LG Electronics

Consolidated Financial Statements December 31, 2020 and 2019

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of LG Electronics Inc.

Opinion

We have audited the accompanying consolidated financial statements of LG Electronics Inc. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2020 and 2019, and the consolidated statements of profit or loss, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows 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 consolidated financial position of the Group as at December 31, 2020 and 2019, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the *Auditor's 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 of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Key Audit Matters

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

(a) Impairment of goodwill and others

Reasons why the matter was determined to be a key audit matter

As disclosed in Note 13, the Group allocates ₩305,172 million of goodwill to a Cash Generating Unit(CGU) consisting of ZKW Holdings GmbH, its subsidiaries and related entities (hereinafter referred to as "ZKW") as at December 31, 2020.

The Group performed an impairment test on the ZKW CGU during the current period in accordance with Korean IFRS 1036 *Impairment of Assets* and recognized ₩237,174 million of impairment loss on goodwill.

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We considered that the impairment of goodwill and others was a key audit matter given the goodwill allocated to the ZKW CGU was material in the consolidated financial statements of the Group, actual business performance compared to the business plan estimation was significantly decreased, and the level of management's judgments involved in the value-in-use estimation used in impairment testing are significant.

How our audit addressed the Key Audit Matter

We performed the following audit procedures on a valuation model, significant assumptions and judgements related to value-in-use estimation performed by the Group. We also involved our valuation specialists when performing such audit procedures. Our audit procedures included:

- Obtaining an understanding of the accounting policies and internal controls of the Group related to impairment testing
- Testing internal controls such as the management's review and approval of business plan estimation and significant assumptions of the valuation model for impairment testing
- Making inquiries on and obtaining an understanding of valuation model used by the Group, and assessing the consistency with the prior year
- Evaluating the competence and objectivity of involved independent external experts engaged by the Group
- Evaluating the appropriateness of the business plan estimation by management by comparing business plans of ZKW used in the prior year impairment testing with actual business performance
- Obtaining an understanding of future cash flows of ZKW, and confirming that such future cash flows forecasts are consistent with the corresponding information included in business plans approved by management
- Evaluating the appropriateness of significant assumptions used in the valuation model such as discount rates, growth rates and others by comparing them with external benchmarks within the same industry and historical financial information of ZKW
- Performing a sensitivity analysis of significant assumptions in order to quantify the downside changes in assumptions that could result in an impairment

(b) Impairment of investments in associates

Reasons why the matter was determined to be a key audit matter

As disclosed in Note 14, the Group held 37.9% of the shares of LG Display Co., Ltd. (hereinafter referred to as "LGD"), which was classified as an associate and accounted for using equity method. As at December 31, 2020, the book amount of the LGD shares was \forall 4,214,088 million.

As the fair value of the LGD shares is significantly lower than its book amount at the end of the reporting period, the Group performed an impairment test in accordance with Korean IFRS 1036 *Impairment of Assets*.

We considered that the impairment of investments in associates was a key audit matter given the level of management's judgments involved in the value-in-use estimation of impairment testing are significant.

How our audit addressed the Key Audit Matter

We performed the following audit procedures on a valuation model, significant assumptions and judgements related to value-in-use estimation performed by the Group. We also involved our valuation specialists when performing such audit procedures. Our audit procedures included:

- Obtaining an understanding of the accounting policies and internal controls of the Group related to impairment testing
- Testing internal controls such as the management's review and approval of business plan estimation and significant assumptions of the valuation model for impairment testing
- Making inquiries on and obtaining an understanding of valuation model used by the Group, and assessing the consistency with the prior year
- Evaluating the appropriateness of the business plan estimation by management by comparing business plans of LGD used in the prior year impairment testing with actual business performance
- Obtaining an understanding of future cash flows of LGD, and confirming that such future cash flows forecasts are consistent with the corresponding information included in business plans approved by management
- Evaluating the appropriateness of significant assumptions used in the valuation model such as discount rates, growth rates and others by comparing them with external benchmarks within the same industry and historical financial information of LGD
- Performing sensitivity analysis of significant assumptions in order to quantify the downside changes in assumptions that could result in an impairment

In addition, we reviewed the workpapers on the audit procedures related to the goodwill impairment testing performed by the independent auditor of LGD (hereinafter referred to as the "component auditor") and the evaluation result of competence and objectivity of involved independent external experts in the goodwill impairment testing prepared by management of LGD.

(c) Capitalization of internally generated development costs and their impairment

Reasons why the matter was determined to be a key audit matter

As disclosed in Note 13, the book amount of internally generated development costs of the Group was $\forall 845,011 \text{ million}$ (including $\forall 378,629 \text{ million of construction-in-progress}$) as at December 31, 2020.

The Group recognized internally generated development costs which meet certain conditions defined in Korean IFRS 1038 *Intangible Assets*. The Group also performed an impairment test applying Korean IFRS 1036 *Impairment of Assets* during the current period and recognized ₩173,106 million of impairment loss.

We considered that the capitalization of internally generated development costs and their impairment was a key audit matter given that internally generated development costs were material in the consolidated financial statements of the Group and related to a significant level of judgments and estimations based on management's assumptions.

How our audit addressed the Key Audit Matter

We performed the following audit procedures relating to testing for the effectiveness of internal controls related to capitalization of internally generated development costs and their impairment:

- Evaluating whether the accounting policies of the Group were appropriate under the requirements for the recognition of Korean IFRS 1038 *Intangible Assets*
- Obtaining an understanding of the internal control related to capitalization of internally generated development costs and their impairment
- Testing internal controls such as the management's review and approval of business plan estimation of individual project and significant assumptions of the valuation model

We also obtained a detailed schedule of capitalized development projects with the amounts of individual project, and reconciled them to the amounts recorded in the general ledger. For certain projects selected as samples, our audit procedures included:

- Obtaining management's analysis documentations, which included conclusions made by management, interviewing with the project managers to understand and evaluate whether each project met the criteria for capitalization, and confirming that the analyses are consistent with the explanations of the project managers
- Inspecting contracts with customers, purchase orders or quotations which represented future economic benefits
- Evaluating the appropriateness of significant assumptions and raw data applied to impairment analysis and testing them by examining that they are consistent with the assumptions used in the business plans of each individual project, historical business performances, strategies of management, discount rate and others
- Testing the occurrence and the accuracy of aggregation and allocation of capitalized expenditures by vouching proper evidences

Emphasis of Matter

Without modifying our opinion, we draw attention to Note 3 to the consolidated financial statements of the Group. Note 3 to the consolidated financial statements describes the uncertainty, relating to the impact of the spread of Coronavirus Disease-19 ("COVID-19") on the Group's productivity and ability to fulfill customer's orders.

Other Matter

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

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

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

In preparing the consolidated financial statements, management 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.

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

Auditor's 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 auditor's 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 Korean Standards on Auditing 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 Korean Standards on Auditing, 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 the 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 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 auditor's 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 auditor's 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 audit. We remain solely responsible for our audit opinion.

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

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 auditor's 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 auditor's report is Sung-Marn Chun, Certified Public Accountant.

Seoul, Korea March 4, 2021

This report is effective as at March 4, 2021, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

LG Electronics Consolidated Statements of Financial Position December 31, 2020 and 2019

December 31, 2020 and 2019 (in millions of Korean won)	Notes	2020	2019
	NOLES	2020	2015
Assets Current assets			
Cash and cash equivalents	5,6,40	5,896,309	4,777,368
Deposits held by financial institutions	5,6,40	82,018	65,971
Trade receivables	5,7,40	7,154,932	6,360,288
Other receivables	5,7,40	446,426	639,150
Other financial assets	5,8,40	4,292	5,138
Inventories	9	7,447,157	5,863,418
Current tax assets		137,324	148,340
Contract assets	10	642,171	671,519
Other current assets	11	1,038,976	1,207,547
Assets held for sale	42	389,815	14,746
	_	23,239,420	19,753,485
Non-current assets	5 0 40	50.000	~~~~~
Deposits held by financial institutions	5,6,40	58,903	39,368
Other receivables	5,7,40	458,171	437,957
Other financial assets	5,8,40	156,491	96,503
Property, plant and equipment	12	13,973,998	14,505,419
Intangible assets Deferred tax assets	13 19	3,139,080 1,915,928	2,691,972 1,668,430
Investments in associates and joint ventures	19	4,471,590	4,544,521
Investment properties	14	4,471,390	4,044,021
Net defined benefit assets	20	10,716	8
Contract assets	10	230,511	205,976
Other non-current assets	11	549,040	915,945
		24,964,807	25,106,390
Total assets		48,204,227	44,859,875
Liabilities	_	-, -,	, ,
Current liabilities			
Trade payables	5,40	8,728,159	6,820,644
Borrowings	5,16,40	1,450,135	1,643,656
Lease liabilities	5,17,40	276,632	274,245
Other payables	5,18,40	3,555,968	3,318,784
Other financial liabilities	5,8,40	19,961	7,175
Current tax liabilities		202,887	172,756
Provisions	21	911,009	824,479
Contract liabilities	10	1,645,323	1,219,507
Other current liabilities	22	3,417,418	3,376,670
Non-current liabilities	_	20,207,492	17,657,916
Borrowings	5,16,40	8,469,620	8,843,682
Lease liabilities	5,17,40	585,428	497,179
Other payables	5,18,40	63,136	1,202
Other financial liabilities	5,8,40	177,471	107,973
Deferred tax liabilities	19	131,809	128,407
Net defined benefit liabilities	20	499,133	592,937
Provisions	21	284,770	258,521
Contract liabilities	10	29,042	27,908
Other non-current liabilities	22	214,201	319,012
		10,454,610	10,776,821
Total liabilities		30,662,102	28,434,737
Equity			
Paid-in capital:	23	004.400	004.400
Share capital		904,169	904,169
Share premium	04	3,088,179	3,088,179
Retained earnings	24	13,652,837	11,857,302
Accumulated other comprehensive loss	25	(1,997,921)	(1,309,801)
Other components of equity	26 _	(209,764)	(209,764)
Equity attributable to owners of the Parent Comp.	any	15,437,500	14,330,085
Non-controlling interests Total equity	_	2,104,625	2,095,053
		17,542,125	16,425,138
Total liabilities and equity		48,204,227	44,859,875

LG Electronics Consolidated Statements of Profit or Loss Years Ended December 31, 2020 and 2019

(in millions of Korean won, except per share amounts)	Notes	2020	2019
Net sales	28	63,262,046	62,306,175
Cost of sales	29	46,945,103	46,970,606
Gross profit		16,316,943	15,335,569
Selling and marketing expenses	29,30	7,784,118	7,621,228
Administrative expenses	29,30	1,311,758	1,361,419
Research and development expenses	29,30	2,513,181	2,483,406
Service costs	29,30	1,512,899	1,433,377
Operating profit		3,194,987	2,436,139
Financial income	31	658,138	426,248
Financial expenses	32	1,116,043	714,001
Loss from equity method valuation	14	(24,177)	(1,052,096)
Other non-operating income	33	2,591,900	1,375,967
Other non-operating expenses	34	2,849,162	1,943,619
Profit before income tax		2,455,643	528,638
Income tax expense	19	391,853	348,690
Profit for the year	_	2,063,790	179,948
Profit for the year attributable to:			
Owners of the Parent Company		1,968,332	31,285
Non-controlling interests		95,458	148,663
	_	2,063,790	179,948
Earnings per share attributable to owners of the Parent Company during the year <i>(in Korean won</i>) :	35		
Earnings per ordinary share		10.926	169
Earnings per preferred share		10,926	219

LG Electronics Consolidated Statements of Comprehensive Income Years Ended December 31, 2020 and 2019

(in millions of Korean won)	Notes	2020	2019
Profit for the year		2,063,790	179,948
Other comprehensive income (loss), net of tax			
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of the net defined benefit liability	20	(76,711)	(145,578)
Share of remeasurements of associates	14	41,807	32,457
Financial assets at fair value through other comprehensive income	8	22,285	8,633
Items that will be reclassified subsequently to profit or loss:			
Share of other comprehensive income (excluding remeasurements) of associates and joint ventures	14	(2,680)	39,014
Cash flow hedges	40	(5,845)	(33,418)
Exchange differences on translation of foreign operations		(699,289)	296,344
Other comprehensive income (loss) for the year, net of tax		(720,433)	197,452
Total comprehensive income for the year, net of tax	_	1,343,357	377,400
Comprehensive income for the year, net of tax, attributable to:			
Owners of the Parent Company		1,243,324	221,062
Non-controlling interests		100,033	156,338
Total comprehensive income for the year, net of tax		1,343,357	377,400

LG Electronics Consolidated Statements of Changes in Equity Years Ended December 31, 2020 and 2019

			Attributable	to owners of the P	arent Company			
(in millions of Korean won)	- Notes _	Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Other Components of Equity	Total	Non-controlling	Total Equity
Balance at January 1, 2019		3,992,348	12,075,414	(1,604,730)	(209,764)	14,253,268	2,053,639	16,306,907
Changes in accounting policy	_	-	(8,336)			(8,336)	428	(7,908)
Restated total equity		3,992,348	12,067,078	(1,604,730)	(209,764)	14,244,932	2,054,067	16,298,999
Total comprehensive income (loss):								
Profit for the year		-	31,285	-	-	31,285	148,663	179,948
Remeasurements of the net defined benefit liability	20	-	(137,609)	-	-	(137,609)	(7,969)	(145,578)
Share of remeasurements of associates	14	-	32,457	-	-	32,457	-	32,457
Financial assets at fair value through other	8							
comprehensive income		-	-	8,366	-	8,366	267	8,633
Share of other comprehensive loss								
(excluding remeasurements) of				00.044		00.044		00.044
associates and joint ventures Cash flow hedges	14 40	-	-	39,014 (29,408)	-	39,014 (29,408)	- (4,010)	39,014 (33,418)
Exchange differences	40	-	-	(29,400)	-	(29,400)	(4,010)	(33,410)
on translation of foreign operations				276.957		276,957	19.387	296,344
Total comprehensive income (loss)	-		(73,867)	294,929		221,062	156,338	377,400
	-		(10,001)	204,020		221,002		011,400
Transactions with owners:			(105 000)			(105.000)	(0.4 700)	(000,005)
Dividends	24	-	(135,909)	-	-	(135,909)	(94,726)	(230,635)
Changes in controlling interests in subsidiaries Transfer of business	00	-	-	-	-	-	(280)	(280)
Total transactions with owners	36 _	-	(135,909)			(135,909)	(20,346) (115,352)	(20,346) (251,261)
Balance at December 31, 2019	-	3,992,348	11,857,302	(1,309,801)	(209,764)	14,330,085	2,095,053	16,425,138
Balance at December 51, 2015	-	3,992,040	11,037,302	(1,309,001)	(209,704)	14,330,003	2,093,033	10,423,130
Balance at January 1, 2020		3,992,348	11,857,302	(1,309,801)	(209,764)	14,330,085	2,095,053	16,425,138
Total comprehensive income (loss):								
Profit for the year		-	1,968,332	-	-	1,968,332	95,458	2,063,790
Remeasurements of the net defined benefit liability	20	-	(78,695)	-	-	(78,695)	1,984	(76,711)
Share of remeasurements of associates	14	-	41,807	-	-	41,807	-	41,807
Financial assets at fair value through other	8			00 540		00 540	(00.4)	
comprehensive income		-	-	22,516	-	22,516	(231)	22,285
Share of other comprehensive income								
(excluding remeasurements) of associates and joint ventures	14			(2,680)		(2,680)		(2,680)
Cash flow hedges	40	-		(10,461)		(10,461)	4,616	(5,845)
Exchange differences	40	-	-	(10,401)	-	(10,401)	4,010	(3,043)
on translation of foreign operations				(697,495)		(697,495)	(1,794)	(699,289)
Total comprehensive income (loss)	-	-	1,931,444	(688,120)		1,243,324	100,033	1,343,357
Transactions with owners:	-					,		/
Dividends	24		(135,909)			(135,909)	(99,274)	(235,183)
Business combination	24 41	-	(155,809)	-	-	(155,509)	(99,274) 8,813	(235, 183) 8,813
Total transactions with owners	41 -		(135,909)			(135,909)	(90,461)	(226,370)
Balance at December 31, 2020	-	3,992,348	13,652,837	(1,997,921)	(209,764)	15,437,500	2,104,625	17,542,125
	-	3,002,040	10,002,007	(1,001,021)	(200,104)	10,401,000	2,107,020	.1,042,120

LG Electronics Consolidated Statements of Cash Flows Years Ended December 31, 2020 and 2019

(in millions of Korean won)	Notes	2020	2019
Cash flows from operating activities			
Cash generated from operations	36	5,550,712	4,538,942
Interest received		89,015	129,364
Interest paid		(372,991)	(411,189)
Dividend received		13,552	1,337
Income tax paid		(651,712)	(569,290)
Net cash inflow from operating activities		4,628,576	3,689,164
Cash flows from investing activities			
Decrease in deposits held by financial institutions		5,851	28,345
Decrease in other receivables		81,082	121,074
Proceeds from redemption and disposal of other financial assets		83,865	69,738
Proceeds from disposal of property, plant and equipment		135,344	223,379
Proceeds from disposal of intangible assets		31,813	4,214
Proceeds from disposal of and recovery of investments in			
associates and joint ventures		728,776	30,922
Proceeds from disposal of investment properties		-	99,663
Proceeds from disposal of assets held for sale		18,378	110,814
Transfer of business	36	-	173,028
Increase in deposits held by financial institutions		(42,679)	(7,062)
Increase in other receivables		(117,358)	(109,232)
Acquisition of other financial assets		(100,778)	(72,087)
Acquisition of property, plant and equipment		(2,281,865)	(2,072,127)
Acquisition of intangible assets		(801,177)	(472,472)
Acquisition of investments in associates and joint ventures		(15,432)	(18,813)
Business combination	41	(40,341)	(192,641)
Net cash outflow from investing activities	_	(2,314,521)	(2,083,257)
Cash flows from financing activities			
Proceeds from borrowings		1,281,703	735,288
Repayments of borrowings		(1,747,200)	(1,344,522)
Repayments of lease liabilities		(293,196)	(276,814)
Dividends paid		(235,182)	(230,915)
Net cash outflow from financing activities	_	(993,875)	(1,116,963)
Effects of exchange rate changes on cash and cash equivalents		(147,653)	18,036
Net increase in cash and cash equivalents		1,172,527	506,980
•	F		
Cash and cash equivalents at the beginning of the year	6	4,777,368	4,270,388
Cash and cash equivalents reclassified as assets held for sale Cash and cash equivalents at the end of the year	42	(53,586)	- / 777 000
Cash and Cash equivalents at the end of the year	6 _	5,896,309	4,777,368

1. General Information

LG Electronics Inc. (the "Company" or "Parent Company") was spun off from LG Electronics Investment Ltd. on April 1, 2002. The Parent Company's shares were listed on the Korea Exchange on April 22, 2002, and some of its preferred shares, in the form of global depositary receipts ("GDRs"), are listed on the London Stock Exchange at the end of the reporting period. The Parent Company is domiciled in Korea at Yeoui-daero, Yeongdeungpo-gu, Seoul.

As at December 31, 2020, LG Corp. owns 33.7% of the Parent Company's total shares, excluding preferred shares, while financial institutions, foreign investors and others own the rest.

The Parent Company and its subsidiaries (collectively referred to as the "Group") operate following six major business segments: Home Appliance & Air Solution segment manufactures and sells refrigerators, washing machines, vacuum cleaners, and residential and commercial air conditioners; Home Entertainment segment manufactures and sells TVs and digital media products; Mobile Communications segment manufactures and sells mobile communications equipment; Vehicle component Solutions segment designs and manufactures automobile parts; Business Solutions segment manufactures and sells monitors, PCs, information displays, solar panels and others; and LG Innotek Co., Ltd. operates LED, optics solutions, substrate materials and automotive components businesses. As at December 31, 2020, the Parent Company has 134 subsidiaries (Note 1 (a)), 16 associates and joint ventures (Note 14).

(a) Consolidated subsidiaries as at December 31, 2020 and 2019, are as follows:

			December 31, 2020December 31, 2019Percentage of ownershipPercentage of ownership						
			Percentage	Non-	Percentage	Non-			
Territory	Location	Subsidiary	Controlling interest	controlling interest	Controlling interest	controlling interest	Closing month	Major business	Basis of control
The Republic of Korea	Korea	Hiplaza Co., Ltd.	100.0%	-	100.0%	-	December	Wholesales and retails of electronic products	More than half of voting rights
	Korea	ACE R&A Co., Ltd.	100.0%	-	100.0%	-	December	Production and sales of air conditioner	More than half of voting rights
	Korea	Hi M Solutek Co., Ltd.	100.0%	-	100.0%	-	December	Maintenance	More than half of voting rights
	Korea	Hi Teleservice Co., Ltd.	100.0%	-	100.0%	-	December	Marketing services	More than half of voting rights
	Korea	LG Innotek Co., Ltd.1	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	Korea	LG Innotek Alliance Fund ¹	40.4%	59.6%	40.4%	59.6%	December	Investment	De-facto control
	Korea	Innowith Co., Ltd. ¹	40.8%	59.2%	40.8%	59.2%	December	Services	De-facto control
	Korea	Hanuri Co., Ltd.	100.0%	-	100.0%	-	December	Business facility maintenance	More than half of voting rights
	Korea	ZKW Lighting Systems Korea Co., Ltd.	70.0%	30.0%	70.0%	30.0%	December	R&D	More than half of voting rights
China	China	Inspur LG Digital Mobile Communications Co., Ltd.(LGEYT)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics (China) Co., Ltd(LGECH)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	China	LG Electronics (China) Research and Development Center Co., Ltd.(LGERD)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	China	LG Electronics (Hangzhou) Co., Ltd(LGEHN)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights

			December 31, 2020 December 31, 2019						
			Percentage	of ownership	Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	China	LG Electronics (Shanghai) Research and Development Center Co., Ltd.(LGCRC)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	China	LG Electronics Air- Conditioning(Shandong) Co., Ltd.(LGEQA)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	China	LG ELECTRONICS HK LIMITED(LGEHK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	China	LG Electronics (Huizhou) Inc.(LGEHZ)	80.0%	20.0%	80.0%	20.0%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics Nanjing Battery Pack Co.,Ltd.(LGENB) ²	50.0%	50.0%	50.0%	50.0%	December	Production of electronic products	De-facto control
	China	LG Electronics Nanjing New Technology Co.,LTD(LGENT)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics Nanjing Vehicle Components Co.,Ltd.(LGENV)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	China	LG Electronics (Qinhuangdao) Co.,LTD(LGEQH)	100.0%	-	100.0%	-	December	Production of casting	More than half of voting rights
	China	LG Electronics (Shenyang) Inc(LGESY)	78.9%	21.1%	78.9%	21.1%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	80.0%	20.0%	80.0%	20.0%	December	Production of electronic products	More than half of voting rights
	China	Nanjing LG Panda Appliances Co., Ltd(LGEPN)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights
	China	Qingdao LG Inspur Digital Communication Co., Ltd.(LGEQD)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights
	China	Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights

			December 31, 2020		Decembe	er 31, 2019			
			Percentage	of ownership	Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	China	QINGGONGLIAN ELECTRICAL INSTALLATION ENGINEERING CO.,LTD.	80.0%	20.0%	80.0%	20.0%	December	Installation and sales of air conditioners	More than half of voting rights
	China	LG Innotek Yantai Co.,Ltd.(LGITYT) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	China	LG Innotek Huizhou Co.,Ltd.(LGITHZ) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	China	LG Innotek Trading (Shanghai) Co.,Ltd.(LGITSH) ¹	40.8%	59.2%	40.8%	59.2%	December	Sales of electrical/electronic materials	De-facto control
	China	ZKW Lighting Systems (Dalian) Co. Ltd.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
Asia	Australia	LG ELECTRONICS AUSTRALIA PTY LIMITED(LGEAP)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	India	LG ELECTRONICS INDIA PRIVATE LIMITED(LGEIL) ⁴	100.0%	-	100.0%	-	March	Production and sales of electronic products	More than half of voting rights
	Japan	LG Japan Lab. Inc.(LGJL)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	Japan	LG Electronics Japan, Inc.(LGEJP)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Malaysia	LG Electronics (M) Sdn. Bhd(LGEML)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Philippines	LG Electronics Philippines Inc.(LGEPH)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Singapore	LG Electronics Singapore Pte.Ltd.(LGESL)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Taiwan	LG Electronics Taiwan Taipei Co., Ltd.(LGETT)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2020 December 31, 2019						
			Percentage	of ownership	Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Thailand	LG Electronics (Thailand) Company Limited(LGETH)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	India	LG Soft India Private Limited.(LGSI) ⁴	100.0%	-	100.0%	-	March	R&D	More than half of voting rights
	Indonesia	P.T. LG Electronics Indonesia(LGEIN)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Philippines	LG Electronics Pasig Inc. ³	38.0%	62.0%	38.0%	62.0%	December	Real estates	De-facto control
	Indonesia	PT. LG Innotek Indonesia(LGITIN) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	Taiwan	LG Innotek (Taiwan) Co., Ltd.(LGITTW) ¹	40.8%	59.2%	40.8%	59.2%	December	Sales of electrical/electronic materials	De-facto control
	Vietnam	LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	Malaysia	V-ENS (M) Sdn. Bhd.	100.0%	-	100.0%	-	December	Automotive engineering	More than half of voting rights
	Vietnam	LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Indonesia	PT. LG Electronics Service Indonesia(LGEID)	99.8%	0.2%	99.8%	0.2%	December	Services	More than half of voting rights
	Philippines	HI-M SOLUTEK PHILIPPINES INC.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Vietnam	HI-M SOLUTEK VIETNAM CO., LTD.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	India	Alphonso Labs Private Limited ⁴	56.4%	43.6%	-	-	March	Advertisement	More than half of voting rights
Europe	Netherlands	LG Electronics Benelux Sales B.V.(LGEBN)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2020 December 31, 2019						
			Percentage	of ownership	Percentage of	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Germany	LG Electronics Deutschland GmbH(LGEDG)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Spain	LG Electronics Espana S.A.(LGEES)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Netherlands	LG Electronics European Holding B.V.(LGEEH)	100.0%	-	100.0%	-	December	European holding	More than half of voting rights
	Netherlands	LG Electronics European Shared Service Center B.V.(LGESC)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	France	LG Electronics France S.A.S(LGEFS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Greece	LG ELECTRONICS HELLAS SINGLE MEMBER SA (LGEHS) ⁵	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Italy	LG Electronics Italia S.P.A.(LGEIS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Latvia	LG Electronics Latvia LTD(LGELA)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Hungary	LG Electronics Magyar K.F.T.(LGEMK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Mlawa Sp. z.O.O.(LGEMA)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	Sweden	LG Electronics Nordic AB(LGESW)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Polska Sp. Z.O.O(LGEPL)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Portugal	LG Electronics Portugal S.A.(LGEPT)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UK	LG Electronics U.K. LTD(LGEUK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

