	₩	181

There is no significant transfer between Level 1 and Level 2 during the current period and the prior period.

2) Valuation method and input variables that are classified as Level 2 from the financial instruments that are subsequently measured as fair values are as follows (Unit: Korean won in millions):

Description	Fair values as of December 31, 2019		Valuation technique	Input variables
Financial assets:				
Derivative instrument assets held for sale	₩	2,250	Decision model for future prices	Discount rate and exchange rate
Financial liabilities:				
Liabilities of derivative instruments for the purpose of sale		276	Decision model for future prices	Discount rate and exchange rate

3) The Group believes that the carrying amount of financial assets and financial liabilities recognized in the consolidated statements of financial position is similar to fair value.

4) Changes in Level 3 financial assets for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019								
Description	Beginning balance	Change K-IFRS	Net loss	Comprehensive loss	Purchases	Disposals	Other	Ending balance	Unrealized holding gain or loss
Other finance assets	₩ 81,462	₩ -	₩ (82)	₩ (2,629)	₩ 10,035	₩ (1,179)	₩ (22)	₩ 87,585	₩ 9,095
Total	₩ 81,462	₩ -	₩ (82)	₩ (2,629)	₩ 10,035	₩ (1,179)	₩ (22)	₩ 87,585	₩ 9,095
Financial liabilities designated at FVTPL	-	-	-	-	8,465	-	-	8,465	-
Total	₩ -	₩ -	₩ -	₩ -	₩ 8,465	₩ -	₩ -	₩ 8,465	₩ -

	Year ended December 31, 2018								
Description	Beginning balance	Change K-IFRS	Net loss	Comprehensive loss	Purchases	Disposals	Other	Ending balance	Unrealized holding gain or loss
Other finance assets	₩ 63,296	₩ 11,646	₩ (184)	₩ 4,069	₩ 2,906	₩ (271)	₩ -	₩ 81,462	₩ 21,082
Total	₩ 63,296	₩ 11,646	₩ (184)	₩ 4,069	₩ 2,906	₩ (271)	₩ -	₩ 81,462	₩ 21,082

5) A description of the valuation techniques and the inputs used in the fair value measurement of financial instruments classified as Level 2 and Level 3 is as follows:

- Currency forward and interest rate swap

In principle, the fair value of currency forward was measured based on forward currency rates whose period is coincident with the residual period of the currency forward, and they are advertised on the market at the end of the reporting period. If forward currency rates whose periods are coincident with the residual period are not advertised on the market, the fair value of currency forward was measured by estimating the forward currency rates whose period is similar to the residual period of the currency forward. The estimation of the forward currency was performed using interpolation to advertised periodical forward currency rates. Discount rates used to measure the fair value of currency forward were determined based on yield curve from yields advertised on the market.

Discount rates and forward rates used to measure the fair value of interest rate swaps were determined based on the applicable yield curves derived from interest rates that are advertised on the market at the end of the reporting period. The fair value of interest rate swaps measured on the amount of money that discounted at an appropriate discount rate to future cash flows of interest rate swaps was estimated based on the forward rate that is obtained by the method described above.

Since the input variables that are used to measure the fair value of currency forward and interest rate swaps for the end of the reporting period are derived via the forward exchange rate and the yield curve in the market, the fair values of currency forward and interest rate swap were classified as Level 2 fair value measurement.

- Corporate bonds

The fair value of corporate bonds was measured by discount cash flow (“DCF”) method. The discount rates used in DCF were determined based on market swap rates and credit spreads of the bonds that are advertised and whose credit rating and period were similar to those of corporate bonds and cumulative redeemable preference stocks. The discount rates that influence the fair value of corporate bonds and cumulative redeemable preference stocks significantly were classified as Level 2 fair value measurements because they resulted in observable information in the market.

- Unlisted securities and unlisted securities-linked convertible securities
The fair value of non-listed shares and unlisted securities-linked convertible securities, measured using a discounted cash flow model that is not based on observable market prices or rates, will be used to estimate the future cash flows, such as sales growth, pretax operating profit margin and the weighted-average cost of capital. Capital asset pricing model (“CAPM”) was used to calculate the weighted-average cost of capital. The key assumptions of estimation listed above are determined to have a significant impact on the fair value of non-listed shares and the Group has classified the fair value hierarchy system on Level 3 of the fair value measurement of non-listed shares.

6) There is no change in the valuation technique used in the fair value measurement of financial instruments classified as Level 2 and Level 3.