	_		Decembe	er 31, 2020	Decembe	er 31, 2019				
			Percentage	of ownership	Percentage	of ownership				
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control	
	Poland	LG Electronics Wroclaw Sp. z.O.O.(LGEWR)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights	
	Finland	LG Electronics Finland Lab Oy(LGEFL)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights	
	Poland	LG Innotek Poland Sp. z.o. o.(LGITPO) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control	
	Austria	ZKW Holding GmbH	70.0%	30.0%	70.0%	30.0%	December	Holding company	More than half of voting rights	
	Austria	ZKW Group GmbH	70.0%	30.0%	70.0%	30.0%	December	Services	More than half of voting rights	
	Austria	ZKW Elektronik GmbH	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights	
	Austria	ZKW Lichtsysteme GmbH	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights	
	Austria	ZKW Austria Immobilien Holding GmbH	70.0%	30.0%	70.0%	30.0%	December	Holding company	More than half of voting rights	
	Austria	ZKW Austria Immobilien GmbH	70.0%	30.0%	70.0%	30.0%	December	Real estates	More than half of voting rights	
	Slovakia	ZKW Slovakia s.r.o.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights	
	Czech	KES - kabelove a elektricke systemy spol. s.r.o.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights	

			December 31, 2020		December 31, 2019				
			Percentage	of ownership	Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Poland	KES Poland Sp.z o.o.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
North America	USA	LG Electronics Miami Inc.(LGEMI)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	USA	LG Electronics Alabama Inc.(LGEAI)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Canada	LG Electronics Canada, Inc.(LGECI)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Mexico	LG Electronics Mexicali, S.A. de C.V(LGEMX)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	Mexico	LG Electronics Mexico S.A. DE C.V.(LGEMS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	USA	LG Electronics Mobile Research U.S.A., L.L.C.(LGEMR)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	Mexico	LG Electronics Monterrey Mexico S.A.de C.V.(LGEMM)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	Mexico	LG Electronics Reynosa, S.A. De C.V.(LGERS)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	USA	LG Electronics U.S.A., Inc.(LGEUS)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Mexico	Servicios Integrales LG S.A DE C.V	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Mexico	Servicios LG Monterrey Mexico S.A. de C.V.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	USA	Zenith Electronics Corporation of Pennsylvania	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	USA	Zenith Electronics LLC(Zenith)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights

			December 31, 2020		December 31, 2019				
			Percentage of ownership		Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	USA	LG Innotek USA, Inc.(LGITUS) ¹	40.8%	59.2%	40.8%	59.2%	December	Sales of electrical/electronic materials	De-facto control
	Mexico	LG Innotek Mexico SA DE CV(LGITMX) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	USA	LG Electronics Vehicle Components U.S.A., LLC.(LGEVU)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	USA	LGEUS Power, LLC	100.0%	-	100.0%	-	December	Investment of solar power plant	More than half of voting rights
	USA	LG Electronics Fund I LLC	100.0%	-	100.0%	-	December	Investment in technology start-ups	More than half of voting rights
	USA	LG Technology Ventures LLC	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	USA	LG CORP. U.S.A.	100.0%	-	100.0%	-	December	Real estates	More than half of voting rights
	USA	ZKW Lighting Systems USA, Inc.	70.0%	30.0%	70.0%	30.0%	December	Sales of vehicle components	More than half of voting rights
	Mexico	ZKW Mexico Inmobiliaria, S.A. de C.V.	70.0%	30.0%	70.0%	30.0%	December	Real estates	More than half of voting rights
	Mexico	ZKW Mexico, S.A. de C.V.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
	Mexico	ZKW Mexico Servicios, S.A. de C.V.	70.0%	30.0%	70.0%	30.0%	December	Services	More than half of voting rights
	USA	Alphonso Inc.	56.4%	43.6%	-	-	December	Advertisement	More than half of voting rights
South America	Argentina	LG Electronics Argentina S.A.(LGEAR)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Colombia	LG Electronics Colombia Limitada(LGECB)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2020		December 31, 2019				
			Percentage	of ownership	Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Brazil	LG Electronics do Brasil Ltda.(LGEBR)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Honduras	LG Electronics Honduras S.de R.L. ²	20.0%	80.0%	20.0%	80.0%	December	Sales of electronic products	De-facto control
	Chile	LG Electronics Inc Chile Limitada(LGECL)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Panama	LG Electronics Panama, S.A.(LGEPS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Peru	LG Electronics Peru S.A.(LGEPR)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Venezuela	LG Electronics Venezuela, S.A.(LGEVZ)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Panama	LG Consulting Corp.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Guatemala	LG Electronics Guatemala, S.A.	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
Middle East and Africa	Angola	LG Electronics Angola Limitada(LGEAO)	100.0%	-	100.0%	-	December	Sales and services of electronic products	More than half of voting rights
	Jordan	LG Electronics Levant - Jordan(LGELF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Africa Logistics FZE(LGEAF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Algeria	LG Electronics Algeria SARL(LGEAS)	70.0%	30.0%	70.0%	30.0%	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Dubai FZE(LGEDF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Egypt	LG Electronics Egypt S.A.E(LGEEG)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	UAE	LG Electronics Gulf FZE(LGEGF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2020		December 31, 2019				
			Percentage	of ownership	hip Percentage of ownership				
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	UAE	LG Electronics Middle East Co., Ltd.(LGEME)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Morocco	LG Electronics Morocco S.A.R.L.(LGEMC)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Nigeria	LG Electronics Nigeria Limited(LGENI)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Tunisia	LGENAF Service Company SARL	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Overseas Trading FZE(LGEOT)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	South Africa	LG Electronics S.A. (Pty) Ltd.(LGESA)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Turkey	LG Electronics Ticaret A.S.(LGETK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Saudi Arabia	LG-Shaker Co.Ltd.(LGESR)	51.0%	49.0%	51.0%	49.0%	December	Production of electronic products	More than half of voting rights
	Saudi Arabia	LG Electronics Saudi Arabia LLC	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	UAE	HI M SOLUTEK HVAC SERVICE AND MAINTENANCE LLC	100.0%	-	100.0%	-	December	Services	More than half of voting rights
Other	Kazakhstan	LG Electronics Almaty Kazakhstan Limited Liability Partnership(LGEAK) ⁵	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Russia	LG Electronics RUS, LLC(LGERA)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Ukraine	LG Electronics Ukraine(LGEUR)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

- ¹ Although the Group owns less than half of the voting rights of LG Innotek Co., Ltd., which is an intermediate parent company of its subsidiaries, the Group is deemed to have control over LG Innotek Co., Ltd. due to the size and dispersion of holdings of the other shareholders and their voting patterns at previous shareholders' meetings (Note 3).
- ² Although the Group owns less than a majority of the effective percentage of ownership of the entity, the Group has concluded that the Group controls the entity. This is because the Group has a right to appoint or dismiss the majority of its Board of Directors by virtue of an agreement with the other investors.
- ³ Although the Group owns less than a majority of the effective percentage of ownership of the entity, the Group has concluded that the Group controls the entity. This is because the Group has the substantial power to direct the relevant activities and is exposed to variable returns.
- ⁴ In the preparation of the consolidated financial statements, the financial statements for the 12-month period ended December 31, 2020 were used for those subsidiaries with different fiscal year ends.
- ⁵ JSC LG Electronics Almaty Kazakhstan and LG Electronics Hellas S.A changed its name to LG Electronics Almaty Kazakhstan Limited Liability Partnership and LG ELECTRONICS HELLAS SINGLE MEMBER SA, respectively, during the year ended December 31, 2020.

(b) Financial information of major subsidiaries as at December 31, 2020 and 2019, and for the years ended December 31, 2020 and 2019, is as follows (before elimination of intercompany transactions):

			2020		
(in millions of Korean won)	Assets	Liabilities	Equity	Sales	Profit (loss) for the year
LG Innotek Co., Ltd.	5,492,250	3,324,321	2,167,929	9,356,785	186,482
LG Electronics U.S.A., Inc.(LGEUS)	4,696,966	3,628,900	1,068,066	13,529,003	165,698
LG Electronics European Shared Service Center B.V.(LGESC)	1,794,505	1,759,706	34,799	466,122	1,425
LG ELECTRONICS INDIA PRIVATE LIMITED(LGEIL)	1,412,013	520,509	891,504	2,222,889	227,775
LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	1,576,031	907,399	668,632	5,555,987	196,815
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	1,366,972	822,907	544,065	3,189,019	69,218
Zenith Electronics LLC(Zenith)	1,177,664	95,257	1,082,407	126,915	19,838
LG Electronics do Brasil Ltda.(LGEBR)	1,086,969	487,296	599,673	1,925,683	179,773
LG Electronics RUS, LLC(LGERA)	932,506	383,556	548,950	1,545,533	124,331
Hiplaza Co., Ltd.	1,013,618	842,298	171,320	2,890,533	3,768
LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)	792,107	495,851	296,256	1,743,226	98,564
ZKW Lichtsysteme GmbH	792,131	402,098	390,033	720,092	(2,341)
LG Electronics (China) Co., Ltd(LGECH)	917,289	975,625	(58,336)	270,881	51,739
LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	727,807	420,514	307,293	1,248,006	41,394
ZKW Group GmbH	783,685	479,713	303,972	110,058	(4,020)
LG Electronics Deutschland GmbH(LGEDG)	1,047,022	907,564	139,458	2,853,253	4,425
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	771,380	543,273	228,107	1,212,638	31,526
LG Electronics (Thailand) Company Limited(LGETH)	662,949	289,198	373,751	1,228,193	52,249
P.T. LG Electronics Indonesia(LGEIN)	765,136	396,357	368,779	1,523,004	19,964
LG Electronics Nanjing New Technology co.,LTD(LGENT)	659,139	445,672	213,467	1,790,173	45,102

			2019		
(in millions of Korean won)	Assets	Liabilities	Equity	Sales	Profit (loss) for the year
LG Innotek Co., Ltd.	5,070,125	3,093,240	1,976,885	8,042,528	80,658
LG Electronics U.S.A., Inc.(LGEUS)	4,198,780	3,212,631	986,149	12,675,238	189,763
LG Electronics European Shared Service Center B.V.(LGESC)	2,187,220	2,154,955	32,265	486,702	1,328
LG ELECTRONICS INDIA PRIVATE LIMITED(LGEIL)	1,388,314	427,032	961,282	2,689,243	310,986
LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	1,343,056	823,654	519,402	4,101,008	178,711
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	1,245,535	747,770	497,765	2,792,718	67,949
Zenith Electronics LLC(Zenith)	1,167,950	36,033	1,131,917	118,148	33,717
LG Electronics do Brasil Ltda.(LGEBR)	1,105,865	520,535	585,330	2,088,580	53,506
LG Electronics RUS, LLC(LGERA)	997,741	359,536	638,205	1,486,756	88,869
Hiplaza Co., Ltd.	886,765	708,045	178,720	2,828,000	1,471
LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)	830,101	614,326	215,775	1,489,375	80,488
ZKW Lichtsysteme GmbH	821,432	441,363	380,069	898,127	41,856
LG Electronics (China) Co., Ltd(LGECH)	722,510	830,334	(107,824)	323,864	15,715
LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	648,200	368,298	279,902	1,301,208	50,704
ZKW Group GmbH	640,509	340,845	299,664	3,032	29,530
LG Electronics Deutschland GmbH(LGEDG)	630,537	500,620	129,917	2,191,881	24,001
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	607,191	411,382	195,809	1,158,517	40,291
LG Electronics (Thailand) Company Limited(LGETH)	589,208	244,389	344,819	1,242,288	44,509
P.T. LG Electronics Indonesia(LGEIN)	589,151	215,266	373,885	1,349,015	65,682
LG Electronics Nanjing New Technology co.,LTD(LGENT)	482,000	273,422	208,578	1,385,210	43,991

- (c) Information of subsidiaries with material non-controlling interests is as follows:
 - LG Innotek Co., Ltd. and its subsidiaries
 - i) Percentage of ownership of non-controlling interests and accumulated non-controlling interests

(in millions of Korean won)	December 31, 2020	December 31, 2019
Percentage of ownership in non-controlling interests	59.2%	59.2%
Accumulated non-controlling interests	1,466,760	1,319,261

ii) Profit and dividends attributable to non-controlling interests for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Profit to non-controlling interests	155,225	69,221
Dividends to non-controlling interests	4,204	4,204

iii) Summarized consolidated statements of financial position of subsidiaries with material non-controlling interests, are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current assets	3,161,800	2,530,944
Non-current assets	2,876,800	3,239,836
Total assets	6,038,600	5,770,780
Current liabilities	2,284,222	2,046,234
Non-current liabilities	1,326,690	1,519,942
Total liabilities	3,610,912	3,566,176
Equity attributable to owners of LG Innotek Co., Ltd.	2,427,688	2,204,604
Non-controlling interests	-	
Total equity	2,427,688	2,204,604

iv) Summarized consolidated statements of comprehensive income of subsidiaries with material non-controlling interests for the years ended December 31, 2020 and 2019, are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	2020	2019
Net sales	9,633,217	8,302,068
Profit for the year	236,128	102,300
Other comprehensive income (loss), net of tax	(5,940)	(8,832)
Total comprehensive income, net of tax	230,188	93,468

 v) Summarized consolidated statements of cash flows of subsidiaries with material noncontrolling interests for the years ended December 31, 2020 and 2019, are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	2020	2019
Cash flows from operating activities	950,268	769,041
Cash flows from investing activities	(826,162)	(354,331)
Cash flows from financing activities	(167,158)	(238,874)
Effects of exchange rate changes on cash and cash equivalents	(8,330)	2,492
Net increase(decrease) in cash and cash equivalents	(51,382)	178,328
Cash and cash equivalents at the beginning of year	799,575	621,247
Cash and cash equivalents reclassified as assets held for sale	(53,586)	-
Cash and cash equivalents at the end of year	694,607	799,575

- (d) Significant restrictions on subsidiaries
 - i) Significant restrictions on ability to use the assets and settle the liabilities of the Group

Cash and other short-term financial instruments held by subsidiaries in Egypt, Algeria, Russia and Kazakhstan are subject to exchange control regulations of each relevant country. Accordingly, there are transfer limits on their cash and short-term financial instruments from these countries.

ii) The nature and extent to which the protective rights of non-controlling interest can restrict the use of the assets and settlement of the liabilities of the Group are as follows:

	The nature and extent of the protective rights for
Subsidiary	non-controlling interest
LG-Shaker Co., Ltd.(LGESR)	An unanimous approval is required for the confirmation of the financial
	statements and dividend declaration.

(e) Changes in the Parent Company's interest in subsidiaries

There are no changes in the Parent Company's interest in subsidiaries without the loss of control for the years ended December 31, 2020 and 2019.

(f) Subsidiaries newly included in the scope of preparation of consolidated financial statements for the year ended December 31, 2020, are:

Subsidiary	Reason	Country	Percentage of ownership	Closing month	Major business
Alphonso Inc.	Newly acquired	USA	56.4%	December	Advertisement
Alphonso Labs Private Limited	Newly acquired	India	56.4%	March	Advertisement

(g) Subsidiaries excluded from the scope of preparation of consolidated financial statements for the year ended December 31, 2020, are:

Subsidiary	Reason	Country
HIPLAZA (Shenyang) Trading Co., Ltd.	Liquidation	China
LG Electronics (Kunshan) Co., Ltd(LGEKS)	Liquidation	China
Tianjin Lijie cartridge heater Co., Ltd.(LGETL)	Liquidation	China

(h) Gain or loss resulted from loss of control

During the year ended December 31, 2020, the Group liquidated LG Electronics (Kunshan) Co., Ltd. and Tianjin Lijie cartridge heater Co., Ltd. and recognized loss of $\forall 3,153$ million and gain of $\forall 7$ million, respectively. There are no gain or loss recognized from the loss of control with regard to HIPLAZA (Shenyang) Trading Co., Ltd.

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are stated below. These policies have been consistently applied to all the years presented, unless otherwise stated.

Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

The preparation of consolidated financial statements requires the use of critical accounting estimates. Management also needs to exercise judgment in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

Changes in Accounting Policies and Disclosures

(a) New and amended standards and interpretations effective for the financial year beginning January 1, 2020.

- Amendments to Korean IFRS 1001 *Presentation of Financial Statements* and Korean IFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors – Definition of Material*

The amendments clarify the definition of material. Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of generalpurpose financial statements make on the basis of those financial statements. The amendments do not have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1103 Business Combination – Definition of a Business

The amended definition of a business requires to include inputs and substantive processes that have the ability to significantly contribute to the creation of outputs and the outputs exclude the returns in the form of lower costs. If substantially all of the fair value of the gross assets acquired

is concentrated in a single identifiable asset or group of similar identifiable assets, an entity may elect to apply an optional concentration test that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The amendments do not have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1109 *Financial Instruments*, Korean IFRS 1039 *Financial Instruments: Recognition and Measurement* and Korean IFRS 1107 *Financial Instruments: Disclosure – Interest Rate Benchmark Reform*

The amendments allow to apply the exceptions in relation the application of hedge accounting while uncertainties arising from interest rate benchmark reform exist. The exceptions are that the Group shall assume that the interest rate benchmark on which the hedged items and the hedging instruments are based on is not altered as a result of interest rate benchmark reform, when determining whether the expected cash flows are highly probable, whether an economic relationship between the hedged item and the hedging instrument exists, and when assessing the hedging relationship is highly effective. The amendments do not have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1116 Lease – Practical Expedient for COVID-19-Related Rent Exemption, Concessions, Suspension

When the conditions to apply the practical expedient are met, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification. A lessee that makes this election shall not account for any changes in lease payments resulting from the rent concession as a lease modification, but recognizes it as profit or loss.

In accordance with amendments to Korean IFRS 1116, the Group applied a practical expedient which does not assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification. The Group has adopted Korean IFRS 1116 retrospectively, as permitted under the specific transitional provisions in the standard. There was no cumulative impact on the beginning balance of retained earnings as at January 1, 2020 by retrospectively applying this standard, and the Group did not restate comparatives for the 2019 reporting period. The amendments do not have a significant impact on the consolidated financial statements.

(b) New, enacted and amended standards issued, but not effective for December 31, 2020, and not early adopted by the Group

- Amendments to Korean IFRS 1109 *Financial Instruments*, Korean IFRS 1039 *Financial Instruments: Recognition and Measurement*, Korean IFRS 1107 *Financial Instruments: Disclosure*, Korean IFRS 1104 *Insurance Contracts* and Korean IFRS 1116 *Lease – Interest Rate Benchmark Reform*

In relation to interest rate benchmark reform, the amendments provide exceptions to adjust effective interest rate instead of book amounts when interest rate benchmark of financial instruments at amortized costs is replaced, and to apply hedge accounting without discontinuance

when the interest rate benchmark is replaced in hedging relationship. The amendments should be applied for annual periods beginning on or after January 1, 2021. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1103 *Business Combination* – Reference to the Conceptual Framework

The amendments update a reference of the definitions of assets and liabilities to qualify for recognition to revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korea IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, and Korean IFRS 2121 *Levies*. The amendments also clarify that contingent assets should not be recognized at the acquisition date. The amendments should be applied for annual periods beginning on or after January 1, 2022. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1016 *Property, Plant and Equipment* - Proceeds before intended use

The amendments prohibit an entity from deducting from the cost of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity is required to recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendments should be applied for annual periods beginning on or after January 1, 2022. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* - Onerous Contracts : Cost of Fulfilling a Contract

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments should be applied for annual periods beginning on or after January 1, 2022. The Group does not expect that these amendments have a significant impact on the financial statements.

- Annual improvements to Korean IFRS 2018-2020

Annual improvements of Korean IFRS 2018-2020 Cycle should be applied for annual periods beginning on or after January 1, 2022. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- Korean IFRS 1101 *First time Adoption of Korean International Financial Reporting Standards* Subsidiaries that are first-time adopters
- · Korean IFRS 1109 *Financial Instruments* Fees related to the 10% test for derecognition

of financial liabilities

- · Korean IFRS 1116 Leases Lease incentives
- · Korean IFRS 1041 Agriculture Measuring fair value

- Amendments to Korean IFRS 1001 *Presentation of Financial Statements* - Classification of Liabilities as Current or Non-current

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if the entity classifies the option as an equity instrument, recognizing it separately from the liabilities as an equity component of a compound financial instrument. The amendments should be applied for annual periods beginning on or after January 1, 2023. The Group does not expect that these amendments have a significant impact on the financial statements.

Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110 *Consolidated Financial Statements*.

(a) Subsidiaries

Subsidiaries are all entities over which the Parent Company has control. The Parent Company controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Consolidation of a subsidiary begins from the date the Parent Company obtains control of a subsidiary and ceases when the Parent Company loses control of the subsidiary.

The Group applies the acquisition method to account for business combinations. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are initially measured at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquiree on an acquisition-by-acquisition basis in the event of liquidation, either at fair value or at the non-controlling interest's proportionate share of the recognized amounts of acquiree's identifiable net assets. All other non-controlling interests are measured at their acquisition-date fair values, unless another measurement basis is required by IFRSs. Acquisition-related costs are expensed as incurred.

Goodwill is recognized as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree over the identifiable net assets acquired. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss. Balances of receivables and payables, income and expenses and unrealized gains on transactions between the Group subsidiaries are eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

In transactions with non-controlling interests, which do not result in loss of control, the Group recognizes directly in equity any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received, and attribute it to the owners of the parent.

If the Group loses control of a subsidiary, any investment continuously retained in the subsidiary is re-measured at its fair value at the date when control is lost and any resulting differences are recognized in profit or loss.

(b) Associates

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method of accounting and are initially recognized at cost. The Group's investment in associates includes goodwill identified at acquisition, net of any accumulated impairment loss (Note 14).

The Group's share of its associates' post-acquisition profits or losses is recognized in the consolidated statements of profit or loss, and its share of post-acquisition movements in reserves is recognized in reserves. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any unsecured receivables, the Group does not recognize further losses, unless it has incurred obligations or made payments on behalf of the associate.

Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of associates have been changed where necessary to ensure consistency with the policies adopted by the Group. Dilution gains and losses arising in investments in associates are recognized in the consolidated statements of profit or loss.

(c) Joint Arrangements

A joint arrangement of which two or more parties have joint control is classified as either a joint operation or a joint venture. A joint operator has rights to the assets, and obligations for the liabilities, relating to the joint operation and recognizes the assets, liabilities, revenues and expenses relating to its interest in a joint operation. A joint venture has rights to the net assets relating to the joint venture and accounts for that investment using the equity method.

(d) Transactions with non-controlling interests

The Group applies a policy of treating transactions with non-controlling interests as transactions

with owners of the Group. The difference between any consideration paid and the relevant share of the carrying value of net assets of the subsidiary is recorded in equity. Gains and losses on disposal of non-controlling interests are also recognized in other components of equity.

(e) Business Combinations

The acquisition method of accounting is used to account for the acquisition of subsidiaries by the Group. The cost of an acquisition is measured as the fair value of the assets given, equity instruments issued and liabilities incurred or assumed at the date of exchange. The consideration transferred in a business combination includes fair values of the assets and liabilities from arrangements for contingent payments. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The Group measures non-controlling interests in the acquiree that entitle their holders to a proportionate share of the entity's net assets in the event of liquidation, on a case by case basis, at the proportionate share of the acquiree's identifiable net assets or fair value. All other components of non-controlling interests are measured at fair values, unless another measurement basis is required by IFRSs. Acquisition-related costs are recognized as expenses in the periods in which the costs are incurred.

In case of business combination achieved in stages, previously held equity interest in the acquiree is re-measured to fair value and a gain or loss is recognized in the consolidated statements of profit or loss.

The excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of the Group's previously held equity interest in the acquire over the net identifiable assets at the date of acquisition is recorded as goodwill (Note 2). If the cost of the acquisition is less than the fair value of the net assets of the subsidiary acquired, the difference is recognized directly in the consolidated statements of profit or loss.

Segment Reporting

Operating segments are established on the basis of business divisions whose internal reporting is provided to the chief operating decision-maker who is the chief executive officer. Segmental disclosures are disclosed in Note 4 in accordance with Korean IFRS 1108 *Operating Segment*.

Foreign Currency Translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Group's companies are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation in case of items subject to re-measurement. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies, are recognized in the consolidated statements of profit or loss, except cash flow hedges qualifying to be recognized in other comprehensive income.

Changes in the fair value of monetary debt securities denominated in foreign currency classified as financial assets at fair value through other comprehensive income are analysed between translation differences resulting from changes in the amortized cost of the security and other changes in the carrying amount of the security. Translation differences related to changes in amortized cost are recognized in profit or loss, and other changes in carrying amount are recognized in other comprehensive income.

Translation differences on non-monetary financial assets and liabilities are recognized in the consolidated statements of profit or loss as part of the fair value gain or loss. Translation differences arising from equities held at fair value through profit or loss are recognized in profit or loss, and those arising from equities held at fair value through other comprehensive income are recognized in other comprehensive income.

(c) Translation into presentation currency

The results and financial position of all Group companies whose functional currency is different from the presentation currency are translated into the presentation currency as follows:

- i) Assets and liabilities are translated at the closing rate at the end of the reporting period;
- ii) Income and expenses are translated at monthly average exchange rates; and
- iii) All resulting exchange differences from above i) and ii) are recognized in other comprehensive income.

When the Parent Company ceases to control a subsidiary, exchange differences that were recorded in equity are recognized in the consolidated statements of profit or loss as part of the gain or loss on sale.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate at the end of the reporting period.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits at banks, and other short-term highly liquid investments with original maturities of three months or less.

Financial Instruments

Classification

(a) Financial assets

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income. Changes in fair value of non-designated investments in equity instruments are recognized in profit or loss.

(b) Financial Liabilities

Financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not designated as hedging instruments and an embedded derivative that is separated are also classified as held for trading.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost.

Recognition and Measurement

Typical purchases and sales of financial assets are recognized on the trade date. At initial recognition, the Group measures a financial asset and financial liabilities at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining

whether their cash flows are solely payment of principal and interest.

(a) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- Amortized cost: Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.
- Fair value through other comprehensive income: Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other non-operating income and expenses' and impairment losses are presented in 'other non-operating expenses'.
- Fair value through profit or loss: Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'other non-operating income (expenses)' in the year in which it arises.

(b) Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which are held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'other non-operating income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other non-operating income and expenses' in the statement of profit or loss as applicable.

Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income is not reported separately from other changes in fair value.

Impairment

The Group assesses on a forward looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables, contract assets, and lease receivables, the Group applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables.

Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount is presented in the statements of financial position when there is a legally enforceable right to offset the recognized amounts and an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

Derecognition

Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as 'borrowings' in the statement of financial position

Financial liabilities are derecognized from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

Derivative Financial Instruments

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value. The resulting gain or loss that does not meet the conditions for hedge accounting is recognized in 'other non-operating income (expenses)' or 'financial income (expenses)' according to the nature of transactions.

For cash flow hedges, the Group separates and excludes the foreign currency basis spread from the designation of a financial instrument as the hedging instrument.

The effective portion of changes in the fair value of derivatives, excluding the foreign currency basis spread, that qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in the consolidated statements of profit or loss within 'other non-operating income (expenses)' or 'financial income (expenses)'. In addition, changes in the foreign currency basis spread of derivatives related to the hedged item is recognized within other comprehensive income.

Amounts accumulated in other comprehensive income are reclassified to profit or loss in the periods when the hedged item affects profit or loss. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to the consolidated statements of profit or loss within 'other non-operating income (expenses)' or 'financial income (expenses)'.

Trade Receivables

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. If the collection of trade receivables is expected in one year or less, they are classified as current assets. If not, they are presented as non-current assets. Trade receivables are recognized initially at fair value, less allowance for doubtful debts.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the weighted-average method, except for inventories in-transit whose cost is determined using the specific identification method. The cost of finished goods and work-in-process comprises of raw materials, direct labour, other direct costs and related production overheads (based on normal operating capacity). The Group periodically reviews a possibility of significant changes in net realizable value of inventories from not in use, decrease in market value and obsolescence, and recognizes as Allowances for Valuation of Inventories. Net realizable value is the estimated selling price in the ordinary course of business, less applicable selling expenses.

Assets Held for Sale and Discontinued Operations

Non-current assets (or disposal groups) are classified as 'assets held for sale' when their carrying amount is to be recovered principally through a sale transaction and a sale is considered highly probable. They are measured at the lower of carrying amount and the fair value less costs to sell.

When a component of discontinued operations or a component of the Group representing a separate major line of business or geographical area of operation has been disposed of, or is subject to a sale plan involving loss of control of a subsidiary, the Group discloses in the consolidated statements of profit or loss the post-tax profit or loss of discontinued operations and the post-tax gain or loss recognized on the measurement to fair value less costs to sell or on the disposal of the assets or disposal groups constituting the discontinued operation. The net cash

flows attributable to the operating, investing and financing activities of discontinued operations are presented in the notes to the consolidated financial statements.

Property, Plant and Equipment

All property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. All other repairs and maintenance are charged to the consolidated statements of profit or loss during the financial period in which they are incurred.

Land is not depreciated. Depreciation of other property, plant and equipment is calculated using the straight-line method to allocate their acquisition cost or revalued amounts, net of their residual values, over their estimated useful lives, as follows:

Buildings and Structures	20, 40 years
Machinery	5, 10 years
Tools and Equipment	5 years
Supplies	5 years
Other	5 years

Each asset's depreciation method, residual values, and useful lives are reviewed and adjusted if necessary, at the end of each reporting period. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Gains and losses on disposals are determined by differences between the proceeds from the disposal of the asset and its carrying amount and are recognized within 'other non-operating income (expenses)' in the consolidated statements of profit or loss.

Borrowing Costs

General and specific borrowing costs that are directly attributable to the acquisition or construction of a qualifying asset are capitalized during the period of time that is required to prepare the asset for its intended use. Investment income earned on the temporary investment of specific borrowings on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

Government Grants

Grants from a government are recognized at their fair value when there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants relating to income are deferred and recognized in the consolidated statements

of profit or loss over the period necessary to match them with the costs that they are intended to compensate.

Government grants relating to property, plant and equipment are presented as a deduction of related assets and are credited to depreciation over the expected lives of the related assets.

Intangible Assets

(a) Goodwill

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recoded as goodwill. Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed.

(b) Industrial property rights

Industrial property rights are shown at historical cost. Industrial property rights have a limited useful life and are carried at cost less accumulated amortization. Amortization is calculated using the straight-line method to allocate the cost of industrial property rights over their estimated useful lives of ten years.

(c) Development costs

New product development project is processed through product planning, design planning, product design, mass production verification, production readiness approval, and shipment approval. The Group generally recognizes expenditures incurred during and after the product design phase as development costs, and expenditures incurred before the phase are recognized as expenses within research and development expenses. Costs recognized as development costs are controlled by the Group and directly attributable to identifiable development projects, and meet all of the following criteria.

- It is technically feasible to complete the intangible asset so that it will be available for use or sale;
- Management intends to complete the intangible asset to use or sell it;
- It has the ability to use or sell the intangible asset;
- It can be demonstrated how the intangible asset will generate probable future economic benefits;
- Adequate technical, financial and other resources to complete the development for using and selling the intangible asset are available; and
- The expenditure attributable to the intangible asset during its development phase can be reliably measured.

Amortization of development costs based on the straight-line method over their estimated useful lives of one or three years begins at the commencement of sale or use of the related products.

(d) Membership

Membership rights are regarded as intangible assets with an indefinite useful life and are not amortized because there is no foreseeable limit to the period over which the assets are expected to be utilized. All membership rights are tested annually for impairment and stated at acquisition cost less accumulated impairment losses.

(e) Other intangible assets

Other intangible assets such as customer relationships, values of techniques and software which meet the definition of an intangible asset are amortized using the straight-line method over their estimated useful lives of five or ten years.

Investment Property

Investment property is held to earn rentals or for capital appreciation or both. Investment property is measured initially at its cost including transaction costs incurred in acquiring the asset. After its initial recognition, investment property is carried at its cost less any accumulated depreciation and accumulated impairment losses.

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. All other repairs and maintenance are charged to the consolidated statements of profit or loss during the financial period in which they are incurred.

Land held for investment is not depreciated. Investment property, except for land, is depreciated using the straight-line method over their estimated useful lives of 20 or 40 years.

Management reviews the depreciation method, the residual value and the useful life of an asset at the end of each period. If it is decided that previous estimates should be adjusted, the adjustment is accounted for as a change in an accounting estimate.

Impairment of Non-Financial Assets

Goodwill and intangible assets that have indefinite useful lives are not subject to amortization and are tested annually for impairment. At the end of each reporting period, assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized as profit or loss for the year for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and its value-in -use. The value-in-use is measured by determining the estimated pre-tax cash flows based on past performance and its expectations of market development, and applying the pre-tax discount rates that reflect specific risks relating to the relevant operating segments. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets other than goodwill that

suffered impairment loss are reviewed for possible reversal of the impairment at the end of each reporting period.

Trade Payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade payables are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities. Trade payables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method. Current trade payables measured initially at fair value are not significantly different from amortized cost using the effective interest method.

Borrowings

Borrowings are recognized initially at fair value, net of transaction costs incurred. Borrowings are subsequently carried at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the consolidated statements of profit or loss over the period of the borrowings using the effective interest method. The Group classifies the liability as current as long as it does not have an unconditional right to defer its settlement over 12 months after the end of the reporting period.

Financial Guarantee Contracts

Financial guarantee contracts are contracts that require 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 original or modified terms of a debt instrument. Financial guarantees contracts provided by the Group are initially measured at fair value on the date the guarantee was given. Subsequent to initial recognition, the Group's liabilities under such guarantees are measured at the higher of the following amounts below and recognized as 'other financial liabilities':

- the amount determined in accordance with the expected credit loss model under Korean IFRS 1109 *Financial Instruments*; and
- the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with Korean IFRS 1115 *Revenue from Contracts with Customers*

Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of past events and an outflow of resources required to settle the obligation is probable and can be reliably estimated. The Group recognizes a warranty provision, a provision for restoration, and a provision for litigation.

A warranty provision is accrued for the estimated costs of future warranty claims based on historical experience. Where the Group, as a tenant, is required to restore its leased assets to their original state at the end of the lease-term, the Group recognizes the present value of the estimated cost of restoration as a provision for restoration. When there is a probability that an outflow of economic

benefits will occur from litigation or disputes, and whose amount is reasonably estimable, a corresponding amount of provision is recognized as a provision for litigation in the consolidated financial statements.

A contingent liability is disclosed (Note 36) when;

- a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or
- a present obligation that arises from past events but is not recognized because: it is not
 probable that an outflow of resources embodying economic benefits will be required to settle
 the obligation; or the amount of the obligation cannot be measured with sufficient reliability.

Current and Deferred Income Tax

The tax expense for the year consists of current and deferred tax. Tax is recognized in the consolidated statements of profit or loss, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively.

The tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period in countries where the Group operates and generates taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is recognized on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. It represents future tax consequences that will arise when recovering or settling the carrying amount of its assets and liabilities. However, the deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor tax profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the end of the reporting period and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Deferred tax assets are recognized only to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences can be utilized.

Deferred income tax liabilities are provided on taxable temporary differences arising on investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference is controlled by the Group, and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred income tax assets are recognized only to the extent that it is probable that the deductible temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized. Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes assets and liabilities relate to income taxes levied by the same taxation authority on either the taxable entity or different taxable entities where there is an intention either to settle the balances on a net basis.

Employee Benefits

(a) Post-employment benefits

The Group operates various pension schemes. The schemes are generally funded through payments to insurance companies or trustee-administered funds, determined by periodic actuarial calculations. The Group operates both defined contribution and defined benefit plans.

A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate fund. The Group has no legal or constructive obligations to pay further contributions even if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. For the defined contribution plan, the Group pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The contributions are recognized as employee benefit expenses when an employee has rendered service. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent qualified actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds and that have terms to maturity approximating to the terms of the related pension obligation. The remeasurements of the net defined benefit liabilities are recognized in other comprehensive income.

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

(b) Other long-term employee benefits

The Group provides other long-term employee benefits to their employees. The entitlement to these benefits is usually conditional on the employee working more than ten years. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Group recognizes past service cost, net interest on other long-term employee benefits and remeasurements as profit or loss for the year. These benefits are calculated annually by independent qualified actuaries.

(c) Termination benefits

Termination benefits are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Group recognizes termination benefits at the earlier of the following dates: when the entity can no longer withdraw the offer of those benefits or when the entity recognizes costs for a restructuring.

(d) Share-based payment

The acquiree may have outstanding share-based payment transactions that the acquirer does not exchange for its share-based payment transactions. If vested, those acquiree share-based payment transactions are part of the non-controlling interest in the acquiree and are measured at their market-based measure as at the acquisition date. If unvested, the market-based measure of unvested share-based payment transactions is allocated to the non-controlling interest on the basis of the ratio of the portion of the vesting period completed to the greater of the total vesting period and the original vesting period of the share-based payment transaction. The balance is allocated to post-combination service.

Share Capital

Ordinary shares and preferred shares without any obligation to repay are classified as equity.

Where the Parent Company purchases its own ordinary shares, the consideration paid, including any directly attributable incremental costs, is deducted from equity attributable to owners of the Parent Company until the shares are cancelled or reissued. Where such treasury shares are subsequently reissued, any consideration received is included in equity attributable to owners of the Parent Company.

Revenue Recognition

(a) Identify performance obligation

The Group sells home appliances, mobile communications equipment, TVs, monitors, automobile parts, information displays and others. If the contract with a customer includes any separate services in addition to sales of goods, the Group identifies performance obligations of the services to be rendered from such sales contracts.

According to the rules and guidance on the terms and conditions of international trading (INCOTERMS 2010), the Group recognizes the transportation services as a separate performance obligation apart from the sale of goods, under the transactions with the rules where seller is responsible for paying shipping cost and insurance premium.

The Group determines standard warranty coverage periods per product and country, considering warranty periods required by law and others when entering into contracts with customers for the sales of products. If the Group provides an extended warranty beyond the standard warranty coverage periods or a customer has the option to purchase an additional warranty separately, the

Group identifies the warranty as a separate performance obligation and recognizes revenue.

(b) A performance obligation satisfied at a point in time

Sales of goods are recognized when the Group has delivered products to the customer. Delivery does not occur until the products have been shipped to the specified location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the Group has objective evidence that all criteria for acceptance have been satisfied.

The products are often sold with volume discounts and customers have a right to return faulty products. Accumulated experience is used to estimate and provide for the discounts and returns. The volume discounts are assessed based on anticipated annual sales. The Group recognizes provisions for product warranties and contract liabilities for sales returns based on reasonable expectation reflecting warranty obligation and sales return rates incurred historically.

For royalty contracts, if there are no other goods or services provided to customer in the contracts other than obligations to provide license, the nature of the contracts are provision of right to use the Group's intellectual property that exist at the time of transfer. This means that the customer can direct the use of and obtain substantially all of the remaining benefits from the license at the point in time at which the license transfers. The Group determined the royalty income as a performance obligation satisfied at a point in time.

(c) A performance obligation satisfied over time

The Group builds and sells customized equipment and design plan for a customer. The revenue is recognized over time by measuring progress only if the Group's performance does not create an asset with an alternative use to the Group and the Group has an enforceable right to payment for performance completed to date. The Group performed an analysis on those contracts and determined the Group has an enforceable right to payment for performance completed to date; therefore, the revenue is recognized over time using input methods by measuring the percentage of completion.

When the outcome of a transaction involving the rendering of services provided separately to customers can be estimated reliably, revenue associated with such transaction is recognized by reference to the percentage of completion of the services. Any changes in expected revenue, cost or the amount of services rendered are accounted for as changes in estimates. These changes in estimates may bring adjustments to the expected revenue or cost which is recognized in the profit or loss in the period in which management recognizes the changes in circumstances.

The Group receives licensing fees for the trademark held by the Group from subsidiaries and associates. The Group continues to develop the trademark's value and performs marketing activities through various media such as TV, internet, exhibitions, road shows and others. The nature of the Group's promise in granting a license is a promise to provide a right to access the Group's intellectual property over a license period; therefore, the Group determined the promised

license is a performance obligation that is satisfied over time.

Income from rental, lease, extended guarantees and others is recognized on a straight-line basis over the period of the contract.

(d) Variable consideration

The Group estimates an amount of variable consideration by using the expected value which the Group expects to better predict the amount of consideration. The Group recognizes revenue with transaction price including variable consideration only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the refund period has lapsed. The refund liability is measured at the amount of consideration received for which the Group does not expect to be entitled.

(e) Allocating the transaction price

The transaction price in an arrangement must be allocated to each separate performance obligation based on the relative stand-alone selling prices of the goods or services being provided to a customer. The Group determines the stand-alone selling price for each separate performance obligation by using an 'adjusted market assessment approach'. In limited circumstances, the Group plans to use an 'expected cost plus a margin approach' to estimate expected cost plus a reasonable margin.

(f) Returns

A gross contract liability (refund liability) for the expected returns to customers is recognized as adjustment to revenue, and the Group has a right to recover the product from the customer when the customer exercises his right of return and recognizes an asset and a corresponding adjustment to cost of sales. A right to recover the products is measured at former carrying amount of the product less the costs to recover the products.

(g) Significant financing component

In general, the period between the transfer of the promised goods or services to the customer and the payment made by the customer is less than one year. In this case, the Group uses the practical expedient in which the Group does not adjust the promised amount of consideration for the effects of a significant financing component.

Leases

Lessee accounting

The Group leases various offices, warehouses, retail stores, equipment and cars. A lease term is normally determined considering non-cancellable period of a lease and its extension options. Lease conditions are negotiated on an individual basis and contain a wide range of different terms and

conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

Leases are recognized as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group. Each lease payment is allocated to the repayment of lease liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the lease liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

(a) Right-of-use assets

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- estimated restoration costs

(b) Lease liabilities

The lease liabilities are initially measured at the present value of the lease payments that are not paid at the commencement date. The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

At the commencement date, the lease payments included in the measurement of the lease liability comprise the following payments:

- fixed lease payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payments that are based on an index or a rate
- amounts expected to be payable by the lessee under residual value guarantees
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option

However, payments associated with short-term leases and leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT-equipment whose

underlying assets are values below US\$ 5,000, and others.

Lessor accounting

A lessor classifies each of its leases as either an operating lease or a finance lease. A lease that transfers substantially all the risks and rewards incidental to ownership of underlying asset is classified as a finance lease, and a lease other than a finance lease is classified as an operating lease. Initial direct costs incurred in obtaining an operating lease are added to the carrying amount of the underlying asset and recognized as expense over the lease term on the same basis as lease income. The respective leased assets are included in the consolidated statement of financial position based on their nature.

Dividend Distribution

A dividend liability is recognized when the dividends are approved by the shareholders at their general meeting.

Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to shareholders of the Parent Company by the weighted average number of shares issued excluding shares purchased by the Parent Company that are held as treasury shares. Preferred shares have a right to participate in the profits of the Parent Company. These participation rights have been considered in presenting the EPS for ordinary shares and preferred shares.

Greenhouse Gas Emissions Rights (Allowances) and Obligations

Emission rights are defined as allowed amount of emissions that can be released, allocated by the Korean government as 'Act on the Allocation and Trading of Greenhouse-Gas Emission Permits' takes effect. Emission rights that are received free of charge from the government are measured at zero, while the rights purchased additionally from trading market such as the Korea Exchange are measured at acquisition cost. Emission rights are subsequently stated as acquisition cost less accumulated impairment loss. Emission liabilities are measured as the sum of the carrying amount of emission rights to be delivered to the government to settle the obligation for emissions occurred and expected expenditure required at the end of reporting period for any excess emissions. The emission rights and liabilities are classified as 'intangible assets' and 'provisions', respectively, in the consolidated statement of financial position.

3. Critical Accounting Estimates and Judgments

The estimates and judgments are continuously evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable.

Critical Accounting Estimates and Assumptions

The Group makes estimates and assumptions concerning the future. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results.

During 2020, the spread of COVID-19 has a material impact on the global economy. It may have a negative impact; such as, decrease in productivity, decrease or delay in sales, collection of existing receivables and others. Accordingly, it may have a negative impact on the financial position and financial performance of the Group.

Significant accounting estimates and assumptions applied in the preparation of the consolidated financial statements can be adjusted depending on changes in the uncertainty from COVID-19. Also, the ultimate effect of COVID-19 to the Group's business, financial position and financial performance cannot presently be determined.

The estimates and assumptions that have a significant risk of causing adjustments to the carrying amounts of assets and liabilities after the end of the reporting period are addressed below.

(a) Revenue Recognition

The Group recognizes revenue over time using the percentage of completion method for the rendering of service such as equipment production and installation. The Group measures the percentage of completion by estimating cost for the completion of the transaction, and the factors for the estimation of revenue may vary.

(b) Impairment of Goodwill and Others

The Group tests goodwill and others regularly for impairment. The recoverable amounts of cashgenerating units have been determined based on fair value less costs of disposal or value in use calculations. These calculations require estimates.

(c) Income Taxes

The Group recognizes assets and liabilities for anticipated tax audit issues based on the best estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made.

(d) Fair Value of Financial Instruments

The fair value of financial instruments that are not traded in an active market is determined by using

valuation techniques. The Group uses its judgment to select a variety of methods and makes assumptions that are mainly based on market conditions existing at the end of each reporting period.

(e) Provisions

The Group recognizes provisions for product warranties and others based on their historical data.

(f) Net Defined Benefit Liabilities

The present value of the defined benefit liability depends on various factors that are determined on an actuarial basis. The assumptions used in determining the net cost (income) for pensions include the discount rate, which is the interest rate that is used to determine the present value of estimated future cash outflows expected to be required to settle the defined benefit liability. In determining the appropriate discount rate, the Group considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability. Other key assumptions for defined benefit liability are based on current market conditions.

(g) Development Costs

The Group capitalizes development costs when there is a reasonable assurance that projects have technical feasibility and the possibility of generating future economic benefits, and performs periodic impairment test. The recoverable amount of each project has been calculated on a basis of the value-in-use reflecting historical experience and future business plans. These calculations require estimates.

(h) Lease

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

The assessment of reasonable certainty to exercise (or not exercise) an extension option is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

Significant Judgment on Accounting Policies Adopted by the Group

In order to determine the Group's de-facto control, the Group considers the size of the Group's holding of voting rights relative to the size and dispersion of holdings of the other vote holders and additional facts and circumstances including voting patterns at previous shareholders' meetings.

4. Segment Information

The segments of the Group are strategic business divisions providing different products and services. They are reported separately because each business division requires different technologies and marketing strategies. The main products of each business division are as follows and the comparative information is presented in conformity with the same classification in the current period.

Operating segment	Type of products
ome Appliance & Air Solution (H&A)	Refrigerators, washing machines, air conditioners, vacuum cleaners and others
ome Entertainment (HE)	TVs, audio, beauty appliances and others
obile Communications (MC)	Mobile communications
ehicle component Solutions (VS)	Vehicle components
usiness Solutions (BS)	Monitors, PCs, information displays, solar panels and others
G Innotek Co., Ltd. and its subsidiaries Innotek) ther segments	Camera modules, substrate & material, motor/sensor and others Equipment production and others
ome Appliance & Air Solution (H&A) ome Entertainment (HE) obile Communications (MC) chicle component Solutions (VS) usiness Solutions (BS) G Innotek Co., Ltd. and its subsidiaries	Refrigerators, washing machines, air conditioners, vacuum cleaners and others TVs, audio, beauty appliances and others Mobile communications Vehicle components Monitors, PCs, information displays, solar panels and others Camera modules, substrate & material, motor/sensor and

(a) The segment information for sales and operating profit (loss) for the years ended December 31, 2020 and 2019, is as follows:

					2020				
(in millions of _Korean won)	H&A	HE	МС	VS	BS	Innotek	Other segments ¹	Inter- segment transactions ²	Total
Sales	22,269,052	13,179,808	5,217,131	5,801,501	6,007,461	9,633,217	2,046,815	(892,939)	63,262,046
External sales	22,218,379	13,172,486	5,214,723	5,801,499	6,005,478	9,088,964	1,760,517	-	63,262,046
Internal sales	50,673	7,322	2,408	2	1,983	544,253	286,298	(892,939)	-
Operating profit (loss) ³	2,352,632	969,657	(841,172)	(367,496)	457,794	606,695	16,877	-	3,194,987
Depreciation and amortization	679,531	272,604	142,728	502,282	222,649	686,086	121,528	-	2,627,408

					2019				
(in millions of Korean won)	H&A	HE	МС	VS	BS	Innotek	Other segments ¹	Inter- segment transactions ²	Total
Sales	21,515,495	13,286,002	5,966,679	5,465,403	6,096,422	8,302,068	2,563,968	(889,862)	62,306,175
External sales	21,465,991	13,276,671	5,963,894	5,465,367	6,088,108	7,711,517	2,334,627	-	62,306,175
Internal sales	49,504	9,331	2,785	36	8,314	590,551	229,341	(889,862)	-
Operating profit (loss) ³	1,996,128	788,955	(1,009,761)	(194,944)	485,935	403,129	(33,303)	-	2,436,139
Depreciation and amortization	606,890	296,912	162,540	433,636	213,940	590,450	174,260	-	2,478,628

¹ Other segments include operating segments that are not qualified as reportable segments and departments that support the operating segments and R&D.

² Sales between segments are accounted on terms equivalent to those that prevail in arm's length transactions.

³ Other income or expenses items not included in the operating profit (loss) are not separately disclosed because the Chief Operating Decision Maker does not review them by segment.