7) The table below explains the quantitative information of fair value measurement (Level 3) that uses the input variables that are significant, but unobservable and the relationship between unobservable input variables and the fair value measurements (Unit: Korean won in millions):

Description	Fair values as of December 31, 2019	Valuation technique	Unobservable inputs	Range	Disposals
Other finance assets	₩ 60,113	Discounted cash flow method and comparable company analysis	Growth rate	0%	Increase (decrease) in fair values due to increase (decrease) in growth rate
			Discount rate	110.1%–11.35%	Decrease (increase) in fair values due to increase (decrease) in discount rate

8) A description of the valuation processes in the fair value measurement for Level 2 and Level 3 that the Group is carrying out is as follows:

The Group measures fair value of assets and liabilities for financial reporting purposes and reports the result of fair value measurements to chief financial officer directly.

Undesirable inputs that are used to estimate Level 3 fair value measurement are derived in a manner that is described below:

- Pretax profit margin and sales growth rate, which are used to measure the fair value of non-listed shares, are estimated based on the average value of pretax operating margin and sales growth rate of comparable listed companies.

- Weighted-average cost of capital discount rate that is used to measure the fair value of non-listed shares is estimated by the weighted-average, after-tax and outside capital cost; capital cost estimates of the share value data reflected for the purpose of the issuer of the shares; and capital structure based on the equity data of comparable public companies that has been derived based on the CAPM.

9) Impact on net income and other comprehensive income (loss) due to the change in reasonably available and unobservable input variables under the conditions that other input variables are constant is as follows (Unit: Korean won in millions):

Description	Unobservable input(s)	Changes of reasonably possible unobservable input	Net income		Other comprehensive income	
			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Other finance assets	Growth rate	+/-1%	₩ -	₩ -	₩ 1,324	₩ (1,100)
	Discount rate	+/-1%	₩ -	₩ -	₩ 1,887	₩ (1,566)

10) The Company has judged that unobservable changes in inputs to reflect alternative assumptions would not change the fair value measurement significantly.

11) There is no significant change in business and economic environment affecting the fair value of the financial assets and liabilities during the current year.

35. UNCONSOLIDATED STRUCTURED ENTITIES:

As of December 31, 2019, information about the nature and risks associated with interests in unconsolidated structured entities held by the Group is as follows (Unit: Korean won in millions):

Description	Names of structured entities(*1)	Accounting title of interests on structured entities and providing financial supports	Book value of assets related to structured entities' interest	Maximum exposure to the loss of structured entities(*2)
Interests accounted in accordance with K-IFRS 1109 (except interests on subsidiaries)	Welcome Edu Service Co., Ltd. (Dormitory of Seoul National University)	Other financial assets	₩ 203	₩ -
		Loan commitments	-	7,266
	Mileseum I (Ulsan National Institute of Science and Technology)	Other financial assets	560	-
		Loan commitments	-	21,819
	Mileseum II (Ulsan National Institute of Science and Technology)	Other financial assets	78	-
		Loan commitments	-	640
	Mileseum III (Ulsan National Institute of Science and Technology)	Other financial assets	58	-
		Loan commitments	-	1,631
	Mileseum IV (Ulsan National Institute of Science and Technology)	Other financial assets	806	-
		Loan commitments	-	17,678
	Heemangseum (Daegu Gyeongbuk Institute of Science and Technology)	Other financial assets	1,310	-
		Loan commitments	-	36,180
	Heemangseum II (Daegu Gyeongbuk Institute of Science and Technology)	Other financial assets	127	-
		Loan commitments	-	2,861
	Seoul National University Medical Herb	Other financial assets	385	-
		Loan commitments	-	3,669
	Total	Other financial assets	3,527	-
		Loan commitments	₩ -	₩ 91,744

(*1) As a result of operating contributions related to government-led projects:
A) In case of lack of funds during the operating period and the repayment of the loan capital and the paid-up capital of the financial investor.
B) If additional funds are required to maintain the cumulative debt repayment ratio on the date of payment of each principal during the period of operations above 1.0.
C) In cases where the Concession Agreement is terminated due to reasons attributable to the project owner or the force majeure event related to the operations during the operating period and the payment at the time of termination received by the borrower from the competent authority is insufficient to repay the loan principal and the paid-in capital of the financial investor. When a similar incident occurs, there is a supplementary obligation.

(*2) '(* 1)' is the amount that the Group will be liable for the loss of the structured company when it is terminated due to the reasons attributable to the Group as an operating investor during the period of operation. However, all of these structured companies are organized by national universities and government agencies, and we believe that the probability of actual exposure to such risks is extremely low.