	December	31, 2020	December	31, 2019
(in millions of Korean won)	Assets	Liabilities	Assets	Liabilities
H&A	20,963,845	11,711,590	18,401,578	10,601,109
HE	11,824,138	8,755,478	11,469,932	8,630,475
MC	3,502,099	7,608,219	3,909,919	7,009,620
VS	6,509,025	7,671,125	6,076,567	6,293,054
BS	5,430,686	4,000,435	5,118,346	3,904,482
Innotek	6,038,600	3,610,912	5,770,780	3,566,176
Subtotal ¹	54,268,393	43,357,759	50,747,122	40,004,916
Other segments and inter-segment transactions	(6,064,166)	(12,695,657)	(5,887,247)	(11,570,179)
Total	48,204,227	30,662,102	44,859,875	28,434,737

(b) Segment assets and liabilities as at December 31, 2020 and 2019, are as follows:

¹ The amounts of assets and liabilities of each segment are before inter-company elimination, and common assets and liabilities are allocated based on the operations of the segments.

(c) Non-current assets by geographic area as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	Non-current assets ¹		
Geographic areas	December 31, 2020	December 31, 2019	
Korea	12,150,444	12,044,015	
China	899,453	1,061,738	
Asia	935,727	1,050,815	
North America	1,450,716	1,305,270	
Europe	1,327,801	1,287,997	
South America	98,476	144,053	
Middle East & Africa	106,761	119,002	
Russia and others	144,079	184,792	
Total	17,113,457	17,197,682	

¹ Non-current assets consist of property, plant and equipment, intangible assets and investment properties.

(d) Details of net sales from a major external customer for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019	Related segment
Major customer A	6,532,144	5,187,144	Innotek and others

5. Financial Instruments by Category and Offsetting Financial Assets and Financial Liabilities

(a) Categorizations of financial instruments as at December 31, 2020 and 2019, are as follows:

	December 31, 2020						
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total		
Cash and cash equivalents	5,896,309	-	-	-	5,896,309		
Deposits held by financial institutions	140,921	-	-	-	140,921		
Trade receivables	6,352,015	802,917	-	-	7,154,932		
Other receivables	904,597	-	-	-	904,597		
Other financial assets	1,612	117,420	41,751	-	160,783		
Total	13,295,454	920,337	41,751		14,257,542		

	December 31, 2020							
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total				
Trade payables	8,728,159	-	-	8,728,159				
Borrowings	9,919,755	-	-	9,919,755				
Lease liabilities	-	-	862,060	862,060				
Other payables	3,619,104	-	-	3,619,104				
Other financial liabilities	-	26,913	170,519	197,432				
Total	22,267,018	26,913	1,032,579	23,326,510				

	December 31, 2019				
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total
Cash and cash equivalents	4,777,368	-	-	-	4,777,368
Deposits held by financial institutions	105,339	-	-	-	105,339
Trade receivables	5,747,968	612,320	-	-	6,360,288
Other receivables	1,077,107	-	-	-	1,077,107
Other financial assets	1,612	69,762	25,867	4,400	101,641
Total	11,709,394	682,082	25,867	4,400	12,421,743

	December 31, 2019						
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total			
Trade payables	6,820,644	-	-	6,820,644			
Borrowings	10,487,338	-	-	10,487,338			
Lease liabilities	-	-	771,424	771,424			
Other payables	3,319,986	-	-	3,319,986			
Other financial liabilities	-	14,345	100,803	115,148			
Total	20,627,968	14,345	872,227	21,514,540			

(b) Net gains or losses on each category of financial instruments for the years ended December 31, 2020 and 2019, are as follows:

	2020				
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total
Interest income	96,010	-	-	-	96,010
Exchange differences	(521,517)	(73,313)	-	-	(594,830)
Bad debts expense	(12,151)	-	-	-	(12,151)
Loss on disposal of trade receivables	(3,704)	(6,042)	-	-	(9,746)
Dividend income	-	1,280	3,472	-	4,752
Gain on valuation of financial assets at fair value through profit or loss	-	-	184	-	184
Gain on derivatives (through profit or loss)	-	-	80,302	-	80,302
Fair value gain, net of tax (through other comprehensive income)	-	22,285	-	-	22,285
Gain on derivatives, net of tax (through other comprehensive income)	-	-	-	963	963

	2020						
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total			
Interest expense	(311,211)	-	(55,959)	(367,170)			
Exchange differences	425,700	-	(55,961)	369,739			
Loss on derivatives (through profit or loss)	-	(68,622)	-	(68,622)			
Loss on derivatives, net of tax (through other comprehensive income)	-	-	(15,999)	(15,999)			
Others	(4,104)	-	-	(4,104)			

(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total
Interest income	143,484	-	-	-	143,484
Exchange differences	150,894	(38,827)	-	-	112,067
Bad debts expense	(27,526)	-	-	-	(27,526)
Loss on disposal of trade receivables	(6,162)	(12,957)	-	-	(19,119)
Dividend income	-	420	273	-	693
Gain on valuation of financial assets at fair value through profit or loss	-	-	120	-	120
Loss on valuation of financial assets at fair value through other comprehensive income	-	(206)	-	-	(206)
Gain on derivatives (through profit or loss)	-	-	51,413	-	51,413
Fair value gain, net of tax (through other comprehensive income)	-	8,633	-	-	8,633
Gain on derivatives, net of tax (through other comprehensive income)	-	-	-	144	144

	2019						
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total			
Interest expense	(376,172)	-	(31,027)	(407,199)			
Exchange differences	(144,103)	-	19,776	(124,327)			
Loss on derivatives (through profit or loss)	-	(50,735)	-	(50,735)			
Loss on derivatives, net of tax (through other comprehensive income)	-	-	(26,314)	(26,314)			
Others	(2,852)	-	-	(2,852)			

(c) Recognized financial instruments that are subject to an enforceable master netting arrangements or similar arrangements as at December 31, 2020 and 2019, are as follows:

	December 31, 2020						
		Recognized	Net amounts presented in	Amounts n	ot offset		
(in millions of Korean won)	Recognized financial n millions of Korean won) instrument	financial instrument offset	the statement of financial position	Financial instruments	Cash collateral	Net amount	
Financial assets							
Trade receivables	315,471	(302,988)	12,483	-	-	12,483	
Financial liabilities							
Trade payables	590,643	(302,988)	287,655	-	-	287,655	

	December 31, 2019						
		Recognized	Net amounts presented in	Amounts r			
Recognized financial (in millions of Korean won) instrument	financial	financial instrument offset	the statement of financial position	Financial instruments	Cash collateral	Net amount	
Financial assets							
Trade receivables	219,456	(207,926)	11,530	-	-	11,530	
Financial liabilities							
Trade payables	319,739	(207,926)	111,813	-	-	111,813	

6. Cash and Cash Equivalents and Deposits held by Financial Institutions

(a) Cash and cash equivalents

Cash and cash equivalents in the consolidated statements of financial position are equal to the cash and cash equivalents in the consolidated statements of cash flows. Details are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Cash on hand	362	331
Bank deposits	5,895,947	4,777,037
Total	5,896,309	4,777,368

(b) Deposits held by financial institutions

The deposits held by financial institutions restricted in use as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current		
Fund for business cooperation	80,000	65,500
Others	2,018	471
Subtotal	82,018	65,971
Non-current		
Deposit for checking account	65	65
National project	1,338	1,456
Others	57,500	37,847
Subtotal	58,903	39,368
Total	140,921	105,339

7. Trade Receivables and Other Receivables

(a) Trade receivables and other receivables, net of allowance for doubtful accounts, as at December 31, 2020 and 2019, are as follows:

	December 31, 2020			December 31, 2019			
	Allowance for			Allowance for			
(in millions of Korean won)	Original amount	doubtful accounts	Carrying amount	Original amount	doubtful accounts	Carrying amount	
Trade receivables	7,267,448	(112,516)	7,154,932	6,471,588	(111,300)	6,360,288	
Other receivables							
Current	465,655	(19,229)	446,426	655,673	(16,523)	639,150	
Non-current	458,206	(35)	458,171	438,545	(588)	437,957	

(b) Details of other receivables as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current		
Loans	10,573	14,006
Non-trade receivables	246,062	362,395
Accrued income	101,673	167,624
Deposits	88,118	95,125
Subtotal	446,426	639,150
Non-current		
Loans	112,757	88,690
Non-trade receivables	41,864	58,532
Deposits	303,550	290,735
Subtotal	458,171	437,957
Total	904,597	1,077,107

(c) The aging analysis of trade receivables and other receivables as at December 31, 2020 and 2019, is as follows:

		Decemb	er 31, 2020		December 31, 2019			December 31, 2019		
(in millions of	Trade	Other re	eceivables		Trade	Other r	eceivables			
Korean won)	receivables	Current	Non-current	Total	receivables	Current	Non-current	Total		
Receivables not past due	6,561,201	433,690	454,787	7,449,678	5,597,436	622,192	421,649	6,641,277		
Past due but not impaired										
Up to 6 months	466,159	10,202	1,526	477,887	634,275	15,934	13,460	663,669		
7 to 12 months	20,397	1,087	1,863	23,347	20,937	568	1,844	23,349		
Over 1 year	32,328	5,306	30	37,664	20,414	4,081	1,592	26,087		
Subtotal	518,884	16,595	3,419	538,898	675,626	20,583	16,896	713,105		
Impaired	187,363	15,370		202,733	198,526	12,898	-	211,424		
Total	7,267,448	465,655	458,206	8,191,309	6,471,588	655,673	438,545	7,565,806		

- (d) The allowance for doubtful accounts is recognized based on aging analysis and historical experience.
- (e) The Group classifies individually impaired receivables as defaulted receivables if the receivables are impaired due to reasons including bankruptcy and insolvency of the debtors. Defaulted receivables are classified into two categories of rehabilitation related receivables and other defaulted receivables. The Group performs impairment test on rehabilitation related receivables based on expected repayment amount and recognizes impairment loss on other defaulted receivables based on types and values of collaterals.
- (f) Movements in allowance for doubtful accounts for the years ended December 31, 2020 and 2019, are as follows:

	2020						
(in millions of Korean won)	At Jan. 1	Addition (Reversal)	Write-off	Other	At Dec. 31		
Trade receivables	111,300	5,915	(16,865)	12,166	112,516		
Other receivables							
Current	16,523	6,784	(34)	(4,044)	19,229		
Non-current	588	(548)	-	(5)	35		

(in millions of Korean won)	2019							
	At Jan. 1	Addition	Write-off	Other	At Dec. 31			
Trade receivables	91,015	23,270	(6,307)	3,322	111,300			
Other receivables								
Current	12,893	3,747	(411)	294	16,523			
Non-current	78	509	-	1	588			

Bad debt expenses for trade receivables are included in 'selling and marketing expenses' in the consolidated statement of profit or loss and those for other receivables are included in 'other non-operating expenses'. Allowance for doubtful accounts decrease when reasons for allowance are resolved or when the receivables are written off as there is no reasonable expectation of recovery.

(g) There are no financial assets that are not derecognized in their entirety, nor any associated liabilities recognized at the end of the reporting period.

8. Other Financial Assets and Liabilities

(a) Details of other financial assets and liabilities as at December 31, 2020 and 2019, are as follows:

4,292 117,420	6,943 69,762
,	
117,420	69 762
	03,702
37,459	23,324
1,612	1,612
160,783	101,641
4,292	5,138
156,491	96,503
December 31, 2020	December 31, 2019
197,318	115,013
114	135
197,432	115,148
19,961	7,175
177,471	107,973
	1,612 160,783 4,292 156,491 December 31, 2020 197,318 114 197,432 19,961

	December 31, 2020		December	31, 2019
(in millions of Korean won)	Assets	Liabilities	Assets	Liabilities
Current				
Currency forward	2,542	19,847	2,543	7,060
Currency swap	1,750	-	2,595	-
Subtotal	4,292	19,847	5,138	7,060
Non-current				
Currency swap	-	65,581	1,805	8,703
Interest rate swap	-	111,890	-	99,250
Subtotal		177,471	1,805	107,953
Total	4,292	197,318	6,943	115,013

(b) Details of derivatives as at December 31, 2020 and 2019, are as follows:

The details of major derivative contracts at the end of the reporting period are presented in Note 40.

- (c) Financial assets at fair value through other comprehensive income
 - i) Changes in financial assets at fair value through other comprehensive income for the years ended December 31, 2020 and 2019, are as follows:

				2020			
					Valuation		
(in millions of Korean won)	At January 1	Acquisition	Disposal	Transfer	(OCI)	Other	At December 31
Listed equity securities	18,638	-	-	6,976	32,921	(432)	58,103
Unlisted equity securities	51,124	23,064	(224)	(6,976)	(5,415)	(2,256)	59,317
Total	69,762	23,064	(224)	-	27,506	(2,688)	117,420

			2	019		
(in millions of Korean won)	At January 1	Acquisition	Disposal	Valuation (OCI)	Other	At December 31
Listed equity securities	20,463	-	(774)	(1,156)	105	18,638
Unlisted equity securities	34,055	17,115	(10,808)	10,224	538	51,124
Debt securities	1,552	-	(1,587)	(22)	57	-
Total	56,070	17,115	(13,169)	9,046	700	69,762

- ii) In 2019, the Group disposed of debt securities measured at fair value through other comprehensive income amounting to ₩1,587 million. Accordingly, the Group eliminated ₩260 million of accumulated other comprehensive income and recognized gain on disposal of ₩32 million in other non-operating income and loss on disposal of ₩238 million in other non-operating expenses, respectively. There was no disposal of debt securities measured at fair value through other comprehensive income in 2020.
- (d) Changes in carrying amount of financial assets at fair value through profit or loss for the years ended December 31, 2020 and 2019, are as follows:

			2	2020		
(in millions of Korean won)	At January 1	Acquisition	Disposal	Valuation	Other	At December 31
Unlisted equity securities	21,572	12,560	(4,774)	486	-	29,844
Debt securities	1,752	8,252	(1,556)	(302)	(531)	7,615
Total	23,324	20,812	(6,330)	184	(531)	37,459

				2019			
				Decrease due to transfer of			
(in millions of Korean won)	At January 1	Acquisition	Disposal	business	Valuation	Other	At December 31
Unlisted equity securities	18,488	10,932	(1,349)	(6,594)	8	87	21,572
Debt securities	1,611		-		112	29	1,752
Total	20,099	10,932	(1,349)	(6,594)	120	116	23,324

(e) Financial assets at amortized cost

i) Maturity analysis of financial assets at amortized cost as at December 31, 2020 and 2019, is as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Within one year	-	-
One to five years	1,612	1,612
Total	1,612	1,612

ii) The amount recognized as interest income in relation to financial assets at amortized cost for the year ended December 31, 2020, is ₩29 million (2019: ₩30 million). No impairment losses were recognized in relation to financial assets at amortized cost for the years ended December 31, 2020 and 2019.

9. Inventories

(a) Inventories as at December 31, 2020 and 2019, consist of:

	December 31, 2020			December 31, 2019		
(in millions of Korean won)	Cost	Valuation allowance	Carrying amount	Cost	Valuation allowance	Carrying amount
Finished products and merchandise	4,344,610	(101,164)	4,243,446	3,477,772	(119,958)	3,357,814
Work-in-process	528,004	(6,433)	521,571	376,397	(12,665)	363,732
Raw materials and supplies	2,522,056	(79,136)	2,442,920	2,039,659	(138,212)	1,901,447
Other	269,576	(30,356)	239,220	280,725	(40,300)	240,425
Total	7,664,246	(217,089)	7,447,157	6,174,553	(311,135)	5,863,418

- (b) The cost of inventories recognized as an expense during the year ended December 31, 2020 amounted to ₩45,644,222 million (2019: ₩45,222,834 million). These were included in 'cost of sales'. Loss on valuation of inventories during the year ended December 31, 2020 amounted to ₩41,205 million (2019: ₩241,040 million).
- (c) There is no inventory provided as collateral for borrowings at the end of the reporting period.

10. Contract Assets and Contract Liabilities

(a) Contract assets as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Due from customers	568,881	614,294
(Less: allowance for doubtful accounts)	(6,828)	(9,769)
Right to recover returned products	92,789	88,312
Costs to fulfill contracts and others	217,840	184,658
Total	872,682	877,495
Current	642,171	671,519
Non-current	230,511	205,976

(b) Contract liabilities as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Expected promotional incentives for customers	1,072,912	775,117
Expected returns from customers	145,287	133,539
Customer loyalty program	97,185	70,033
Rendering of warranty services	81,297	58,733
Due to customers and others	277,684	209,993
Total	1,674,365	1,247,415
Current	1,645,323	1,219,507
Non-current	29,042	27,908

(c) Revenue recognized in relation to contract liabilities for the years ended December 31, 2020 and 2019, is as follows:

(in millions of Korean won)	2020	2019
Revenue recognized that was included in the contract liability amount at the beginning of the year:		
Due to customers and others	126,339	211,392
Customer loyalty program	51,167	51,015
Rendering of warranty services	32,425	21,843
Total	209,931	284,250
Revenue recognized from performance obligations satisfied in previous year	9,239	21,332

(d) Unsatisfied long-term contracts

At the end of the reporting period, the total amount of transaction price allocated to the unsatisfied or partially unsatisfied performance obligations was $\forall 828,638$ million, expected to be satisfied by 2025, at the latest. Also, as a practical expedient, it was excluded if the performance obligation was part of a contract that had an original expected duration of one year or less.

(e) For the year ended December 31, 2020, the Group recognized a reversal of impairment loss amounting to ₩1,141 million (2019: impairment loss of ₩3,900 million) in relation to due from customers and amortization and others of ₩80,008 million (2019: ₩175,950 million) in relation to costs to fulfill a contract.

11. Other Assets

Details of other assets as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current:		
Advances	91,181	220,044
Prepaid expenses	305,701	423,346
Prepaid value added tax	642,094	564,157
Subtotal	1,038,976	1,207,547
Non-current:		
Long-term prepaid expenses	323,816	682,063
Long-term advances	225,067	233,709
Other investment assets	157	173
Subtotal	549,040	915,945
Total	1,588,016	2,123,492

12. Property, Plant and Equipment

(a) Details of property, plant and equipment as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At December 31, 2020				<u></u>					
Acquisition cost	2,999,782	9,319,304	448,106	8,640,233	3,281,903	1,113,779	1,381,289	565,694	27,750,090
Accumulated depreciation	(134,100)	(2,969,060)	(210,358)	(5,673,379)	(2,808,314)	(786,287)	(629,090)	-	(13,210,588)
Accumulated impairment losses	-	(192,898)	(9,219)	(310,646)	(23,967)	(7,197)	(5,129)	-	(549,056)
Government grants	(9,500)	(835)	(8)	(5,419)	(622)	(64)	-	-	(16,448)
Net book amount	2,856,182	6,156,511	228,521	2,650,789	449,000	320,231	747,070	565,694	13,973,998
(in millions of Korean won)	Land							Construction	
	Lanu	Buildings	Structures	Machinery	Tools	Equipment	Other	-in-progress	Total
At December 31, 2019	Lanu	Buildings	Structures	Machinery	Tools	Equipment	Other	-in-progress	Total
At December 31, 2019 Acquisition cost	3,061,557	9,134,611	<u>Structures</u> 402,226				Other 1,187,284		Total 27,841,820
,		U	402,226		3,422,960	1,084,370		686,665	
Acquisition cost	3,061,557	9,134,611	402,226 (199,303)	8,862,147 (5,731,800)	3,422,960 (2,896,881)	1,084,370 (760,929)	1,187,284	686,665	27,841,820
Acquisition cost Accumulated depreciation	3,061,557	9,134,611 (2,722,307)	402,226 (199,303) (6,590)	8,862,147 (5,731,800)	3,422,960 (2,896,881) (16,643)	1,084,370 (760,929) (5,216)	1,187,284 (468,950)	686,665	27,841,820 (12,886,504)

(b) Changes in property, plant and equipment for the years ended December 31, 2020 and 2019, are as follows:

					2020				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1	2,944,267	6,238,014	196,325	2,895,032	509,090	318,030	717,996	686,665	14,505,419
Acquisitions	53,304	429,908	6,098	206,774	153,863	92,311	304,853	1,400,479	2,647,590
Acquisition from business combination	-	-	-	-	-	126	-	-	126
Transfer-in (out)	2,346	432,245	56,526	808,287	136,722	36,262	5,198	(1,477,586)	-
Disposals and others	(2,188)	(29,750)	(1,523)	(47,012)	(26,599)	(7,846)	(29,151)	(24,574)	(168,643)
Depreciation	(36,844)	(513,521)	(17,622)	(982,115)	(300,915)	(110,916)	(238,879)	-	(2,200,812)
Impairment losses ¹	-	(61,581)	(2,691)	(170,619)	(13,070)	(2,455)	(6,629)	-	(257,045)
Reclassification to assets held for sale	(89,319)	(188,929)	(437)	(11,834)	(608)	(147)	-	-	(291,274)
Exchange differences	(15,384)	(149,875)	(8,155)	(47,724)	(9,483)	(5,134)	(6,318)	(19,290)	(261,363)
At December 31	2,856,182	6,156,511	228,521	2,650,789	449,000	320,231	747,070	565,694	13,973,998

					2019				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1	2,672,877	5,698,252	197,746	3,091,036	489,435	304,951	526,171	353,483	13,333,951
Changes in accounting policy	196,232	419,857	1,629	400	5,451	4,771	48,921	-	677,261
Restated net book amount	2,869,109	6,118,109	199,375	3,091,436	494,886	309,722	575,092	353,483	14,011,212
Acquisitions	70,191	478,234	10,553	166,821	233,438	108,466	342,452	1,215,677	2,625,832
Acquisition from business combination	70,132	-	-	222	-	3	-	259,560	329,917
Transfer-in (out)	725	158,321	8,312	727,344	163,812	13,546	19,512	(1,091,572)	-
Disposals and others	(21,005)	(67,417)	(2,359)	(122,029)	(15,326)	(4,228)	(26,265)	(52,978)	(311,607)
Decrease due to transfer of business	(231)	(622)	(104)	(41)	(83)	(708)	(557)	-	(2,346)
Depreciation	(41,353)	(468,619)	(17,152)	(870,583)	(365,042)	(108,926)	(194,945)	-	(2,066,620)
Impairment losses ¹	-	(46,544)	(6,327)	(142,385)	(10,731)	(4,391)	(295)	-	(210,673)
Reclassification to assets held for sale	(8,673)	(6,073)	-	-	-	-	-	-	(14,746)
Exchange differences	5,372	72,625	4,027	44,247	8,136	4,546	3,002	2,495	144,450
At December 31	2,944,267	6,238,014	196,325	2,895,032	509,090	318,030	717,996	686,665	14,505,419

¹ Some of separate cash-generating units under H&A, MC and VS segment were tested for impairment as accumulation of operating losses has been experienced and a future downturn in sales is expected. And impairment loss of \U06,422 million (H&A: \U007864,403 million, MC: \U00786,704 million, VS: \U00783,315 million) (2019: \u007873,303 million) was recognized as 'other non-operating expenses'. This impairment loss was allocated to machinery, equipment and others, after reducing goodwill allocated to the cash-generating units. For the purpose of establishing a joint venture of certain business in VS segment in 2021, the Group entered into the share purchase agreement, and the amount of consideration significantly exceeded the recoverable amount measured at the previous reporting period. Accordingly, the Group reversed the impairment losses amounting to \U00784,862 million recognized in the previous reporting period, and recognized it as 'other non-operating income'. This reversal was allocated to machinery, equipment and others of the cash-generating units. The recoverable amount was measured at the higher of fair value less costs of disposal or value in use, and the fair value amount is categorized within 'level 3' of fair value hierarchy.

(c) Line items including depreciation in the consolidated statements of profit or loss for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Cost of sales	1,685,518	1,593,586
Selling and marketing expenses	231,356	201,172
Administrative expenses	140,945	108,411
Research and development expenses	93,505	105,987
Service costs	33,989	28,982
Other non-operating expenses	15,499	28,482
Total	2,200,812	2,066,620

(d) Changes of right-of-use assets for the years ended December 31, 2020 and 2019, are as follows:

	2020										
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total		
At January 1	220,692	544,259	1,025	686	4,316	7,583	96,885	45	875,491		
Acquisitions	44,981	349,678	632	1,144	129	8,247	65,196	169	470,176		
Transfer-in (out)	-	-	160	-	-	-	-	(160)	-		
Disposals and others	(2,188)	(24,315)	(520)	(118)	(137)	(311)	(7,087)	-	(34,676)		
Depreciation	(36,844)	(212,454)	(657)	(490)	(1,228)	(5,078)	(49,760)	-	(306,511)		
Exchange differences	(1,624)	(33,118)	(5)	5	(11)	(92)	(3,424)	(1)	(38,270)		
At December 31	225,017	624,050	635	1,227	3,069	10,349	101,810	53	966,210		

	2019										
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total		
At January 1	196,594	432,445	1,629	1,705	5,451	5,061	64,358	-	707,243		
Acquisitions	64,259	334,204	190	-	1,382	5,125	80,891	856	486,907		
Transfer-in (out)	-	976	-	(115)	-	(45)	-	(816)	-		
Disposals and others	-	(50,637)	(241)	-	(35)	(56)	(11,791)	-	(62,760)		
Decrease due to transfer of business	-	(300)	-	-	-	-	(194)	-	(494)		
Depreciation	(41,353)	(184,620)	(593)	(991)	(2,496)	(2,559)	(40,101)	-	(272,713)		
Exchange differences	1,192	12,191	40	87	14	57	3,722	5	17,308		
At December 31	220,692	544,259	1,025	686	4,316	7,583	96,885	45	875,491		

The amount recognized as lease income in relation to sublease of the above right-of-use assets for the year ended December 31, 2020, was $\forall 8,651$ million (2019: $\forall 6,677$ million).

(e) Capitalized borrowing costs and capitalization rates for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Capitalized borrowing costs	3,287	4,384
Capitalization rate (%)	2.96	6.04

- (f) Details of property, plant and equipment provided as collateral as at December 31, 2020 and 2019, are as follows:
 - i) Details of collateral provided for the Group

	December 31, 2020							
(in millions of Korean won)	Carrying amount	Secured amount	Related line item	Related amount	Secured party			
Land and buildings	197,738	157,608	Borrowings and others	208,381	Korea Development Bank and others			

		December 31, 2019							
(in millions of Korean won)	Carrying amount	Secured amount	Related line item	Related amount	Secured party				
Land and buildings	276,924	207,854	Borrowings and others	259,529	Korea Development Bank and others				

ii) Details of collateral provided for external parties

At the end of the reporting period, buildings were pledged as a collateral to guarantee the land lessor's obligation to Shinhan Bank and others, the mortgagee, within the secured amount of up to \forall 14,040 million (2019: \forall 7,680 million). The carrying amount of the pledged asset was \forall 6,709 million as at December 31, 2020 (2019: \forall 1,536 million).

13. Intangible assets

(a) Details of intangible assets as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	Goodwill	Industrial property rights	Development costs ¹	Membership rights	Other	Construction- in-progress ¹	Total
At December 31, 2020							
Acquisition cost	518,512	1,037,932	3,637,508	52,223	1,883,435	608,535	7,738,145
Accumulated amortization and impairment losses	(31,108)	(553,176)	(3,066,126)	(640)	(809,127)	(138,888)	(4,599,065)
Net book amount	487,404	484,756	571,382	51,583	1,074,308	469,647	3,139,080
At December 31, 2019							
Acquisition cost	642,889	1,012,709	3,140,664	83,231	1,228,265	760,641	6,868,399
Accumulated amortization and impairment losses	(31,108)	(499,933)	(2,648,366)	(1,567)	(783,336)	(212,117)	(4,176,427)
Net book amount	611,781	512,776	492,298	81,664	444,929	548,524	2,691,972

¹ As at December 31, 2020, internally generated development costs are included in development costs and construction-in-progress amounting to ₩466,382 million and ₩378,629 million (2019: ₩361,896 million and ₩488,942 million), respectively.

(b) Changes in intangible assets for the years ended December 31, 2020 and 2019, are as follows:

				2020			
(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction- _in-progress	Total
At January 1	611,781	512,776	492,298	81,664	444,929	548,524	2,691,972
Acquisitions	-	168,591	23,413	75	53,822	69,114	315,015
Acquisitions by internal development	-	-	870	-	-	387,945	388,815
Acquisitions due to business combination ¹	112,922	-	-	-	29,945	-	142,867
Transfer-in(out)	-	-	428,009	492	48,048	(476,549)	-
Disposals and others	-	(54,069)	(2,582)	(30,552)	(802)	(8,214)	(96,219)
Amortization	-	(97,907)	(245,992)	(3)	(98,185)	-	(442,087)
Impairment losses2,3	(237,174)	(11,137)	(107,488)	(68)	(7,336)	(69,067)	(432,270)
Reclassification to assets held for sale	-	(33,688)	-	-	(123)	-	(33,811)
Others ⁴	-	-	-	-	595,624	-	595,624
Exchange differences	(125)	190	(17,146)	(25)	8,386	17,894	9,174
At December 31	487,404	484,756	571,382	51,583	1,074,308	469,647	3,139,080

				2019			
(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction- in-progress	Total
At January 1	685,480	498,392	446,006	82,123	528,484	760,670	3,001,155
Changes in accounting policy	-	-	-	-	(15,325)	-	(15,325)
Restated net book amount	685,480	498,392	446,006	82,123	513,159	760,670	2,985,830
Acquisitions	-	169,593	19,583	25	33,167	85,747	308,115
Acquisitions by internal development	-	-	5,700	-	-	309,972	315,672
Acquisitions due to business combination ⁵	1,853	-	-	-	77	-	1,930
Transfer-in(out)	-	-	389,447	-	11,885	(401,332)	-
Disposals and others	-	(48,748)	(705)	(323)	(1,040)	(4,155)	(54,971)
Decrease due to transfer of business	(45,755)	(3)	-	-	(14,657)	(952)	(61,367)
Amortization	-	(97,396)	(247,450)	(4)	(94,898)	-	(439,748)
Impairment losses ²	(29,894)	(9,557)	(120,785)	(197)	(4,795)	(201,379)	(366,607)
Exchange differences	97	495	502	40	2,031	(47)	3,118
At December 31	611,781	512,776	492,298	81,664	444,929	548,524	2,691,972

¹ In 2020, the Group recognized goodwill amounting to ₩112,922 million and other identifiable intangible assets arising from business combination with Alphonso Inc. (Note 41).

² Some of separate cash-generating units under H&A, MC and VS segment, were tested for impairment as accumulation of operating losses has been experienced and a future downturn in sales is expected. And impairment loss of ₩251,773 million (H&A: ₩947 million, MC: ₩5,570 million, VS: ₩245,256 million) (2019: ₩44,896 million) was recognized as 'other non-operating expenses'. This impairment loss was allocated to goodwill, industrial property rights, development costs and others of cash-generating units. For the purpose of

establishing a joint venture of certain business in VS segment in 2021, the Group entered into the share purchase agreement, and the amount of consideration significantly exceeded the recoverable amount measured at the previous reporting period. Accordingly, the Group reversed the impairment losses amounting to \pm 537 million recognized in the previous reporting period and recognized it as 'other non-operating income'. This reversal was allocated to industrial property rights and others of the cash-generating units. The recoverable amount was measured at the higher of fair value less costs of disposal or value in use, and the fair value amount is categorized within 'level 3' of fair value hierarchy.

³ As a result of an impairment test for all projects related to internally generated development costs and others, an impairment loss of development costs relating to certain projects determined to have less business value, amounting to ₩173,106 million, was recognized as other non-operating expenses.

⁴ Others include reclassifications of licensed assets and others.

⁵ In 2019, the Group recognized goodwill amounting to ₩1,853 million arising from business combination with LG Corp. U.S.A.

(c) Line items including amortization of intangible assets for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Cost of sales	280,820	253,963
Selling and marketing expenses	24,454	27,042
Administrative expenses	56,479	68,528
Research and development expenses	78,454	88,516
Service costs	1,879	1,682
Other non-operating expenses	1	17
Total	442,087	439,748

(d) Capitalized borrowing costs and capitalization rates for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Capitalized borrowing costs	1,377	524
Capitalization rate (%)	2.87	3.07

- (e) There are no intangible assets pledged as a collateral for borrowings at the end of the reporting period.
- (f) Impairment tests for goodwill
 - Goodwill is allocated among the Group's cash generating units (CGUs) under each operating segment. At the end of the reporting period, an operating segment-level summary of goodwill allocation is presented below:

(in millions of Korean won)	H&A	HE	VS	Others	Total
Goodwill	64,531	112,922	305,172	4,779	487,404

ii) The recoverable amount of CGUs has been determined based on value-in-use or fair value less costs of disposal. These calculations use pre-tax cash flow projections based on

financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the estimated growth rate which does not exceed the long-term average growth rate for the industry in which the identified CGUs operate.

iii) Management determined the estimated pre-tax cash flow based on past performance and its expectations of market development. Value-in-use is measured by applying the pre-tax discount rates according to the pre-tax cash flows reflecting specific risks relating to the relevant CGUs by operating segments. Key assumptions used for calculating the valuein-use of major divisions are as follows:

	H&A	VS
Discount rates	12.1%	12.6%
Nominal permanent growth rates	0.0%	2.0%

iv) The sensitivity analysis of the impairment test in case of changes in the key assumptions is as follows:

(in millions of Korean won)	VS	S ¹
	1%p increase	1%p decrease
Discount rates	235,468	(305,287)
Nominal permanent growth rates	(194,398)	150,590

¹ Amount of impairment loss on a separate cash-generating unit, ZKW Holding GmbH, its subsidiaries and related entities in VS segment would be impacted.

(g) Research and development expenses

Research and development expenses for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Uncapitalized research and development expenditures	3,631,586	3,707,165
Amortization from internally generated development costs	204,050	186,938
Total	3,835,636	3,894,103

14. Investments in Associates and Joint Ventures

- (a) Investments in associates and joint ventures
 - Carrying amounts of investments in associates and joint ventures, as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Associates	4,416,616	4,405,567
Joint ventures	54,974	138,954
Total	4,471,590	4,544,521

	December 31, 2020				December 31, 2019				
(in millions of Korean won)	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	
LG Display Co., Ltd.	679,218	4,321,404	(107,316)	4,214,088	679,218	4,298,463	(116,170)	4,182,293	
Ericsson-LG Co., Ltd.	12,649	55,468	-	55,468	12,649	52,716	-	52,716	
Hitachi-LG Data Storage Inc.(HLDS)	101,961	50,025	(1,203)	48,822	101,961	49,686	(1,176)	48,510	
Korea Information Certificate Authority Inc. ¹	-	-	-	-	1,745	5,518	-	5,518	
One-Red, LLC ²	-	-	-	-	2,257	2,260	-	2,260	
Kiwigrid GmbH ³	-	-	-	-	13,019	7,873	-	7,873	
CCP-LGE OWNER, LLC ⁴	11,652	9,723	-	9,723	11,652	11,288	-	11,288	
ROBOTIS Co., Ltd.4	9,000	8,396	-	8,396	9,000	9,086	-	9,086	
Acryl Inc. ⁴	2,000	1,376	-	1,376	2,000	1,799	-	1,799	
Robostar Co., Ltd.	88,112	79,007	(1,064)	77,943	88,112	85,158	(934)	84,224	
AiM Future, Inc.	800	800	-	800	-	-	-	-	
Total	905,392	4,526,199	(109,583)	4,416,616	921,613	4,523,847	(118,280)	4,405,567	

ii) Investments in associates as at December 31, 2020 and 2019, are as follows:

¹ It was disposed during the year ended December 31, 2020.

² It was liquidated during the year ended December 31, 2020.

³ It was excluded from associates due to the loss of right to appoint a member of the board of directors during the year ended December 31, 2020.

⁴ The financial statements as at November 30, 2020 were used due to a different closing date.

iii) Investments in joint ventures as at December 31, 2020 and 2019, are as follows:

	December 31, 2020				December 31, 2019				
(in millions of Korean won)	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	
LG HOLDINGS (HK) LIMITED ¹	-	-	-	-	47,449	88,301	-	88,301	
Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	14,718	31,731	(429)	31,302	14,718	31,396	(63)	31,333	
EIC PROPERTIES PTE LTD.	9,636	15,207	-	15,207	9,636	15,696	-	15,696	
LG-MRI LLC	516	1,118	-	1,118	516	1,216	-	1,216	
Neolite ZKW Lightings PVT Ltd.	-	-	-	-	-	-	-	-	
LG-LHT Aircraft Solutions GmbH	12,039	2,724	-	2,724	5,085	243	-	243	
LG-LHT Passenger Solutions GmbH	10,637	2,011	-	2,011	4,553	1,600	-	1,600	
GUANGDONG SMART LIFE TECHNOLOGY CO., LTD.	891	939	-	939	591	565	-	565	
Alluto LLC	2,095	1,673	-	1,673	-	-	-	-	
Total	50,532	55,403	(429)	54,974	82,548	139,017	(63)	138,954	

¹ It was disposed during the year ended December 31, 2020

- (b) Associates and joint ventures
 - i) Associates as at December 31, 2020, are as follows:

Name of associate	Location	Closing month	Percentage of ownership (%)	Nature of relationships with the Group
LG Display Co., Ltd.	Korea	December	37.9	Production and supply of display products
Ericsson-LG Co., Ltd.	Korea	December	25.0	Supply of communication devices and network solution products
Hitachi-LG Data Storage Inc.(HLDS)	Japan	December	49.0	Production and supply of data storages
CCP-LGE OWNER, LLC ¹	USA	December	70.2	Solar power plant
ROBOTIS Co., Ltd. ²	Korea	December	8.5	Production and sales of personal robot
Acryl Inc. ²	Korea	December	14.5	Development and sales of software
Robostar Co., Ltd.	Korea	December	33.4	Production and sales of industrial robot
AiM Future, Inc. ²	Korea	December	19.9	A.I. solution

¹ Classified as an associate although the percentage of ownership is more than 50% because the Group does not have the right to control by an agreement with other shareholders.

² Classified as an associate although the percentage of ownership is less than 20% because the Group can exercise a significant influence in the Board of Directors of the investee.

ii) Joint ventures as at December 31, 2020, are as follows:

All joint arrangements, over which the Group has joint control, are structured through separate companies and are categorized as joint ventures as the parties with joint control are assumed to have rights to the net assets of the arrangement.

Name of joint venture	Location	Closing month	Percentage of ownership (%)	Nature of relationships with the Group
Arcelic-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	Turkey	December	50.0	Production and supply of air conditioning products
EIC PROPERTIES PTE LTD.	Singapore	December	38.2	Real estate
LG-MRI LLC	USA	December	50.0	Production and supply of digital display products
Neolite ZKW Lightings PVT Ltd.	India	March	26.0	Production and sales of vehicle components
LG-LHT Aircraft Solutions GmbH	Germany	December	49.0	Production and sales of aircraft components
LG-LHT Passenger Solutions GmbH	Germany	December	49.0	Production and sales of aircraft components
GUANGDONG SMART LIFE TECHNOLOGY CO., LTD.	China	December	35.0	Sales of electronic products
Alluto LLC ¹	USA	December	51.0	Automotive software license

¹ Classified as a joint venture although the percentage of ownership is more than 50% because the Group has joint control by a joint venture agreement.

- iii) All associates and joint ventures are accounted for using the equity method.
- (c) Changes in investments in associates and joint ventures
 - i) Changes in the carrying amounts of investments in associates for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)					2020				
	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Disposal	Exchange differences	At Dec. 31
LG Display Co., Ltd.	4,182,293	-	(25,024)	14,957	41,862	-	-	-	4,214,088
Ericsson-LG Co., Ltd.	52,716	-	10,733	103	166	(8,250)	-	-	55,468
Hitachi-LG Data Storage Inc.(HLDS)	48,510	-	1,222	(910)	-	-	-	-	48,822
Korea Information Certificate Authority Inc. ¹	5,518	-	235	(2)	-	(201)	(5,550)	-	-
One-Red, LLC	2,260	-	-	-	-	(2,260)	-	-	-
Kiwigrid GmbH ²	7,873	-	(1,003)	(11)	-	(6,859)	-	-	-
CCP-LGE OWNER, LLC	11,288	-	(966)	-	-	-	-	(599)	9,723
ROBOTIS Co.,Ltd.	9,086	-	(606)	(84)	-	-	-	-	8,396
Acryl Inc.	1,799	-	(423)	-	-	-	-	-	1,376
Robostar Co.,Ltd.	84,224	-	(6,063)	3	(221)	-	-	-	77,943
AiM Future, Inc.		800		-				-	800
Total	4,405,567	800	(21,895)	14,056	41,807	(17,570)	(5,550)	(599)	4,416,616

¹ The Group disposed all shares of Korea Information Certificate Authority Inc. for ₩12,409 million during the year ended December 31, 2020, and recognized gain on disposal of ₩6,899 million, net of related costs, in 'other non-operating income' (Note 33).

² Impairment loss amounting to ₩6,859 million recognized during the year ended December 31, 2020 was included.

(in millions of Korean won)					2019				
	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Disposal	Exchange differences	At Dec. 31
LG Display Co., Ltd.	5,191,084	-	(1,081,220)	36,935	35,494	-	-	-	4,182,293
Ericsson-LG Co., Ltd.	47,227	-	8,674	(148)	(3,037)	-	-	-	52,716
Hitachi-LG Data Storage Inc.(HLDS)	27,182		20,064	1,264	-	-	-	-	48,510
Korea Information Certificate Authority Inc.	5,200	-	519	(40)	-	(161)	-	-	5,518
LG Fuel Cell Systems Inc.	-	-	-	-	-	-	-	-	-
One-Red, LLC	2,971	-	31	-	-	(871)	-	129	2,260
Kiwigrid GmbH	9,880	-	(2,029)	22	-	-	-	-	7,873
CCP-LGE OWNER, LLC	10,819	-	(330)	-	-	-	-	799	11,288
ROBOTIS Co.,Ltd.	9,381	-	(302)	7	-	-	-	-	9,086
Acryl Inc.	894	1,000	(95)	-	-	-	-	-	1,799
Robostar Co.,Ltd.	81,614	6,067	(3,365)	54		(146)	-		84,224
Total	5,386,252	7,067	(1,058,053)	38,094	32,457	(1,178)	-	928	4,405,567

ii) Changes in the carrying amounts of investments in joint ventures for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)					2020				
	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Disposal	Exchange differences	At Dec. 31
LG Holdings(HK) LIMITED ¹	88,301	-	(1,419)	531	-	-	(87,413)	-	-
Arcelic-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	31,333		9,286	(9,317)	-	-	-	-	31,302
EIC PROPERTIES PTE	15,696	-	165	(654)	-	-	-	-	15,207
LG-MRI LLC	1,216	-	325	-	-	(349)	-	(74)	1,118
Neolite ZKW Lightings PVT Ltd.	-	-	-	-	-	-	-	-	-
LG-LHT Aircraft Solutions GmbH	243	6,954	(4,611)	138	-	-	-	-	2,724
LG-LHT Passenger Solutions GmbH	1,600	6,084	(5,837)	164	-	-	-	-	2,011
GUANGDONG SMART LIFE TECHNOLOGY CO., LTD.	565	299	80	(5)	-	-	-		939
Alluto LLC	-	2,095	(271)	-	-	-	-	(151)	1,673
Total	138,954	15,432	(2,282)	(9,143)		(349)	(87,413)	(225)	54,974

¹ The Group disposed all shares of LG HOLDINGS (HK) LIMITED for ₩722,086 million during the year ended December 31, 2020, and recognized gain on disposal of ₩640,124 million, net of related costs, in 'other non-operating income' (Note 33). The amount reclassified from accumulated other comprehensive income and included in gain on disposal was ₩7,593 million.

(in millions of Korean won)	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	2019 Remeasure -ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Disposal	Exchange differences	At Dec. 31
LG Holdings(HK) LIMITED	108,108	-	6,907	2,468	-	(29,182)	-	-	88,301
Arcelic-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	27,155	-	6,431	(2,253)	-	-	-	-	31,333
EIC PROPERTIES PTE LTD.	14,882	-	103	711	-	-	-	-	15,696
LG-MRI LLC	1,159	-	331	-	-	(337)	-	63	1,216
Neolite ZKW Lightings PVT Ltd.	-	-	-	-	-	-	-	-	-
LG-LHT Aircraft Solutions GmbH	-	5,085	(4,850)	8	-	-	-	-	243
LG-LHT Passenger Solutions GmbH	-	4,553	(2,950)	(3)	-	-	-	-	1,600
GUANGDONG SMART LIFE TECHNOLOGY _CO., LTD.	-	591	(15)	(11)	-	-	-	-	565
Total	151,304	10,229	5,957	920	-	(29,519)		63	138,954

(d) Summarized financial information of the associates that are material to the reporting entity as at December 31, 2020 and 2019, and for the years ended December 31, 2020 and 2019, is as follows:

- LG Display Co., Ltd. and its subsidiaries

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current assets	11,099,470	10,248,315
Non-current assets	23,972,053	25,326,248
Total assets	35,071,523	35,574,563
Current liabilities	11,006,948	10,984,976
Non-current liabilities	11,327,637	12,101,306
Total liabilities	22,334,585	23,086,282
Equity attributable to owners of LG Display Co., Ltd.	11,401,042	11,340,483
Non-controlling interests	1,335,896	1,147,798
Total equity	12,736,938	12,488,281

(in millions of Korean won)	2020	2019
Net sales	24,230,124	23,475,567
Loss for the year	(70,636)	(2,872,078)
Equity attributable to owners of LG Display Co., Ltd.		
Loss for the year	(89,342)	(2,829,705)
Other comprehensive income, net of tax	149,071	192,757
Total comprehensive income (loss), net of tax	59,729	(2,636,948)

There are no dividends received from LG Display Co., Ltd. for the years ended December 31, 2020 and 2019.

- (e) Reconciliations of the summarized financial information of associates that are material to the reporting entity to the carrying amount of the Group's interest for the years ended December 31, 2020 and 2019, are as follows:
 - LG Display Co., Ltd. and its subsidiaries

(in millions of Korean won)	2020	2019
Opening equity attributable to owners of LG Display Co., Ltd.	11,340,483	13,979,189
Loss for the year	(89,342)	(2,829,705)
Other comprehensive income, net of tax	149,071	192,757
Dividends	-	-
Others	830	(1,758)
Closing equity attributable to owners of LG Display Co., Ltd.	11,401,042	11,340,483
Group ownership (%)	37.9	37.9
The Group's share at the end of the reporting period	4,321,404	4,298,463
Unrealized gain	(107,316)	(116,170)
Carrying amount at the end of the reporting period	4,214,088	4,182,293

(f) The Group's share in the operating results of the individually insignificant associates and joint ventures for the years ended December 31, 2020 and 2019, is as follows:

	20)20	2019		
(in millions of Korean won)	Associates	Joint ventures	Associates	Joint ventures	
Profit(loss) for the year	3,286	(1,918)	24,080	5,827	
Other comprehensive income (loss), net of tax	(950)	(16,738)	(1,882)	921	
Total comprehensive income(loss), net of tax	2,336	(18,656)	22,198	6,748	

- (g) There is no accumulated unrecognized change in equity due to discontinued use of the equity method for the years ended December 31, 2020 and 2019.
- (h) Details of marketable investments in associates as at December 31, 2020 and 2019, are as follows:

		December 31, 2020					
	Туре	Shares held <u>(Unit: shares)</u>	Price per share _(Unit: Korean won)	Fair value 	Book amount of Korean won)		
LG Display Co., Ltd.	Associate	135,625,000	18,550	2,515,844	4,214,088		
Robostar Co.,Ltd	Associate	3,256,500	19,250	62,688	77,943		
ROBOTIS Co.,Ltd.	Associate	961,550	13,750	13,221	8,396		

	December 31, 2019					
	Туре	Shares held <u>(Unit: shares)</u>	Price per share _(Unit: Korean won)	Fair value (in millions	Book amount of Korean won)	
LG Display Co., Ltd.	Associate	135,625,000	16,250	2,203,906	4,182,293	
Korea Information Certificate Authority Inc.	Associate	2,010,247	3,785	7,609	5,518	
Robostar Co.,Ltd	Associate	3,256,500	17,400	56,663	84,224	
ROBOTIS Co.,Ltd.	Associate	961,550	12,400	11,923	9,086	

15. Investment Properties

(a) Details of investment properties as at December 31, 2020 and 2019, are as follows:

	December 31, 2020				
(in millions of Korean won)	Land	Buildings	Total		
At December 31, 2020					
Acquisition cost	194	817	1,011		
Accumulated depreciation		(632)	(632)		
Net book amount	194	185	379		

	December 31, 2019			
(in millions of Korean won)	Land	Buildings	Total	
At December 31, 2019				
Acquisition cost	194	1,265	1,459	
Accumulated depreciation	<u> </u>	(1,168)	(1,168)	
Net book amount	194	97	291	

(b) Changes in investment properties for the years ended December 31, 2020 and 2019, are as follows:

	2020				
(in millions of Korean won)	Land	Buildings	Total		
At January 1	194	97	291		
Acquisition and others	-	97	97		
Depreciation	-	(9)	(9)		
At December 31	194	185	379		

		2019	
(in millions of Korean won)	Land	Buildings	Total
At January 1	63,864	30,532	94,396
Depreciation	-	(759)	(759)
Disposals and others	(63,670)	(29,676)	(93,346)
At December 31	194	97	291

- (c) The fair value of investment property is valued by an independent professional appraiser with certified qualification or determined based on the evaluation reflecting official land value or recently available transaction price of similar properties, and it is classified as 'level 3' of the fair value hierarchy. The fair value of investment property as at December 31, 2020, is ₩506 million (December 31, 2019: ₩829 million).
- (d) Rental income amounting to ₩353 million (2019: ₩1,035 million) and rental expenses amounting to ₩357 million (2019: ₩1,511 million) are recognized in the consolidated statements of profit or loss relating to the investment properties for the year ended December 31, 2020.
- (e) Gains on disposal amounting to ₩20 million (2019: ₩6,317 million) are recognized relating to investment properties for the year ended December 31, 2020.
- (f) At the end of the reporting period, the Group assumes obligation for repairs and maintenance of investment property owned by the Group.