36. DISPOSAL OF SUBSIDIARIES:

As of December 31, 2019, the Group's subsidiaries, Serveone Co., Ltd.'s shares, 60.1%, Korea Elecom Co., Ltd.'s shares, 93.9% (all) and LG Corp.U.S.A. 100% of the shares were disposed of. During the previous period, the subsidiary, Lucem Co., Ltd, was disposed of.

(1) Fair values for the compensation of disposal are as follows (Unit: Korean won in millions):

	December 31, 2019			December 31, 2018
Describtion	Serveone Co., Ltd.	Korea Elecom Co., Ltd.	LG Corp.U.S.A	Lucem Co., Ltd
Disposal proceeds received as cash and cash equivalents	₩ 604,147	₩ 700	₩ 192,473	₩ 75,000

(2) The book value of assets and liabilities of the subsidiary at the date of losing the controlling power is as follows (Unit: Korean won in millions):

	December 31, 2019			December 31, 2018
Describtion	Serveone Co., Ltd.	Korea Elecom Co., Ltd.	LG Corp.U.S.A	Lusem Co., Ltd.
Current assets:	₩ 1,348,148	₩ 4,111	₩ 2,743	₩ 59,019
Cash and cash equivalents	198,251	2,713	2,739	14,113
Trade receivables and other receivables	1,082,032	595	4	34,178
Inventories	59,822	504	-	9,481
Other current assets	8,043	299	-	1,247
Non-current assets:	182,354	2,907	322,924	47,663
Trade receivables and other receivables	196	-	-	50
Other non-current assets	5,581	-	474	4,455
Property, plant and equipment	139,609	2,901	2	40,832
Investment property	17,938	-	322,448	-
Intangible assets	16,739	6	-	2,326
Right-of-use assets	2,291	-	-	-
Current liabilities:	839,610	5,099	140,125	32,545
Trade payables and other payables	816,059	950	140,125	31,503
Other current liabilities	23,551	4,149	-	1,042
Non-current liabilities:	153,332	1,835	-	5,551
Total value of disposed net assets	₩ 537,560	₩ 84	₩ 185,541	₩ 68,586
Controlling net asset carrying amount	537,560	48	185,541	46,611
Non-controlling interest	-	35	-	21,975

(3) Gain on disposal of subsidiaries is as follows (Unit: Korean won in millions):

	December 31, 2019			December 31, 2018
	Serveone Co., Ltd.	Korea Elecom Co., Ltd.	LG Corp.U.S.A	Lusem Co., Ltd.
Fair value of disposal proceeds	₩ 600,147	₩ 700	₩ 192,473	₩ 75,000
Interim dividend	-	-	-	(5,001)
Fair value of disposal cost	600,147	700	192,473	69,999
Deduction: book value of net assets disposed of	(537,560)	(48)	(185,542)	(46,611)
Deduction: disposal cost	(17,067)	-	(30)	(5,078)
Addition: Consolidation Adjustment(*1)	296,959	(371)	4,850	421
Gain (loss) on disposal of investments in subsidiaries(*2)	₩ 346,479	₩ 281	₩ 11,751	₩ 18,731

(*1) The fair value valuation amount of ₩305,089 million and the unrealized profit and loss of 1,723 million are included in the residual equity (39.9%) in relation to the disposal of Serveone Co., Ltd.

(*2) In addition to the gain on disposal, the Group recognized ₩625 million loss on disposal of investments in subsidiaries as a result of the liquidation.

(4) Net cash flow due to the disposal of subsidiaries is as follows (Unit: Korean won in millions):

	December 31, 2019			December 31, 2018
	Serveone Co., Ltd.	Korea Elecom Co., Ltd.	LG Corp.U.S.A	Lusem Co., Ltd.
Disposal proceeds received as cash and cash equivalents	₩ 604,147	₩ 700	₩ 192,473	₩ 69,999
Less: Disposal of cash and cash equivalents	(215,318)	(2,713)	(2,769)	(19,192)
Net cash flows(*)	₩ 388,829	₩ (2,013)	₩ 189,704	₩ 50,807

(*) ₩ 7,500 million has been received for the disposal of Lusem Co., Ltd. and ₩ 5,001 million paid for the interim dividend is excluded.