16. Borrowings

(a) Carrying amounts of borrowings as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current		
Short-term borrowings	196,774	271,541
Current portion of long-term borrowings	553,515	410,329
Current portion of debentures	699,846	961,786
Subtotal	1,450,135	1,643,656
Non-current		
Long-term borrowings	3,528,600	3,908,525
Debentures	4,941,020	4,935,157
Subtotal	8,469,620	8,843,682
Total	9,919,755	10,487,338

(b) Details of borrowings as at December 31, 2020 and 2019, are as follows:

i) Short-term borrowings

(in millions of Korean won)	Annual inte	erest rate at	Carrying amount	
	December 31, 2020	December 31, 2019	December 31, 2020	December 31, 2019
General loans				
HSBC and others	0.50 ~ 6.74	0.55 ~ 5.98	196,774	271,541
Total			196,774	271,541

ii) Long-term borrowings

(in millions of Korean won) Local currency loans Kookmin Bank Kookmin Bank Kookmin Bank Nonghyup Bank Nonghyup Bank	Maturity date	December 31, 2020(%)	De		
Kookmin Bank Kookmin Bank Kookmin Bank Nonghyup Bank			Total	cember 31, 202 Current	Non-current
Kookmin Bank Kookmin Bank Nonghyup Bank					
Kookmin Bank Nonghyup Bank	2022.10.12	3.18	30,000	-	30,000
Nonghyup Bank	2027. 1.28	3M CD+0.91	169,643	27,143	142,500
0 7 1	2029. 4.30	3M CD+1.14	170,000	20,000	150,000
Nonghyup Bank	2021. 9.13	2.68	30,000	30,000	-
	2030. 7. 7	3M CD+1.05	185,250	19,000	166,250
Shinhan Bank	2021.10.18	2.68	69,942	69,942	-
Shinhan Bank	2023. 6. 8	3.79	20,000	-	20,000
Shinhan Bank	2026. 5.27	3.00	30,000	-	30,000
Woori Bank	2030. 4.15	3M CD+0.82	370,500	39,000	331,500
Bank of China	2027. 1.15	3M CD+0.95	89,500	14,000	75,500
Industrial & Commercial Bank of China	2025. 5.18	2.40	50,000	-	50,000
KEB Hana Bank	2024. 1. 3	3M CD+0.98	160,000	15,000	145,000
Korea Development Bank	2023. 5.30	2.9~3.27	275,000	50,000	225,000
Korea Development Bank	2023.12.19	2.65	90,000	30,000	60,000
Korea Development Bank	2023.12.19	2.69	60,000	20,000	40,000
Korea Development Bank	2035. 1. 9	2.49	200,000	-	200,000
The Export-Import Bank of Korea	2026. 7.29	2.21	85,714	14,286	71,428
The Export-Import Bank of Korea	2026. 7.29	2.21	85,714	14,285	71,429
The Export-Import Bank of Korea	2027. 5.25	2.75	135,000	13,500	121,500
The Export-Import Bank of Korea	2027. 5.25	2.75	50,000	5,000	45,000
The Export-Import Bank of Korea	2027. 5.25	2.75	15,000	1,500	13,500
The Export-Import Bank of Korea	2030. 4. 8	2.31	100,000	-	100,000
The Export-Import Bank of Korea	2030. 8. 1	3.50	200,000	-	200,000
Foreign currency loans					
Shinhan Bank	2025. 5.28	2.15	76,160	-	76,160
KEB Hana Bank	2025. 4.23	3M LIBOR+1.2	108,800	-	108,800
KEB Hana Bank	2027. 5.17	3M LIBOR+1.6	108,800	-	108,800
The Export-Import Bank of Korea	2030. 8. 1	2.50	133,824	-	133,824
HSBC and others	2021.2.16~ 2030.2.26	0.40~3.97	983,268	170,859	812,409
Total			4,082,115	553,515	3,528,600

		Annual interest rate at	_		_
(in millions of Korean won)	Maturity date	December 31, 2019(%)	Total	ecember 31, 201 Current	9 Non-current
Local currency loans					
Kookmin Bank	2022.10.12	3.18	30,000	-	30,000
Kookmin Bank	2027. 1.28	3M CD+0.91	190,000	20,357	169,643
Kookmin Bank	2029. 4.30	3M CD+1.14	190,000	20,000	170,000
Nonghyup Bank	2021. 9.13	2.68	30,000	-	30,000
Nonghyup Bank	2030. 7. 7	3M CD+1.05	190,000	4,750	185,250
Shinhan Bank	2023. 6. 8	3.79	20,000	-	20,000
Shinhan Bank	2026. 5.27	3.00	30,000	-	30,000
Shinhan Bank	2021. 8.30	2.38	50,000	25,000	25,000
Shinhan Bank	2021.10.18	2.68	69,870	-	69,870
Woori Bank	2030. 4.15	3M CD+0.82	390,000	19,500	370,500
Industrial & Commercial Bank of China	2020. 4.10	2.43	50,000	50,000	-
Agricultural Bank of China	2020. 4.10	2.43	40,000	40,000	-
Bank of China	2027. 1.15	3M CD+0.95	100,000	10,500	89,500
KEB Hana Bank	2024. 1. 3	3M CD+0.98	185,000	25,000	160,000
Korea Development Bank	2022. 7.10	2.90~3.27	150,000	-	150,000
Korea Development Bank	2023.12.19	2.65	120,000	30,000	90,000
Korea Development Bank	2023.12.19	2.69	80,000	20,000	60,000
Korea Development Bank	2023. 5.30	2.93~3.26	200,000	-	200,000
Korea Development Bank	2025. 9. 9	3.00	200,000	-	200,000
The Export-Import Bank of Korea	2026. 7.29	2.21	100,000	14,286	85,714
The Export-Import Bank of Korea	2026. 7.29	2.21	100,000	14,286	85,714
The Export-Import Bank of Korea	2027. 5.25	2.75	135,000	-	135,000
The Export-Import Bank of Korea	2027. 5.25	2.75	50,000	-	50,000
The Export-Import Bank of Korea	2027. 5.25	2.75	15,000	-	15,000
The Export-Import Bank of Korea	2030. 8. 1	3.50	200,000	-	200,000
Foreign currency loans					
KEB Hana Bank	2025. 4.23	3M LIBOR+1.2	115,780	-	115,780
KEB Hana Bank	2027. 5.17	3M LIBOR+1.6	115,780	-	115,780
The Export-Import Bank of Korea	2030. 8. 1	2.50	129,743	-	129,743
HSBC and others	2020.6.22~ 2030.2.26	0.75~12.12	1,042,681	116,650	926,031
Total			4,318,854	410,329	3,908,525

The Group entered into interest rate swap and cross-currency swap contracts to hedge cash flow risks related to floating interest rates and foreign exchange rates of some of these borrowings (Note 40).

iii) Debentures

		Annual interest	De	cember 31, 2	2020
(in millions of Korean won)	Maturity Date	rate at December 31, 2020(%)	Total	Current	Non-current
Fixed rate notes in local currency					
Public, non-guaranteed bonds(37-2nd)	2021. 4.19	2.21	70,000	70,000	-
Public, non-guaranteed bonds(39-2nd)	2022. 2.13	2.42	100,000	-	100,000
Private, non-guaranteed bonds(40-1st)	2025. 1.10	3.32	50,000	-	50,000
Private, non-guaranteed bonds(40-2nd)	2028. 1.10	3.92	30,000	-	30,000
Public, non-guaranteed bonds(41-1st)	2021. 5.07	2.64	50,000	50,000	-
Public, non-guaranteed bonds(41-2nd)	2023. 5.08	3.06	100,000	-	100,000
Private, non-guaranteed bonds(42-1st)	2025. 5.20	1.99	30,000	-	30,000
Private, non-guaranteed bonds(42-2nd)	2027. 5.20	2.29	20,000	-	20,000
Public, non-guaranteed bonds(43-1st)	2023. 8.26	1.33	70,000	-	70,000
Public, non-guaranteed bonds(43-2nd)	2025. 8.26	1.59	60,000	-	60,000
Public, non-guaranteed bonds(43-3rd)	2030. 8.26	2.23	70,000	-	70,000
Private, non-guaranteed bonds(68-3rd)	2023. 5.22	3.68	50,000	-	50,000
Private, non-guaranteed bonds(68-4th)	2023. 5.23	3.68	30,000	-	30,000
Public, non-guaranteed bonds(71-3rd)	2023.10.18	4.25	90,000	-	90,000
Public, non-guaranteed bonds(73-3rd)	2021. 1.24	3.95	160,000	160,000	-
Public, non-guaranteed bonds(73-4th)	2024. 1.24	4.44	120,000	-	120,000
Public, non-guaranteed bonds(74-2nd)	2021. 5.29	3.52	130,000	130,000	-
Public, non-guaranteed bonds(74-3rd)	2024. 5.29	4.04	210,000	-	210,000
Public, non-guaranteed bonds(74-4th)	2029. 5.29	4.44	60,000	-	60,000
Private, non-guaranteed bonds(75th)	2026. 7.16	3.96	100,000	-	100,000
Private, non-guaranteed bonds(76-1st)	2028.11.17	3.79	40,000	-	40,000
Private, non-guaranteed bonds(76-2nd)	2028.11.18	3.79	60,000	-	60,000
Public, non-guaranteed bonds(77-2nd)	2022. 2. 2	2.51	230,000	-	230,000
Public, non-guaranteed bonds(77-3rd)	2025. 2. 2	2.97	210,000	-	210,000
Public, non-guaranteed bonds(77-4th)	2030. 2. 2	3.45	100,000	-	100,000
Public, non-guaranteed bonds(78-2nd)	2021. 2.24	2.14	200,000	200,000	-
Public, non-guaranteed bonds(78-3rd)	2023. 2.24	2.45	140,000	-	140,000
Public, non-guaranteed bonds(79-2nd)	2021. 9. 6	1.75	90,000	90,000	-
Public, non-guaranteed bonds(79-3rd)	2023. 9. 6	2.08	130,000	-	130,000
Public, non-guaranteed bonds(79-4th)	2026. 9. 6	2.67	150,000	-	150,000
Private, non-guaranteed bonds(81st)	2027. 3.10	3.42	50,000	-	50,000
Private, non-guaranteed bonds(82nd)	2027. 3.22	3.29	50,000	-	50,000
Public, non-guaranteed bonds(83-1st)	2022. 4.28	2.36	160,000	-	160,000
Public, non-guaranteed bonds(83-2nd)	2024. 4.28	2.79	130,000	-	130,000

	Motoritor	Annual interest	De	cember 31, :	2020
(in millions of Korean won)	Maturity Date	rate at December 31, 2020(%)	Total	Current	Non-current
Public, non-guaranteed bonds(83-3rd)	2027. 4.28	3.20	70,000	-	70,000
Private, non-guaranteed bonds(85-1st)	2027.11.17	3.62	30,000	-	30,000
Private, non-guaranteed bonds(85-2nd)	2032.11.17	4.03	20,000	-	20,000
Private, non-guaranteed bonds(87-1st)	2026. 1. 4	3.26	120,000	-	120,000
Private, non-guaranteed bonds(87-2nd)	2028. 1. 4	3.55	10,000	-	10,000
Private, non-guaranteed bonds(88-1st)	2033. 1.31	4.21	60,000	-	60,000
Private, non-guaranteed bonds(89-1st)	2026. 3.16	3.39	80,000	-	80,000
Private, non-guaranteed bonds(89-2nd)	2028. 3.16	3.71	10,000	-	10,000
Private, non-guaranteed bonds(90th)	2038. 4. 3	4.20	20,000	-	20,000
Public, non-guaranteed bonds(91-1st)	2025. 5.28	3.00	60,000	-	60,000
Public, non-guaranteed bonds(91-2nd)	2028. 5.28	3.52	200,000	-	200,000
Public, non-guaranteed bonds(91-3rd)	2033. 5.28	3.75	90,000	-	90,000
Public, non-guaranteed bonds(93-1st)	2024. 2.21	2.08	50,000	-	50,000
Public, non-guaranteed bonds(93-2nd)	2026. 2.21	2.29	60,000	-	60,000
Public, non-guaranteed bonds(93-3rd)	2029. 2.21	2.58	280,000	-	280,000
Public, non-guaranteed bonds(93-4th)	2034. 2.21	2.95	110,000	-	110,000
Private, non-guaranteed bonds(94th)	2034. 4. 3	2.79	70,000	-	70,000
Public, non-guaranteed bonds(95-1st)	2027. 2.25	1.62	120,000	-	120,000
Public, non-guaranteed bonds(95-2nd)	2030. 2.25	2.01	130,000	-	130,000
Public, non-guaranteed bonds(95-3rd)	2035. 2.25	2.22	50,000	-	50,000
Private, non-guaranteed bonds(96th)	2040. 7. 6	2.66	60,000	-	60,000
Floating rate notes in foreign currency					
Private, non-guaranteed bonds(80th)	2022. 2. 2	1M LIBOR+0.90	108,800	-	108,800
Private, guaranteed bonds(84th)	2023. 2.24	3M EURIBOR+0.75	133,824	-	133,824
Private, non-guaranteed bonds(86-2nd)	2022.11.22	1M LIBOR+0.86	92,480	-	92,480
Private, non-guaranteed bonds(92nd)	2028. 6. 8	3M LIBOR+1.61	108,800	-	108,800
Private, non-guaranteed bonds(97th)	2024. 1. 9	6M SOR+0.92	115,111	-	115,111
Private, guaranteed bonds	2026.10.26	3M LIBOR+1.10	54,400	-	54,400
Less: discount on debentures			(12,549)	(154)	(12,395)
Total			5,640,866	699,846	4,941,020

	•• • •	Annual interest	De	cember 31, 2	2019
(in millions of Korean won)	Maturity Date	rate at December 31, 2019(%)	Total	Current	Non-current
Fixed rate notes in local currency					
Private, non-guaranteed bonds(34-2nd)	2020. 2.13	2.90	90,000	90,000	-
Public, non-guaranteed bonds(35-2nd)	2020.11.26	2.54	60,000	60,000	-
Private, non-guaranteed bonds(36-2nd)	2020. 2.12	2.07	20,000	20,000	-
Public, non-guaranteed bonds(37-2nd)	2021. 4.19	2.21	70,000	-	70,000
Public, non-guaranteed bonds(39-1st)	2020. 2.13	1.94	150,000	150,000	-
Public, non-guaranteed bonds(39-2nd)	2022. 2.13	2.42	100,000	-	100,000
Private, non-guaranteed bonds(40-1st)	2025. 1.10	3.32	50,000	-	50,000
Private, non-guaranteed bonds(40-2nd)	2028. 1.10	3.92	30,000	-	30,000
Public, non-guaranteed bonds(41-1st)	2021. 5. 7	2.64	50,000	-	50,000
Public, non-guaranteed bonds(41-2nd)	2023. 5. 8	3.06	100,000	-	100,000
Private, non-guaranteed bonds(68-1st)	2020. 5.23	3.29	100,000	100,000	-
Private, non-guaranteed bonds(68-2nd)	2020. 5.24	3.29	20,000	20,000	-
Private, non-guaranteed bonds(68-3rd)	2023. 5.22	3.68	50,000	-	50,000
Private, non-guaranteed bonds(68-4th)	2023. 5.23	3.68	30,000	-	30,000
Public, non-guaranteed bonds(69-3rd)	2020. 7.31	3.85	150,000	150,000	-
Public, non-guaranteed bonds(71-2nd)	2020.10.18	3.82	110,000	110,000	-
Public, non-guaranteed bonds(71-3rd)	2023.10.18	4.25	90,000	-	90,000
Public, non-guaranteed bonds(73-3rd)	2021. 1.24	3.95	160,000	-	160,000
Public, non-guaranteed bonds(73-4th)	2024. 1.24	4.44	120,000	-	120,000
Public, non-guaranteed bonds(74-2nd)	2021. 5.29	3.52	130,000	-	130,000
Public, non-guaranteed bonds(74-3rd)	2024. 5.29	4.04	210,000	-	210,000
Public, non-guaranteed bonds(74-4th)	2029. 5.29	4.44	60,000	-	60,000
Private, non-guaranteed bonds(75th)	2026. 7.16	3.96	100,000	-	100,000
Private, non-guaranteed bonds(76-1st)	2028.11.17	3.79	40,000	-	40,000
Private, non-guaranteed bonds(76-2nd)	2028.11.18	3.79	60,000	-	60,000
Public, non-guaranteed bonds(77-1st)	2020. 2. 2	2.28	210,000	210,000	-
Public, non-guaranteed bonds(77-2nd)	2022. 2. 2	2.51	230,000	-	230,000
Public, non-guaranteed bonds(77-3rd)	2025. 2. 2	2.97	210,000	-	210,000
Public, non-guaranteed bonds(77-4th)	2030. 2. 2	3.45	100,000	-	100,000
Public, non-guaranteed bonds(78-2nd)	2021. 2.24	2.14	200,000	-	200,000
Public, non-guaranteed bonds(78-3rd)	2023. 2.24	2.45	140,000	-	140,000
Public, non-guaranteed bonds(79-2nd)	2021. 9. 6	1.75	90,000	-	90,000
Public, non-guaranteed bonds(79-3rd)	2023. 9. 6	2.08	130,000	-	130,000
Public, non-guaranteed bonds(79-4th)	2026. 9. 6	2.67	150,000	-	150,000
Private, non-guaranteed bonds(81st)	2027. 3.10	3.42	50,000	-	50,000

		Annual interest	De	cember 31,	2019
(in millions of Korean won)	Maturity Date	rate at December 31, 2019(%)	Total	Current	Non-current
Private, non-guaranteed bonds(82nd)	2027. 3.22	3.29	50,000	-	50,000
Public, non-guaranteed bonds(83-1st)	2022. 4.28	2.36	160,000	-	160,000
Public, non-guaranteed bonds(83-2nd)	2024. 4.28	2.79	130,000	-	130,000
Public, non-guaranteed bonds(83-3rd)	2027. 4.28	3.20	70,000	-	70,000
Private, non-guaranteed bonds(85-1st)	2027.11.17	3.62	30,000	-	30,000
Private, non-guaranteed bonds(85-2nd)	2032.11.17	4.03	20,000	-	20,000
Private, non-guaranteed bonds(87-1st)	2026. 1. 4	3.26	120,000	-	120,000
Private, non-guaranteed bonds(87-2nd)	2028. 1. 4	3.55	10,000	-	10,000
Private, non-guaranteed bonds(88-1st)	2033. 1.31	4.21	60,000	-	60,000
Private, non-guaranteed bonds(89-1st)	2026. 3.16	3.39	80,000	-	80,000
Private, non-guaranteed bonds(89-2nd)	2028. 3.16	3.71	10,000	-	10,000
Private, non-guaranteed bonds(90th)	2038. 4. 3	4.20	20,000	-	20,000
Public, non-guaranteed bonds(91-1st)	2025. 5.28	3.00	60,000	-	60,000
Public, non-guaranteed bonds(91-2nd)	2028. 5.28	3.52	200,000	-	200,000
Public, non-guaranteed bonds(91-3rd)	2033. 5.28	3.75	90,000	-	90,000
Public, non-guaranteed bonds(93-1st)	2024. 2.21	2.08	50,000	-	50,000
Public, non-guaranteed bonds(93-2nd)	2026. 2.21	2.29	60,000	-	60,000
Public, non-guaranteed bonds(93-3rd)	2029. 2.21	2.58	280,000	-	280,000
Public, non-guaranteed bonds(93-4th)	2034. 2.21	2.95	110,000	-	110,000
Private, non-guaranteed bonds(94th)	2034. 4. 3	2.79	70,000	-	70,000
Floating rate notes in foreign currency					
Private, non-guaranteed bonds(80th)	2022. 2. 2	1M LIBOR+0.90	115,780	-	115,780
Private, guaranteed bonds(84th)	2023. 2.24	3M EURIBOR+0.75	129,743	-	129,743
Private, non-guaranteed bonds(86-1st)	2020.11.22	1M LIBOR+0.78	52,101	52,101	-
Private, non-guaranteed bonds(86-2nd)	2022.11.22	1M LIBOR+0.86	98,414	-	98,414
Private, non-guaranteed bonds(92nd)	2028. 6. 8	3M LIBOR+1.61	115,780	-	115,780
Private, guaranteed bonds	2026.10.26	3M LIBOR+1.1	57,890	-	57,890
Less: discount on debentures			(12,765)	(315)	(12,450)
Total			5,896,943	961,786	4,935,157

The Group entered into interest rate swap and cross-currency swap contracts to hedge cash flow risk related to floating interest rates and foreign exchange rates of the debentures (Note 40).

The principal and interests of private guaranteed bonds (84th and LG Innotek Co., Ltd.) are guaranteed by Shinhan Bank (Note 37).

17. Lease Liabilities

(a) Details of lease liabilities as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Lease liabilities		
Current	276,632	274,245
Non-current	585,428	497,179
Total	862,060	771,424

(b) The amounts recognized in the consolidated statement of profit or loss relating to leases are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Interest expense relating on lease liabilities	30,121	24,724
Short term lease payments (included in cost of sales, selling and marketing expenses, administrative expenses, and others)	56,080	127,784
Payments for leases of low-value assets that are not short-term leases (included in cost of sales, selling and marketing expenses, administrative expenses, and others)	36,049	29,805
Expense relating to variable lease payments not included in the measurement of lease liabilities (included in selling and marketing expenses, administrative expenses, and others)	94,710	79,780

Total expenses for leases including short-term leases and leases of low-value assets are $\pm 508,143$ million (2019: $\pm 538,209$ million).

18. Other Payables

Details of other payables as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Current		
Non-trade payables	2,693,516	2,479,927
Accrued expenses	853,436	826,921
Dividends payable	255	266
Leasehold deposits received	8,761	11,670
Subtotal	3,555,968	3,318,784
Non-current		
Non-trade payables	62,293	14
Leasehold deposits received	843	1,188
Subtotal	63,136	1,202
Total	3,619,104	3,319,986

19. Current and Deferred Income Tax

Income tax expense

(a) Details of income tax expense(benefit) for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Current income taxes		
Current tax on profits for the year	735,787	550,487
Adjustments in respect of prior years	(110,772)	14
Deferred income taxes		
Changes in temporary differences	(154,733)	(271,053)
Changes in tax credit carryforwards	(143,543)	88,850
Changes in tax loss carryforwards	65,114	(19,608)
Income tax expense	391,853	348,690

(b) The reconciliation between profit before income tax and income tax expense for the years ended December 31, 2020 and 2019, is as follows:

2,455,643 551,660 (59,757) 89,028	528,638 204,190 (26,310) 42,802
(59,757) 89,028	(26,310)
89,028	
,	42,802
(305,568)	(112,519)
(110,772)	14
83,082	136,100
145,429	122,224
(1,249)	(17,811)
391,853	348,690
16.0%	66.0%
	83,082 145,429 (1,249) 391,853

¹ The applicable tax rate, calculated using the weighted average statutory tax rates applicable to each entity within the Group to the profit before tax of the Group is 22.5% (2019: 38.6%) for the year ended December 31, 2020. The applicable tax rate has decreased due to changes in the proportions of each entity's profit (loss) before income tax.

Deferred income tax

(a) Deferred tax assets and deferred tax liabilities after offsetting as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Deferred tax assets:		
Deferred tax asset to be recovered within 12 months	968,898	1,026,029
Deferred tax asset to be recovered after more than 12 months	2,611,400	2,282,737
Deferred tax assets before offsetting	3,580,298	3,308,766
Deferred tax liabilities:		
Deferred tax liability to be settled within 12 months	142,175	129,288
Deferred tax liability to be settled after more than 12 months	1,654,004	1,639,455
Deferred tax liabilities before offsetting	1,796,179	1,768,743
Deferred tax assets after offsetting	1,915,928	1,668,430
Deferred tax liabilities after offsetting	131,809	128,407

(b) Changes in deferred tax assets and liabilities for the years ended December 31, 2020 and 2019, are as follows:

	2020					
(in millions of Korean won)	At January 1	Business combination	Charged (credited) to the statements of profit or loss	Charged (credited) to other comprehensive income	Exchange differences	At December 31
Changes in temporary						
differences Investments in subsidiaries, associates and joint ventures	(430,939)	-	23,326	5,561	(537)	(402,589)
Property, plant and equipment	58,592	-	88,036	-	(4,762)	141,866
Accrued expenses	439,359	-	89,247	-	(4,757)	523,849
Provisions	211,537	-	9,130	-	(1,208)	219,459
Other	534,017	(8,224)	(55,006)	21,420	3,710	495,917
Subtotal	812,566	(8,224)	154,733	26,981	(7,554)	978,502
Tax credit carryforwards	573,502		143,543	-	-	717,045
Tax loss carryforwards	153,955	-	(65,114)	-	(269)	88,572
Deferred tax assets(liabilities)	1,540,023	(8,224)	233,162	26,981	(7,823)	1,784,119

			2	019		
(in millions of Korean won)	At January 1	Transfer of business	Charged (credited) to the statements of profit or loss	Charged (credited) to other comprehensive income	Exchange differences	At December 31
Changes in temporary differences						
Investments in subsidiaries, associates and joint ventures	(551,303)	-	123,541	(2,595)	(582)	(430,939)
Property, plant and equipment	52,673	1,180	6,563	-	(1,824)	58,592
Accrued expenses	413,491	(1,752)	26,657	-	963	439,359
Provisions	174,478	(957)	38,757	-	(741)	211,537
Other	400,532	(2,718)	75,535	62,206	(1,538)	534,017
Subtotal	489,871	(4,247)	271,053	59,611	(3,722)	812,566
Tax credit carryforwards	662,352		(88,850)		-	573,502
Tax loss carryforwards	134,593	-	19,608	-	(246)	153,955
Deferred tax assets(liabilities)	1,286,816	(4,247)	201,811	59,611	(3,968)	1,540,023

(c) Tax effects directly recognized in other comprehensive income directly for the years ended December 31, 2020 and 2019, are as follows:

	2020		2019			
(in millions of Korean won)	Before tax	Tax effects	After tax	Before tax	Tax effects	After tax
Remeasurements of the net defined benefit liability	(101,085)	24,374	(76,711)	(197,065)	51,487	(145,578)
Cash flow hedges	(8,112)	2,267	(5,845)	(44,658)	11,240	(33,418)
Financial assets at fair value through other comprehensive income	27,506	(5,221)	22,285	9,154	(521)	8,633
Exchange differences on translation of foreign operations	(704,850)	5,561	(699,289)	298,939	(2,595)	296,344
Total	(786,541)	26,981	(759,560)	66,370	59,611	125,981

(d) Details of deductible (taxable) temporary differences and tax credit carryforwards unrecognized as deferred tax assets (liabilities) as at December 31, 2020, are as follows:

(in millions of Korean won)	Amount	Remark
Taxable temporary difference (investment in subsidiaries)	(6,811,363)	Planned permanent reinvestment of undistributed profit
Deductible temporary difference (investment in subsidiaries)	2,361,753	Unlikely to reverse (disposed of) in the foreseeable future
Tax credit carryforwards1	229,842	Uncertainty of future taxable profit

¹ Unrecognized tax credit carryforwards as at December 31, 2020 will be expired from 2026.

20. Post-employment Benefits

Defined Benefit Plan

(a) The amounts of net defined benefit liabilities as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Present value of funded obligations	3,980,162	3,567,014
Present value of unfunded obligations	48,985	61,713
Subtotal	4,029,147	3,628,727
Fair value of plan assets	(3,540,730)	(3,035,798)
Net defined benefit liabilities ¹	488,417	592,929

¹ Net defined benefit assets are included.

(b) The amounts recognized in the consolidated statements of profit or loss for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Current service cost	392,630	389,992
Past service cost	(8)	(11,007)
Net interest cost	13,871	13,445
Operating management cost	2,841	3,041
Total	409,334	395,471

(c) Line items in which expenses are included for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Cost of sales	203,102	189,941
Selling and marketing expenses	64,288	63,285
Administrative expenses	26,137	27,502
Research and development expenses	86,867	91,515
Service costs	28,940	23,228
Total	409,334	395,471

(d) Movements in the present value of defined benefit obligations for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
At January 1	3,628,727	3,215,859
Current service cost	392,630	389,992
Past service cost	(8)	(11,007)
Interest cost	81,427	79,215
Remeasurements for:		
 Actuarial loss arising from changes in demographic assumptions 	3,737	145,477
 Actuarial loss (gain) arising from changes in financial assumptions 	(43,851)	87,500
 Actuarial loss (gain) arising from experience adjustments 	136,873	(42,945)
Benefits paid	(164,399)	(193,906)
Increase (decrease) due to business combination (transfer of business)	140	(21,588)
Decrease due to plan liquidation and other	(256)	(22,050)
Other ¹	(5,873)	2,180
At December 31	4,029,147	3,628,727

¹ The effects of exchange rate changes are included.

(e) Movements in the fair value of plan assets for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
At January 1	3,035,798	2,818,190
Interest income	67,556	65,770
Remeasurements of plan assets	(4,326)	(6,887)
Employer contributions	562,051	348,562
Benefits paid	(116,541)	(145,966)
Decrease due to transfer of business	-	(19,708)
Decrease due to plan liquidation and other	-	(21,447)
Operating management cost	(2,841)	(3,041)
Other ¹	(967)	325
At December 31	3,540,730	3,035,798

¹ The effects of exchange rate changes are included.

(f) The significant actuarial assumptions used as at December 31, 2020 and 2019, are as follows:

	December 31, 2020	December 31, 2019
Weighted average of discount rate of the Group	2.4%	2.3%
Weighted average of expected salary growth rate of the Group	4.9%	4.9%

As at December 31, 2020, the discount rates applied to the Parent Company and subsidiaries are within the range of 0.2% and 9.8% (2019: 0.2% and 8.0%), and the expected salary growth rates are within the range of 1.0% and 10.0% (2019: 1.0% and 10.0%).

(g) The sensitivity analysis of the defined benefit obligation in case of changes in significant assumptions as at December 31, 2020, is as follows:

(in millions of Korean won)	1%p increase	1%p decrease
Discount rate	(376,922)	439,683
Expected salary growth rate	414,272	(375,608)

Above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations.

(h) Plan assets consist of:

	December 31, 2020		December 31, 2019	
(in millions of Korean won)	Amount Composition (%)		Amount	Composition (%)
Securities combined with derivatives (guaranteed)	1,494,575	42.2	1,081,528	35.6
Time deposits and others	2,046,155	57.8	1,954,270	64.4
Total	3,540,730	100.0	3,035,798	100.0

Most of plan assets are invested in the assets with the quoted prices in an active market.

(i) The weighted average duration of the defined benefit obligations is 10.6 years. Expected maturity analysis of undiscounted pension benefits as at December 31, 2020, is as follows:

	Within				Over	
(in millions of Korean won)	1 year	1 to 2 years	2 to 5 years	5 to 10 years	10 years	Total
Pension benefits	166,534	194,758	726,845	1,238,383	3,133,214	5,459,734

The Group evaluates the fund contribution level annually, and if there is a shortfall in the funds, the Group has a policy to finance the funds. Expected contributions to post-employment benefit plans for the year ending December 31, 2021, are \forall 316,984 million.

Defined Contribution Plan

The expense recognized in relation to defined contribution plan for the year ended December 31, 2020 was $\forall 16,449$ million (2019: $\forall 17,902$ million).

21. Provisions

(a) Changes in provisions for the years ended December 31, 2020 and 2019, are as follows:

	2020				
	Litigation and				
(in millions of Korean won)	Warranty	Restoration	others	Total	
At January 1	878,555	38,444	166,001	1,083,000	
Additions ¹	934,459	10,053	69,328	1,013,840	
Utilization	(833,766)	(1,186)	(41,291)	(876,243)	
Exchange differences	(13,015)	(273)	(11,530)	(24,818)	
At December 31	966,233	47,038	182,508	1,195,779	
Current	883,461	21,476	6,072	911,009	
Non-current	82,772	25,562	176,436	284,770	

	2019				
(in millions of Korean won)	Warranty	Restoration	Litigation and others	Total	
At January 1	740,839	39,013	214,374	994,226	
Additions ¹	971,391	4,005	12,399	987,795	
Utilization	(840,837)	(3,137)	(62,886)	(906,860)	
Decrease due to transfer of business	(3,516)	(1,942)	(1,400)	(6,858)	
Exchange differences	10,678	505	3,514	14,697	
At December 31	878,555	38,444	166,001	1,083,000	
Current	797,877	18,947	7,655	824,479	
Non-current	80,678	19,497	158,346	258,521	

¹ Net amount of additional provisions equals to additional provisions less reversed amounts.

(b) Greenhouse Gas Emission Liabilities

As at December 31, 2020, emission rights received free of charge for each reporting period and greenhouse gas emission estimated by management, are as follows:

(in tons)	2020	2021
Emission rights received free of charge ¹	2,384,334	1,405,407

¹ Emission rights received free of charge are defined as allowed amount of emissions that can be released, allocated by the Korean government for free in accordance with 'Act on the Allocation and Trading of Greenhouse-Gas Emission Permits' of the Republic of Korea.

In 2020, there was no emission right that the Group additionally purchased from the market and there was no recognized emission liability as greenhouse gas emission estimated by management was 908,559 tons.

22. Other Liabilities

Other liabilities as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019	
Current			
Advances from customers	526,791	643,224	
Withholding	601,015	714,278	
Accrued expenses	2,289,402	2,019,034	
Other	210	134	
Subtotal	3,417,418	3,376,670	
Non-current			
Advances from customers	-	99,571	
Accrued expenses	211,264	217,365	
Other	2,937	2,076	
Subtotal	214,201	319,012	
Total	3,631,619	3,695,682	

23. Paid-in Capital

(a) As at December 31, 2020 and 2019, the number of shares authorized is 600 million.

		December 31, 2020		December 31, 2019	
	Par value per share	Number of shares issued	Amount (in millions of Korean won)	Number of shares issued	Amount (in millions of Korean won)
Ordinary shares	5,000	163,647,814	818,239	163,647,814	818,239
Preferred shares	5,000	17,185,992	85,930	17,185,992	85,930
Total		180,833,806	904,169	180,833,806	904,169

The preferred shareholders have no voting rights and are entitled to preferred dividends at a rate of one percentage point over that of ordinary shares. This preferred dividend rate is not applicable to stock dividends. In addition, the preferred shareholders have same rights on the remaining assets as ordinary shareholders. Repayment and conversion are not applicable to preferred shares.

(b) Share premium balance as at December 31, 2020, is ₩3,088,179 million. The share premium of ₩1,876,153 million was recognized, which is ₩2,815,707 million of the carrying amount of net assets acquired from the entity split-off back on April 1, 2002, less the Parent Company's capital of ₩783,961 million and less the Parent Company's capital adjustment of ₩155,593 million. In addition, the amount of ₩331,766 million paid in excess of par value due to issuance of ordinary shares (merger with LG IBMPC Co., Ltd.) and the exercise of conversion option in 2005 and 2006 are included. The excess in paid-in capital amounting to ₩880,260 million over the par value was recognized as the share premium due to the issuance of ordinary shares in 2011.

24. Retained Earnings and Dividends

(a) Retained earnings as at December 31, 2020 and 2019, consist of:

(in millions of Korean won)	December 31, 2020	December 31, 2019	
Legal reserves ¹	209,524	195,933	
Discretionary reserves	4,660,573	5,128,769	
Unappropriated retained earnings	8,782,740	6,532,600	
Total	13,652,837	11,857,302	

¹ The Commercial Code of the Republic of Korea requires the Parent Company to appropriate, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for the payment of cash dividends, but may be transferred to share capital or used to reduce accumulated deficit.

(b) Dividends of the Parent Company

Details of dividends per share and a total dividend in respect of the year ended December 31, 2020, which is to be proposed at the annual general meeting on March 24, 2021, are as follows. These consolidated financial statements do not reflect this dividend payable.

(Unit: shares)	2020		2020		201	9
-	Ordinary shares	Preferred shares	Ordinary shares	Preferred shares		
Outstanding shares	163,647,814	17,185,992	163,647,814	17,185,992		
Treasury shares	(763,176)	(4,692)	(763,173)	(4,692)		
Numbers of shares for dividend	162,884,638	17,181,300	162,884,641	17,181,300		
Par value <i>(in Korean won)</i>	5,000	5,000	5,000	5,000		
Dividend rate	24%	25%	15%	16%		
Dividends per share (in Korean won)	1,200	1,250	750	800		
Total dividend amount (in millions of Korean won)	195,462	21,477	122,164	13,745		
Dividend payout ratio ¹ (Dividends/Net profit)	16%	2%	-	-		
Stock price ² (in Korean won)	112,050	49,638	72,050	28,925		
Dividend yield ratio (Dividend per share/Market price)	1.07%	2.52%	1.04%	2.77%		

¹ Dividend payout ratio is calculated based on the net profit of the Parent Company. It is not calculated for the year ended December 31, 2019 due to the net loss of the Parent Company.

² Average of prices in the stock market for one week preceding the two business days before the record date of the shareholders' list for the general meeting of shareholders related to above dividends.

25. Accumulated Other Comprehensive Income

Accumulated other comprehensive income as at December 31, 2020 and 2019, consist of:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Accumulated share of other comprehensive loss of associates and joint ventures	(168,435)	(165,755)
Cash flow hedge	(101,756)	(91,295)
Financial assets at fair value through other comprehensive income	22,482	(34)
Exchange differences on translation of foreign operations	(1,750,212)	(1,052,717)
Total	(1,997,921)	(1,309,801)

26. Other Components of Equity

Other components of equity as at December 31, 2020 and 2019, consist of:

(in millions of Korean won)		December 31, 2019
Treasury shares ¹	(44,893)	(44,893)
Consideration for conversion rights	9,891	9,891
Gain on disposal of treasury shares	2,183	2,183
Capital transactions within the Group	(176,945)	(176,945)
Total	(209,764)	(209,764)

¹ As at December 31, 2020, the Parent Company has treasury shares consisting of 763,176 ordinary shares (December 31, 2019: 763,173 shares) and 4,692 preferred shares (December 31, 2019: 4,692 shares. The Parent Company intends to either grant these treasury shares to employees and directors as compensation, or to dispose them in the future.

27. Share-based Payments

- (a) On December 31, 2020, the Group acquired Alphonso Inc., which had granted share options to directors and selected employees. Details are as follows:
 - Type of shares issued through share option: registered share capital
 - Grant method: issuance of shares
 - · Vesting condition and exercisable period:
 - The options are exercisable if the directors and employees have been completed service in Alphonso Inc. and its subsidiary for five years after the grant date. Five years after the grant date, 100% of originally issued number of shares are exercisable. (But for retiree with service period over one year and less than five years, only the number of vested shares is exercisable.)

Expected expiry date	Number of granted shares (Unit : shares)	Number of vested shares (Unit : shares)	Exercise price per share <i>(in USD</i>)
2021	12,000	12,000	0.01
2022	14,000	14,000	0.18
	23,000	23,000	0.67
2023	28,000	28,000	0.18
2024	73,144	2,625	0.18
	10,000	10,000	0.50
	17,559	991	0.67
2025	268,152	31,410	0.67
	8,000	8,000	0.54
2026	102,225	16,192	0.50
	38,400	5,156	0.54
2027	1,200	-	0.42
	158,247	5,319	0.54
2028	13,500	-	0.42
Total	767,427	156,693	

(b) The number of share options outstanding as at December 31, 2020 is as follows :

The Group recognized $\forall 8,813$ million of non-controlling interests that was measured at fair value using the binomial model approach for above share option as at the acquisition date (Note 41).

28. Net Sales

(a) Details of net sales for the years ended December 31, 2020 and 2019, are as follows:

	2019	
61,451,163	60,550,106	
1,067,447	1,084,552	
121,919	202,419	
62,640,529	61,837,077	
621,517	469,098	
63,262,046	62,306,175	
	1,067,447 121,919 62,640,529 621,517	

(b) Details of revenue from contracts with customers for the years ended December 31, 2020 and 2019, are as follows:

					2020				
(in millions of Korean won)	H&A	HE	МС	VS	BS	Innotek	Other segments	Inter- segment transactions	Total
Revenue from contracts with customers:									
External sales	21,612,397	13,160,780	5,212,324	5,794,399	5,999,688	9,088,005	1,772,936	-	62,640,529
Internal sales	47,143	5,444	1,665	2	1,983	544,244	281,131	(881,612)	
	21,659,540	13,166,224	5,213,989	5,794,401	6,001,671	9,632,249	2,054,067	(881,612)	62,640,529
By type of products:									
Refrigerator/ washing machine/ air conditioner and others	17,814,000	-	-	-	-	-	-	(700)	17,813,300
TV	-	12,332,391	-	-	-	-	-	(4,635)	12,327,756
Mobile communications	-	-	5,213,989	-	-	-	-	(1,665)	5,212,324
In-vehicle infotainment	-	-	-	3,645,211	-	-	-	(2)	3,645,209
Monitor/PC and others	-	-	-	-	4,244,169	-	-	(1,931)	4,242,238
Camera module	-	-	-	-	-	6,778,839	-	(146,707)	6,632,132
Others	3,845,540	833,833	-	2,149,190	1,757,502	2,853,410	2,054,067	(725,972)	12,767,570
By major geographical market ¹ :									
Korea	6,925,238	1,083,082	764,652	831,698	1,750,811	9,260,646	2,053,801	(792,681)	21,877,247
North America	6,000,670	3,634,563	3,220,754	1,268,063	1,737,280	22,774	-	(593)	15,883,511
Asia	3,472,097	1,558,570	270,191	238,607	528,261	48,915	266	(41,478)	6,075,429
Europe	1,670,569	3,651,415	247,219	2,711,367	1,056,219	92,163	-	(1,028)	9,427,924
South America	795,324	1,506,210	670,488	34,233	231,843	-	-	-	3,238,098
Middle East & Africa	1,216,952	888,633	24,799	3,488	105,011	-	-	(99)	2,238,784
China	761,047	105,511	15,427	706,945	486,046	207,751	-	(45,713)	2,237,014
Russia and others	817,643	738,240	459	-	106,200	-	-	(20)	1,662,522
Timing of transfer: Transferred at a point in time	21,134,556	12,997,492	5,060,224	5,650,968	5,969,562	9,632,249	938,842	(606,231)	60,777,662
Transferred over time	524,984	168,732	153,765	143,433	32,109	-	1,115,225	(275,381)	1,862,867

					2019				
					2013			Inter-	
(in millions of Korean won)	H&A	HE	МС	VS	BS	Innotek	Other segments	segment transactions	Total
Revenue from contracts with customers:							<u></u>		
External sales	21,010,973	13,263,436	5,960,981	5,464,492	6,081,898	7,711,040	2,344,257	-	61,837,077
Internal sales	49,504	9,223	2,785	36	8,312	590,129	223,511	(883,500)	-
	21,060,477	13,272,659	5,963,766	5,464,528	6,090,210	8,301,169	2,567,768	(883,500)	61,837,077
By type of products:									
Refrigerator/ washing machine/ air conditioner and others	17,921,891	-	-	-	-	-	-	(7,440)	17,914,451
TV	-	12,277,684	-	-	-	-	-	(8,381)	12,269,303
Mobile communications In-vehicle	-	-	5,963,766	-	-	-	-	(2,785)	5,960,981
infotainment	-	-	-	3,240,422	-	-	-	(36)	3,240,386
Monitor/PC and others	-	-	-	-	4,254,221	-	-	(8,312)	4,245,909
Camera module	-	-	-	-	-	5,425,630	-	(191,347)	5,234,283
Others	3,138,586	994,975	-	2,224,106	1,835,989	2,875,539	2,567,768	(665,199)	12,971,764
By major geographical market ¹ :								. ,	
Korea	7,145,311	1,137,348	1,501,968	922,887	1,947,395	7,910,781	2,516,981	(799,310)	22,283,361
North America	5,057,698	3,396,653	3,305,197	1,003,322	1,695,821	11,746	-	(598)	14,469,839
Asia	3,688,046	1,753,895	186,786	245,695	730,290	40,974	2	(31,944)	6,613,744
Europe	1,424,823	3,305,617	255,320	2,640,978	1,019,394	37,378	-	(770)	8,682,740
South America	877,835	1,747,547	629,361	59,068	271,650	-	3	(7)	3,585,457
Middle East & Africa	1,173,743	940,068	30,583	2,230	129,894	-	1	(157)	2,276,362
China	953,870	236,571	52,784	590,348	158,021	300,290	50,780	(50,707)	2,291,957
Russia and others	739,151	754,960	1,767	-	137,745	-	1	(7)	1,633,617
Timing of transfer: Transferred at a point in time	20,647,923	13,150,620	5,818,732	5,314,851	6,053,383	8,299,836	295,945	(680,106)	58,901,184
Transferred over time	412,554	122,039	145,034	149,677	36,827	1,333	2,271,823	(203,394)	2,935,893

¹ Sales by major geographical market are the sales by region in which the Group is located.

(c) Changes in the estimates of total revenue and total costs

Due to the factors causing the changes in costs of VS and other segments in 2020, the estimated total revenue and total costs for contracts in progress at the end of the reporting period have changed. Details of changes in estimated total contract revenue and costs and the impact on profit or loss for the year ended December 31, 2020 and the succeeding period are as follows:

(in millions of Korean won)	Changes in total contract revenue	Changes in total contract cost	Impact on profit or loss for the year	Impact on profit or loss for the succeeding year
VS	37,420	62,329	(22,356)	(2,553)
Other segments	12,283	33,020	(26,629)	5,892
Total	49,703	95,349	(48,985)	3,339

29. Expenses by Nature

Expenses that are recorded by nature for the years ended December 31, 2020 and 2019, consist of:

(in millions of Korean won)	2020	2019
Changes in finished goods and work-in-process	(958,216)	(77,260)
Raw materials and merchandise used	38,393,829	37,167,731
Employee benefit expense	7,931,520	7,889,685
Depreciation and amortization	2,627,408	2,478,628
Advertising expense	1,197,722	1,208,385
Promotion expense	631,621	762,052
Freight expense	2,064,666	1,728,118
Commission expense	3,651,508	3,494,056
Other expenses	4,527,001	5,218,641
Total ¹	60,067,059	59,870,036

¹ Cost of sales, selling and marketing expenses, administrative expenses, research and development expenses and service costs are included.

30. General Operating Expenses (Selling and Marketing Expenses, Administrative Expenses, Research and Development Expenses, and Service Costs)

Details of general operating expenses for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Salaries	3,213,599	3,187,279
Post-employment benefits	242,686	235,622
Employee welfare benefits	702,856	690,098
Freight expense	2,049,144	1,698,586
Rental expense	86,902	144,155
Commission expense	2,547,142	2,440,143
Depreciation	499,804	445,311
Amortization	161,266	185,768
Taxes and dues	103,568	98,709
Advertising expense	1,197,722	1,208,385
Promotional expense	631,621	762,052
R&D expense	505,656	405,784
Direct service costs	673,527	698,548
Bad debts expense	4,774	27,170
Others	501,689	671,820
Total	13,121,956	12,899,430

31. Financial Income

Financial income for the years ended December 31, 2020 and 2019, consists of:

(in millions of Korean won)	2020	2019
Interest income	96,010	143,484
Exchange differences	536,512	254,391
Gain on derivatives	25,616	28,373
Total	658,138	426,248

32. Financial Expenses

Financial expenses for the years ended December 31, 2020 and 2019, consist of:

(in millions of Korean won)	2020	2019
Interest expense	367,170	407,199
Exchange differences	705,172	265,627
Loss on derivatives	29,851	19,204
Loss on disposal of trade receivables	9,746	19,119
Others	4,104	2,852
Total	1,116,043	714,001

33. Other Non-operating Income

Other non-operating income for the years ended December 31, 2020 and 2019, consists of:

(in millions of Korean won)	2020	2019
Dividend income	4,752	693
Exchange differences	1,797,274	1,109,654
Gain on derivatives	67,475	32,470
Gain on disposal of property, plant and equipment	33,504	65,579
Gain on disposal of intangible assets	616	991
Gain on disposal of assets held for sale	4,725	-
Gain on valuation of financial assets at fair value through profit of loss	511	128
Gain on disposal of investments in associates and joint ventures	647,023	869
Gain on transfer of business	-	119,843
Others	36,020	45,740
Total	2,591,900	1,375,967

34. Other Non-operating Expenses

Other non-operating expenses for the years ended December 31, 2020 and 2019, consist of:

(in millions of Korean won)	2020	2019
Exchange differences	1,858,795	1,111,179
Loss on derivatives	51,560	40,961
Loss on disposal of property, plant and equipment	57,660	74,944
Impairment loss on property, plant and equipment	262,347	212,349
Loss on disposal of intangible assets	55,345	30,453
Impairment loss on intangible assets	432,807	366,607
Loss on valuation of financial assets at fair value through profit or loss	327	8
Loss on disposal of investments in associates and joint ventures	1,369	-
Impairment loss on investments in associates and joint ventures	6,859	-
Others	122,093	107,118
Total	2,849,162	1,943,619

35. Earnings per Share

The Parent Company has no potential dilutive ordinary shares. Accordingly, basic earnings per share is identical to diluted earnings per share.