37. DISCONTINUED OPERATIONS:

Consolidated results of discontinued operations included in the consolidated statements of comprehensive income are as follows. The comparative discontinued operating profit and loss and cash flows have been restated to include operations classified as discontinued operations in the current period.
(Unit: Korean won in millions):

	December 31, 2019	December 31, 2018		
	Serveone Co., Ltd.	Serveone Co., Ltd.	Lusem Co., Ltd.	Total
Sales	₩ 1,331,891	₩ 4,201,434	₩ 19,060	₩ 4,220,494
Cost of sales	1,248,047	3,938,463	17,662	3,956,125
Selling and administrative expenses	44,399	120,426	1,302	121,728
Operating loss	39,445	142,545	96	142,641
Other operating income	5,764	9,145	341	9,486
Other operating expenses	2,713	13,783	406	14,189
Profit or loss before tax	42,496	137,907	31	137,938
Income tax expenses	10,317	96,477	(56)	96,421
Subtotal	32,179	41,430	87	41,517
Profit from discontinued sales	267,407	-	18,732	18,732
Profit or loss from discontinued operations	299,586	41,430	18,819	60,249
Owners of the parent company (*)	299,586	₩ 41,430	₩ 18,791	₩ 60,221
Non-controlling interests	-	-	28	28

(*) It included the effect of deferred income tax on stock held by the investee.

Cash flows from discontinued operations:

	December 31, 2019	December 31, 2018		
	Serveone Co., Ltd.	Serveone Co., Ltd.	Lusem Co., Ltd.	Total
Cash flows from operating activities	₩ 85,736	₩ (100,723)	₩ (9,100)	₩ (109,823)
Cash flows from investing activities	(11,638)	(23,554)	(9,703)	(33,257)
Cash flows from financing activities	(9,668)	14,752	-	14,752
Net cash flows	₩ 64,430	₩ (109,525)	₩ (18,803)	₩ (128,328)

(*) Cash flows of operating activities related to disposal of shares for the current period ₩ (66,614) million and cash flows from investment ₩587,081 million, were not included. Also, for the previous period, Cash flows of operating activities related to disposal of shares ₩ (3,686) million and cash flows from investment ₩43,307 million, were not included.

38. NON-CASH INVESTING AND FINANCING ACTIVITIES:

(1) Significant non-cash investing and financing activities for the years ended December 31, 2019 and 2018, are as follows (Unit: Korean won in millions):

	Year ended December 31, 2019	Year ended December 31, 2018
Transfer of construction in progress	₩ 48,953	₩ 310,212
Other payables related to acquisition of property, plant and equipment	10,181	(83,746)
Transfer of property, plant and equipment to investment property	32,410	86,694
Transfer of long-term borrowings and debentures to current portion	158,282	161,652
Transfer of deposits received to current position	3,590	79,122
Substituted investments replaced by investments in affiliates	304,402	-
Recognition of deferred tax liabilities related to assets held for sale	75,140	-

(2) Changes in liabilities arising from financing activities during the current period, are as follows (Unit: Korean won in millions):

	Beginning balance	Financing activities	Others	Ending balance
Borrowings	₩ 1,519,537	(138,410)	(266,114)	₩ 1,115,013
Lease liabilities	34,665	(12,637)	26,208	48,236

39. ASSETS AND LIABILITIES HELD FOR SALE:

The Group decided to sell 30,519,074 common stocks (35% of the total number of issued stocks) of LG CNS Co., Ltd. to Crystal Korea Co., Ltd. through a resolution of the board of directors on November 28, 2019.

(1) Details of assets (liabilities) held for sale
As of December 31, 2019, details of assets (liabilities) held for sale related to the sale of LG CNS Co., Ltd. are as follows.
(Unit: Korean won in millions):

Description	December 31, 2018
Other current liabilities	₩ 75,140
Total liabilities classified as held for sale	75,140
Net assets classified as held for sale	₩ (75,140)

Disclosure on Execution of External Audit

We attach required disclosure on the execution of external audit performed in accordance with
Article 18-3 of the Act on External Audit of Stock Companies.

1. Company and Reporting Period subject to External Audit

Company	LG Corp.			
Reporting Period	2019/01/01	From	2019/12/31	To

2. Number of Participants and Details on the Hours Executed in Audit

(Unit: Number of Participants, Hours Executed)

Participant(s) Number and Hour(s) Number of Participant(s)		Engagement Quality Reviewer(s)		Audit Professional(s)						IT Specialist(s), Tax Specialist(s), and Valuation Specialist(s)		Construction Contracts Order-made Production Industry Specialist(s)		Total	
				Engagement Partner(s)		Members of Korean Institute of Certified Public Accountants (KICPA) (Registered)		Members of KICPA (Non-Registered)							
		2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Number of Participant(s)		5	3	1	2	15	11	6	4	9	9	-	-	36	29
Hours Executed	Interim	20	11	107	122	1,745	1,806	440	198	-	-	-	-	2,312	2,137
	Audit	34	31	188	81	2,375	1,053	803	434	294	198	-	-	3,694	1,797
	Total	54	42	295	203	4,120	2,859	1,243	632	294	198	-	-	6,006	3,934

3. Key Disclosure on Execution of External Audit

<table>
<tr><th>Title</th><th colspan="6">Detail</th></tr>
<tr><td rowspan="2">Audit Planning Stage</td><td colspan="2">Dates Performed</td><td>April–September 2019</td><td>5</td><td colspan="2">Days</td></tr>
<tr><td colspan="2">Main Planning Work Performed</td><td colspan="4">Understanding the Company and business environments, composing the audit member, identifying and evaluating significant risk of material misstatements, deciding the nature/timing/extent of an audit, reviewing the application of professionals and determining the materiality in the application of an audit</td></tr>
<tr><td rowspan="6">Fieldwork Performed</td><td colspan="2" rowspan="2">Dates Performed</td><td colspan="2">Number of Participant(s)</td><td colspan="2">Main Fieldwork Performed</td></tr>
<tr><td>On-Site</td><td>Off-Site</td><td colspan="2"></td></tr>
<tr><td></td><td>Days</td><td>Number of Participant(s)</td><td>Number of Participant(s)</td><td colspan="2"></td></tr>
<tr><td>2019/11/18–2019/11/29</td><td>10</td><td>4</td><td>2</td><td colspan="2">Interim audit (understanding the transaction type of each process and control testing)</td></tr>
<tr><td>2020/01/14–2020/01/16</td><td>3</td><td>3</td><td>2</td><td colspan="2">External audit (substantive procedure for the material account balances and transactions and consolidation audit)</td></tr>
<tr><td>2020/01/21–2020/01/31</td><td>8</td><td>5</td><td>2</td><td colspan="2">Consolidated financial statements verification procedure</td></tr>
<tr><td rowspan="3">Physical Counts - Inventory (Observation)</td><td>Time (When Performed)</td><td colspan="2">-</td><td>-</td><td colspan="2">Day(s)</td></tr>
<tr><td>Place (Where Performed)</td><td colspan="5">-</td></tr>
<tr><td>Inventory subjected to Counts</td><td colspan="5">-</td></tr>
<tr><td rowspan="3">Physical Counts - Financial Instruments (Observation)</td><td>Time (When Performed)</td><td colspan="2">2020/01/03</td><td>1</td><td colspan="2">Day(s)</td></tr>
<tr><td>Place (Where Performed)</td><td colspan="5">LG Corp. headquarters</td></tr>
<tr><td>Financial Instruments subjected to Counts</td><td colspan="5">Cash, investment securities, memberships and others</td></tr>
<tr><td rowspan="2">External Confirmation</td><td>Bank Confirmation</td><td>O</td><td>Accounts Receivable/Payable Confirmation</td><td>O</td><td>Legal Confirmation</td><td>O</td></tr>
<tr><td>Other Confirmation</td><td colspan="5">N/A</td></tr>
<tr><td rowspan="2">Communications with Those Charged with Governance</td><td>Number of Communications</td><td>5</td><td colspan="4">Time(s) Performed</td></tr>
<tr><td>Time (When Performed)</td><td colspan="5">2019/02/21, 2019/05/09, 2019/08/08, 2019/11/08, and 2020/02/13</td></tr>
</table>

4. Communications with Audit Committee

Title	Time (When Performed)	Attendants	Method	Key Content of Discussion
1	2019/02/21	Three Audit Committee, Engagement Partner and one other person	Face-to-Face Meeting	Audit schedule and main audit matters
2	2019/05/09	Three Audit Committee, Engagement Partner and one other person	Face-to-Face Meeting	Review of interim financial statements and introduction to recent accounting trends
3	2019/08/08	Three Audit Committee, Engagement Partner and one other person	Face-to-Face Meeting	Review of interim financial statements and report on preliminary selection of key audit matters
4	2019/11/08	Three Audit Committee, Engagement Partner and one other person	Face-to-Face Meeting	Review of interim financial statements, significance in audit and selection of key audit matters
5	2020/02/13	Three Audit Committee, Engagement Partner and one other person	Face-to-Face Meeting	Report on result of external audit, independence of auditor, result of main audit matters and report on group audit matters