(a) Basic earnings per ordinary share for the years ended December 31, 2020 and 2019, is as follows:

	2020	2019
Profit attributable to ordinary shares ¹ (in millions of Korean won)	1,779,743	27,523
Weighted average number of ordinary shares outstanding <i>(unit: shares)</i> ²	162,884,640	162,884,641
Basic earnings per ordinary share (in Korean won)	10,926	169

(b) Basic earnings per preferred share for the years ended December 31, 2020 and 2019, is as follows:

	2020	2019
Profit attributable to preferred shares ¹ (in millions of Korean won)	188,589	3,762
Weighted average number of preferred shares outstanding (unit: shares) ²	17,181,300	17,181,300
Basic earnings per preferred share (in Korean won)	10,976	219

¹ Profit attributable to ordinary and preferred shares is as follows:

(in millions of Korean won)	2020	2019
Profit for the year (A)	1,968,332	31,285
Ordinary share dividends (B)	195,462	122,164
Preferred share dividends (C)	21,477	13,745
Undistributed profit(D=A-B-C)	1,751,393	(104,624)
Undistributed profit available for ordinary shares (E)	1,584,281	(94,641)
Undistributed profit available for preferred shares (F)	167,112	(9,983)
Profit attributable to ordinary shares (G=B+E)	1,779,743	27,523
Profit attributable to preferred shares (H=C+F)	188,589	3,762

² Weighted average numbers of shares are calculated as follows:

(unit: shares)	2020	2019
Ordinary shares issued	163,647,814	163,647,814
Ordinary treasury shares	(763,176)	(763,173)
Ordinary shares outstanding	162,884,638	162,884,641
Weighted average number of ordinary shares outstanding	162,884,640	162,884,641
Preferred shares issued	17,185,992	17,185,992
Preferred treasury shares	(4,692)	(4,692)
Preferred shares outstanding	17,181,300	17,181,300
Weighted average number of preferred shares outstanding	17,181,300	17,181,300

36. Cash Flow Information

Cash flows from operating activities are prepared using the indirect method. Details of cash generated from operations for the years ended December 31, 2020 and 2019, are as follows:

(a) Cash generated from operations

(in millions of Korean won)	2020	2019
Profit for the year	2,063,790	179,948
Adjustments:		
Interest expense, net	271,160	263,715
Exchange differences, net	11,512	(32,627)
Gain on derivatives, net	(11,680)	(678)
Depreciation	2,200,812	2,066,620
Amortization	442,087	439,748
Loss on disposal of property, plant and equipment and intangible assets, net	78,885	38,827
Provisions for severance benefits	425,783	395,471
Additional provisions, net	1,013,840	987,795
Income tax expense	391,853	348,690
Loss from equity method, net	24,177	1,052,096
Gain on disposal of investments in associates and joint ventures, net	(645,654)	(869)
Impairment loss on investments in associates and joint ventures	6,859	-
Others	814,700	860,535
-	5,024,334	6,419,323
Changes in operating assets and liabilities		
Decrease (increase) in trade receivables	(1,522,277)	101,988
Decrease (increase) in other receivables	128,677	(83,245)
Decrease (increase) in inventories	(1,994,582)	79,449
Decrease (increase) in contract assets	1,846	77,895
Decrease (increase) in other assets	(15,066)	(482,992)
Increase (decrease) in trade payables	2,530,698	(477,154)
Increase (decrease) in other payables	451,417	(451,123)
Increase (decrease) in provisions	(876,243)	(906,860)
Increase (decrease) in contract liabilities	253,046	99,279
Increase (decrease) in other liabilities	192,075	435,381
Payment of defined benefit liability	(64,563)	(48,543)
Deposit in plan assets, net	(622,440)	(404,404)
	(1,537,412)	(2,060,329)
Cash generated from operations	5,550,712	4,538,942

(b) Changes in liabilities from financing activities

	2020							
				Non-c	ash transacti	ons		
(in millions of Korean won)	At January 1	Net cash flows from financing activities	Business combination	Addition and others	Exchange differences (profit/loss)	Amortization	Effects of exchange rate changes	At December 31
Short-term borrowings	271,541	(57,058)	4,352	-	12,008	-	(34,069)	196,774
Long-term borrowings	4,318,854	(176,384)	4,242	-	(20,397)	59	(44,259)	4,082,115
Debentures	5,896,943	(232,055)	-	-	(27,134)	3,112	-	5,640,866
Lease liabilities	771,424	(293,196)	-	401,339	1,243	2,013	(20,763)	862,060
Total	11,258,762	(758,693)	8,594	401,339	(34,280)	5,184	(99,091)	10,781,815

				20	19			
	Non-cash transactions							
(in millions of Korean won)	At January 1	Net cash flows from financing activities	Business combination (Transfer of business)	Addition and others	Exchange differences (profit/loss)	Amortization	Effects of exchange rate changes	At December 31
Short-term borrowings	293,221	(181,674)	116,840	-	19,784	-	23,370	271,541
Long-term borrowings	4,370,696	(70,306)	(7,993)	-	(15,289)	69	41,677	4,318,854
Debentures	6,237,269	(357,254)	-	-	13,327	3,601	-	5,896,943
Lease liabilities	622,459	(276,814)	(436)	410,858	380	698	14,279	771,424
Total	11,523,645	(886,048)	108,411	410,858	18,202	4,368	79,326	11,258,762

(c) Significant non-cash transactions:

(in millions of Korean won) 2020 2019 Reclassification of construction-in-progress to property, plant and equipment 1,477,586 1,091,572 Reclassification of construction-in-progress to intangible assets 476,549 401,332 Reclassification of current portion of borrowings and debentures 1,365,378 1,375,123 Other payables to acquire property, plant and equipment 337,212 422,907 Other payables to acquire intangible assets 25,431 24,261 Acquisition of right-of-use assets 470,176 486,957

- (d) Assets and liabilities arising from the transfer of business
 - Transfer of water solution business
 - i) On September 26, 2019, the Parent Company transferred water solution business, consisting of LG Hitachi Water Solution Co., Ltd., Hi Entech Co., Ltd. and HiEntech (Tianjin) Co., Ltd., to Techcross Vision Investment Inc.
 - ii) Total consideration received and the assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	222,759
Assets of the transferred business:	
Cash and cash equivalents	50,260
Trade receivables	70,517
Other receivables	9,689
Other financial assets	6,594
Inventories	6,554
Property, plant and equipment	2,346
Intangible assets	61,367
Current tax assets	310
Deferred tax assets	4,247
Contract assets	32,924
Other assets	4,138
Liabilities of the transferred business:	
Trade payables	29,643
Borrowings	7,993
Lease liabilities	436
Other payables	21,683
Current tax liabilities	185
Net defined benefit assets	1,880
Provisions	6,858
Contract liabilities	25,460
Other liabilities	31,546
Non-controlling interests	20,346

37. Contingencies

(a) At the end of the reporting period, borrowings are collateralized by a certain portion of property, plant and equipment (land, buildings and others) (Note 12).

(b) At the end of the reporting period, the Parent Company and domestic subsidiaries are provided with performance guarantees of ₩262,808 million (December 31, 2019: ₩261,921 million) from Seoul Guarantee Insurance and others relating to the performance guarantees. The Parent Company and LG Innotek Co., Ltd. are provided with guarantee of principal amounting to EUR 100 million and USD 50 million (December 31, 2019: EUR 100 million and USD 50 million) and interests from Shinhan Bank for the guaranteed private placement bonds.

(c) At the end of the reporting period, the Parent Company is providing KEB Hana Bank with a subrogation payment obligation for customers up to \forall 46,000 million (December 31, 2019: \forall 46,000 million).

(d) There are a number of legal actions, disputes and investigations arising from the normal course of business that remain pending at the end of the reporting period. The ultimate effect of those lawsuits on the financial position of the Group cannot reflect a reasonable expectation. Management does not expect the outcome of the litigations will have a material effect on the Group's financial position.

At the end of the reporting period, LG Display Co., Ltd., an associate of the Group, has been accused as a defendant in cases related to the infringement of patents. In addition, LG Display Co., Ltd. is currently under the investigation and civil suit for anti-competitive activities. The outcome of the case may affect the gain or loss from the equity method valuation, but the Group is not individually responsible for the above case and the investigation.

38. Commitments

At the end of the reporting period, the Parent Company has overdraft facility agreements with various banks, including Shinhan Bank, with a limit of \forall 165,500 million (December 31, 2019: \forall 165,500 million).

In addition, LG Innotek Co., Ltd. has overdraft facility agreements with various banks, including Shinhan Bank, with a limit of $\forall 27,000$ million (December 31, 2019: $\forall 27,000$ million). The total limit of overdrafts and comprehensive limits provided by financial institutions to the overseas subsidiaries of LG Innotek Co., Ltd. is $\forall 363,709$ million (December 31, 2019: $\forall 346,642$ million).

Other subsidiaries have overdraft facility agreements with a limit of $\forall 1,797,670$ million (December 31, 2019: $\forall 1,509,846$ million) with Citibank and others.

(b) At the end of the reporting period, the Parent Company has sales agreements for export trade receivables with KEB Hana Bank and 18 other banks amounting to \forall 1,910,416 million (December 31, 2019: \forall 1,895,310 million) and has sales agreements for domestic trade receivables with MUFG Bank and two other banks amounting to \forall 1,050,000 million (December 31, 2019: \forall 900,000 million).

In addition, LG Innotek Co., Ltd. has trade receivables transfer agreements with various banks, including ING Bank, amounting to ₩1,343,680 million (December 31, 2019: ₩735,203 million).

In addition, other subsidiaries transfer their trade receivable to Societe Generale Bank on a revolving basis, for up to USD 724 million (December 31, 2019: USD 665 million), and have sales agreements for trade receivables with a limit of USD 500 million (December 31, 2019: USD 500 million) with Credit Agricole. In addition, other subsidiaries have entered into corporate electronic settlement services contracts and discount note agreements with KEB Hana Bank with a limit of \forall 1,000 million (December 31, 2019: \forall 1,000 million) in connection with the collection of the trade receivables.

(c) At the end of the reporting period, the Parent Company has corporate electronic settlement services contracts and vendor prepayment services contracts with Shinhan Bank and seven other banks for up to \forall 1,190,000 million (December 31, 2019: \forall 1,210,000 million) in connection with the payment of trade payables.

In addition, LG Innotek Co., Ltd. has corporate electronic settlement services contracts and vendor prepayment services contracts with Shinhan Bank and others for up to \forall 204,000 million (December 31, 2019: \forall 204,000 million) in connection with the payment of trade payables, where under the contracts the vendors of LG Innotek Co., Ltd. can transfer their receivables to these banks.

In addition, other subsidiaries have contract arrangements such as corporate electronic settlement services contracts and note discount agreements with Shinhan Bank and other banks for up to \forall 42,400 million limit (December 31, 2019: \forall 38,900 million) in connection with the payment of trade payables.

(d) At the end of the reporting period, other subsidiaries have commercial paper agreements with Shinhan Bank and others for $\forall 40,000$ million (December 31, 2019: $\forall 40,000$ million).

(e) At the end of the reporting period, the Group has other trade financing agreements and loan commitments with financial institutions, including Shinhan Bank, of up to $\forall 3,219,817$ million (December 31, 2019: $\forall 3,471,626$ million). In addition, LG Innotek Co., Ltd. has long-term borrowing commitment for up to $\forall 100,000$ million after the reporting period.

(f) Contractual commitments for the acquisition of assets

The assets contracted for, but not yet acquired at the end of the reporting period, are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Property, plant and equipment	197,365	214,719
Intangible assets	99,967	137,951
Investments in associates and joint ventures	78,651	88,968
Total	375,983	441,638

Other than the above commitments, Zenith Electronics LLC(Zenith), a subsidiary, agreed to tender offers at the fair market value at certain time for the shares of non-controlling shareholders of Alphonso Inc., which the Group acquired on December 31, 2020, and shares to be issued through share options. At the end of the reporting period, the Group recognized these commitments as 'other payables' (Note 41).

(g) Operating lease commitments - the Group as a lessor

 The Group has non-cancellable operating lease agreements regarding healthcare rental business that lends water purifiers and others to customers and real estate rentals business. The future aggregate lease receipts under operating lease agreements at the end of the reporting period, are as follows:

	December 31, 2020						
(in millions of Korean won)	Within 1 year	1 to 2 years	2 to 3 years	3 to 4 years	Total lease payments		
Healthcare rental	537,818	346,105	162,519	33,592	1,080,034		
Real estate rental	11	-	-	-	11		
Total	537,829	346,105	162,519	33,592	1,080,045		

- ii) The Group recognized ₩591,064 million (2019: ₩439,812 million) of lease income for the year ended December 31, 2020.
- iii) Details of assets subject to operating lease are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Acquisition cost	894,731	726,976
Accumulated depreciation	(356,221)	(231,331)
Accumulated impairment losses	(4,621)	(67)
Net book amount	533,889	495,578

iv) Changes in net book amount of assets subject to operating lease for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
At January 1	495,578	486,896
Acquisition	228,819	244,719
Disposal	(21,180)	(107,089)
Depreciation	(164,506)	(128,948)
Impairment loss	(4,587)	-
Exchange differences	(235)	-
At December 31	533,889	495,578

(h) Trademark license agreements

At the end of the reporting period, the Group has various agreements as follows:

Purpose	Related products	Provided by	Used by
Use of license	Home appliance /Mobile/LED	Qualcomm Incorporated and others	The Group
Provision of license	Home appliance /Mobile/LED	The Group	Panasonic Corporation and others

39. Related Party

- (a) Major transactions for the years ended December 31, 2020 and 2019, and balances of receivables and payables from transaction with related parties as at December 31, 2020 and 2019, are as follows:
 - i) Major income and expense transactions with related parties

(in millions of Ko	orean won)	2020					
		Income transactions			Expe	nse transact	ions
Classification	Name	Sales	Others	Total	Purchases	Others ⁸	Total
Significantly							
influencing the	LG Corp.	401	-	401	268	191,338	191,606
Group							
Associates	LG Display Co., Ltd. and its subsidiaries	416,005	98,155	514,160	3,579,891	905	3,580,796
	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries	2,108	-	2,108	57,047	80	57,127
	Korea Information Certificate Authority Inc. ²	1	-	1	-	39	39
	Acryl Inc.	-	-	-	-	624	624
	ROBOTIS Co., Ltd.	-	-	-	-	27	27
	Robostar Co., Ltd. and its	17	-	17	50,023	3,198	53,221
	subsidiaries						
	Subtotal	418,131	98,155	516,286	3,686,961	4,873	3,691,834
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	52,945	-	52,945	101,865	2	101,867
	LG HOLDINGS (HK) LIMITED and its subsidiaries ³	-	-	-	-	472	472
	EIC PROPERTIES PTE LTD.	-	-	-	-	640	640
	LG-MRI LLC	7,385	-	7,385	33,722		33,722
	Subtotal	60,330	-	60,330	135,587	1,114	136,701
Other related parties	LG CNS Co., Ltd. and its subsidiaries	135,012	105	135,117	175,887	568,169	744,056
	S&I Corp. and its subsidiaries ⁴	31,042	-	31,042	39,174	200,508	239,682
	LG Management Development Institute	10	-	10	375	30,562	30,937
	LG SPORTS Ltd.	15	19	34	-	13,664	13,664
	LG MMA Ltd.	245	-	245	34	288	322
	LG Holdings Japan Co., Ltd.	20	-	20		3,749	3,749
	Subtotal	166,344	124	166,468	215,470	816,940	1,032,410
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	1,252,930	7,273	1,260,203	1,186,448	1,517	1,187,965
	LG INTERNATIONAL CORP and its subsidiaries	23,324	766	24,090	3,610,497	1,918,083	5,528,580
	LG Uplus Corp and its subsidiaries	232,426	465	232,891	39,197	5,485	44,682
	LG HAUSYS,LTD., its subsidiaries and associates	6,884	685	7,569	5,820	71	5,891
	Silicon Works Co., Ltd.	58,889	2,183	61,072	13,421	636	14,057

(in millions of K	orean won)	2020					
		Inco	ne transacti	ons	Expe	nse transac	tions
Classification	Name	Sales	Others	Total	Purchases	Others ⁸	Total
	LG HOUSEHOLD & HEALTH						
	CARE LTD and its	53,713	2	53,715	391	552	943
	subsidiaries						
	$G \mathrm{I\!I} R$ Inc. and its subsidiaries	5,162	-	5,162	127	397,588	397,715
	Subtotal	1,633,328	11,374	1,644,702	4,855,901	2,323,932	7,179,833
	Total	2,278,534	109,653	2,388,187	8,894,187	3,338,197	12,232,384

(in millions of Korean won)		2019						
		Inco	me transacti	ons	Expense transactions			
Classification	Name	Sales	Others	Total	Purchases	Others ⁸	Total	
Significantly influencing the Group	LG Corp.	910	-	910	841	388,830	389,671	
Associates	LG Display Co., Ltd. and its subsidiaries	1,228,385	97,409	1,325,794	3,513,200	4,003	3,517,203	
	Ericsson-LG Co., Ltd. and its subsidiarie	106	-	106	-	-	-	
	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries	2,329	-	2,329	66,690	368	67,058	
	LG Fuel Cell Systems Inc. and its subsidiaries	760	510	1,270	13	69	82	
	Korea Information Certificate Authority Inc. ²	1	-	1	-	86	86	
	Acryl Inc.	-	-	-	-	704	704	
	Kiwigrid GmbH⁵	-	-	-	-	479	479	
	ROBOTIS Co., Ltd.	-	-	-	-	205	205	
	Robostar Co., Ltd.	11	-	11	53,207	8,177	61,384	
	Subtotal	1,231,592	97,919	1,329,511	3,633,110	14,091	3,647,201	
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	33,634	-	33,634	77,540	-	77,540	
	LG HOLDINGS (HK) LIMITED and its subsidiaries ³	-	-	-	-	2,016	2,016	
	EIC PROPERTIES PTE LTD.	-	-	-	-	809	809	
	LG-MRI LLC	6,267	-	6,267	37,107		37,107	
	Subtotal	39,901	-	39,901	114,647	2,825	117,472	
Other related parties	LG CNS Co., Ltd. and its subsidiaries	142,093	48	142,141	134,776	530,933	665,709	
	S&I Corp. and its subsidiaries ⁴	52,942	4,250	57,192	376,055	229,578	605,633	
	LG Management Development Institute	3	-	3	8,168	24,743	32,911	
	LG SPORTS Ltd.	16	21	37	-	15,540	15,540	
	LG MMA Ltd.	157	-	157	135	-	135	
	LG Holdings Japan Co., Ltd.	19	-	19	-	3,581	3,581	
	LG Corp. U.S.A. ⁶	1,118	-	1,118		-		
	Subtotal	196,348	4,319	200,667	519,134	804,375	1,323,509	
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	1,339,844	24,143	1,363,987	949,720	9,595	959,315	
	LG INTERNATIONAL CORP and its subsidiaries	66,384	7,814	74,198	3,186,800	1,891,870	5,078,670	

(in millions of K	orean won)			20)19			
		Inco	me transacti	ons	Expe	Expense transactions		
Classification	Name	Sales	Others	Total	Purchases	Others ⁸	Total	
	LG Uplus Corp and its subsidiaries	520,894	96	520,990	50,169	7,423	57,592	
	LG HAUSYS,LTD., its subsidiaries and associates	7,781	422	8,203	2,654	354	3,008	
	Silicon Works Co., Ltd.	25,139	2,979	28,118	14,211	34	14,245	
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	30,876	4	30,880	309	624	933	
	$G {\rm I\hspace{1em}I} R$ Inc. and its subsidiaries	5,252	47	5,299	82	405,002	405,084	
	SERVEONE Co., Ltd. and its subsidiaries ⁴	8,437	2,492	10,929	248,527	38,067	286,594	
	Techcross Environmental Services Inc. ⁷	75	-	75	4,090	481	4,571	
	Subtotal	2,004,682	37,997	2,042,679	4,456,562	2,353,450	6,810,012	
	Total	3,473,433	140,235	3,613,668	8,724,294	3,563,571	12,287,865	

¹ Although the entities are not the related parties of the Group in accordance with Korean IFRS 1024, the entities belong to a Large Enterprise Group in accordance with the Monopoly Regulation and Fair Trade Act.

² All shares of Korea Information Certificate Authority Inc. were disposed during the year ended December 31, 2020.

³ All shares of LG HOLDINGS (HK) LIMITED were disposed to RECO CHANGAN PRIVATE LIMITED on March 20, 2020.

⁴ SERVEONE Co., Ltd. was spun off into S&I Corp. and SERVEONE Co., Ltd. on December 1, 2018. On May 15, 2019, S&I Corp., the existing entity, disposed 60.1% shares of SERVEONE Co., Ltd., a newly established entity. On July 24, 2019, SERVEONE Co., Ltd., a newly established entity, was excluded from the Large Enterprise Group in accordance with the Monopoly Regulation and Fair Trade Act.

⁵ Kiwigrid GmbH was excluded from associates due to the loss of right to appoint a member of the Board of Directors during the year ended December 31, 2020.

⁶ LG Electronics U.S.A., Inc., a subsidiary, acquired all shares of LG CORP. U.S.A. from LG Corp. on October 30, 2019.

⁷ All shares of Hi Entech Co., Ltd. were disposed to Techcross Vision Investment Inc. on September 26, 2019. And, the name of Hi Entech Co., Ltd. was changed to Techcross Environmental Services Inc. On December 30, 2019, Techcross Environmental Services Inc. was excluded from the Large Enterprise Group in accordance with the Monopoly Regulations and Fair Trade Act.

⁸ Others include acquisition cost of right-of-use assets and interest expense of lease liabilities.

ii) The balances of receivables from and payables to related parties

			Rece	ivables			Payables		
		Trade		Other		Trade		Other	
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	payables	Total
Significantly influencing the Group	LG Corp.	5	-	25,666	25,671	-	-	30,542	30,542
Associates	LG Display Co., Ltd. and its subsidiaries	107,463	-	67,211	174,674	461,630	-	65,495	527,125
	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries	473	-	-	473	32,686	-	243	32,929
	Acryl Inc.	-	-	-	-	-	-	229	229
	Robostar Co., Ltd. and its subsidiaries			-	-	242	-	19,122	19,364
	Subtotal	107,936	-	67,211	175,147	494,558	-	85,089	579,647
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	5,655	-	-	5,655	7,839	-	1	7,840
	EIC PROPERTIES PTE LTD.	-	-	-	-	-	-	65	65
	LG-MRI LLC	2,107	-	545	2,652	4,859	-	42	4,901
	Subtotal	7,762	-	545	8,307	12,698	-	108	12,806
Other related parties	LG CNS Co., Ltd. and its subsidiaries	29,814	-	1,033	30,847	15,340	-	271,135	286,475
	S&I Corp. and its subsidiaries ²	8,520	-	24,802	33,322	6,785	-	66,661	73,446
	LG Management Development Institute	1	-	17,864	17,865	-	-	1,455	1,455
	LG SPORTS Ltd.	1	-	-	1	-	-	1,883	1,883
	LG MMA Ltd.	-	-	-	-	-	-	19	19
	LG Holdings Japan Co., Ltd.	-	-	3,870	3,870	-	-	-	-
	Subtotal	38,336	-	47,569	85,905	22,125	-	341,153	363,278
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	387,830	-	186,292	574,122	355,634	-	14,811	370,445
	LG INTERNATIONAL CORP and its subsidiaries	15,506	-	524	16,030	291,948	-	373,049	664,997
	LG Uplus Corp and its subsidiaries	45,102	-	1	45,103	2,022	-	1,401	3,423
	LG HAUSYS,LTD., its subsidiaries and associates	1,714	-	12	1,726	311	-	124	435
	Silicon Works Co., Ltd.	16,772	-	148	16,920	3,003	-	1,237	4,240
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	11,577	-	22,069	33,646	31	-	1,210	1,241
	G II R Inc. and its subsidiaries	17	-	282	299	1,067		203,573	204,640
	Subtotal	478,518	-	209,328	687,846	654,016	-	595,405	1,249,421
	Total	632,557				1,183,397			2,235,694

(in millions of K			Rece	eivables	Decembe	,	Paya	bles	
		Trade		Other		Trade		Other	
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	payables⁵	Total
Significantly influencing the Group	LG Corp.	38	-	29,207	29,245	-	-	55,798	55,798
Associates	LG Display Co., Ltd. and its subsidiaries	182,862	-	86,133	268,995	575,758	-	76,851	652,609
	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries Korea Information Certificate Authority Inc. ³	714	-	-	714	19,421 -	-	410 18	19,831 18
	Acryl Inc.	-	-	_	_	_	-	229	229
	ROBOTIS Co., Ltd.	_	_	-	_	_	_	145	145
		-	-	-	-	-	-		
	Robostar Co., Ltd.				-	-		27,480	27,480
	Subtotal	183,576		86,133	269,709	595,179	-	105,133	700,312
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	5,827	-	-	5,827	7,685	-	-	7,685
	LG HOLDINGS (HK) LIMITED and its subsidiaries ⁴	-	-	-	-	-	-	807	807
	EIC PROPERTIES PTE LTD.	-	-	-	-	-	-	68	68
	LG-MRI LLC	2,311	-	384	2,695	1,645	-	2	1,647
	Subtotal	8,138	-	384	8,522	9,330	-	877	10,207
Other related parties	LG CNS Co., Ltd. and its subsidiaries	21,711	-	1,118	22,829	31,425	-	166,750	198,175
	S&I Corp. and its subsidiaries ²	18,296	-	55,086	73,382	5,985	-	52,949	58,934
	LG Management Development Institute	-	-	17,864	17,864	-	-	968	968
	LG SPORTS Ltd.	1	-	-	1	-	-	2,311	2,311
	LG MMA Ltd.	372	-	-	372	42	-	-	42
	LG Holdings Japan Co., Ltd.	-	-	3,940	3,940	-	-	-	-
	Subtotal	40,380	-	78,008	118,388	37,452	-	222,978	260,430
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	546,852	-	228,217	775,069	240,870	-	60,068	300,938
	LG INTERNATIONAL CORP and its subsidiaries	25,803	-	1,438	27,241	192,466	-	228,945	421,411
	LG Uplus Corp and its subsidiaries	10,695	-	98	10,793	180	-	554	734
	LG HAUSYS,LTD., its subsidiaries and associates	2,550	-	133	2,683	469	-	1,496	1,965
	Silicon Works Co., Ltd.	3,792	-	279	4,071	3,022	-	485	3,507
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	20,067	-	8,709	28,776	32	-	3,409	3,441

(in millions of Ke	(in millions of Korean won)		December 31, 2019								
		Receivables				Payables					
Classification	Name	Trade receivables	Loans	Other receivables	Total	Trade payables	Borrowings	Other _payables⁵	Total		
	G II R Inc. and its subsidiaries	41	-	210	251	710	-	182,130	182,840		
	Subtotal	609,800	-	239,084	848,884	437,749	-	477,087	914,836		
	Total	841,932	-	432,816	1,274,748	1,079,710	-	861,873	1,941,583		

¹ Although the entities are not the related parties of the Group in accordance with Korean IFRS 1024, the entities belong to a Large Enterprise Group in accordance with the Monopoly Regulation and Fair Trade Act.

² SERVEONE Co., Ltd. was spun off into S&I Corp. and SERVEONE Co., Ltd. on December 1, 2018. On May 15, 2019, S&I Corp., the existing entity, disposed 60.1% shares of SERVEONE Co., Ltd., a newly established entity. On July 24, 2019, SERVEONE Co., Ltd., a newly established entity, was excluded from the Large Enterprise Group in accordance with the Monopoly Regulation and Fair Trade Act.

³ All shares of Korea Information Certificate Authority Inc. were disposed during the year ended December 31, 2020.

⁴ All shares of LG HOLDINGS (HK) LIMITED were disposed to RECO CHANGAN PRIVATE LIMITED on March 20, 2020.

⁵ Other payables include lease liabilities.

iii) Significant capital transactions and others with related parties

(in millions of Ko	orean won)				2020)		
,	,	Dividend	Dividend	Cash distribution	Financing loan transactions		Financing borrowing transactions	
Classification	Name	income	paid	(reduction)	Loans	Collections	Borrowings	
Significantly influencing the Group	LG Corp. ¹	-	41,321	-	-	-	27,473	27,556
Associates	Ericsson-LG Co., Ltd.	8,250	-	-	-	-	-	-
	Korea Information Certificate Authority Inc. ²	201	-	-	-	-	-	-
	LG-MRI LLC	349	-	-	-	-	-	-
	LG-LHT Aircraft Solutions GmbH	-	-	6,954	-	-	-	-
	LG-LHT Passenger Solutions GmbH	-	-	6,084	-	-	-	-
	GUANGDONG SMART LIFE TECHNOLOGY CO., LTD.	-	-	300	-	-	-	-
		8,800	-	13,338	-	-	-	-
Other related parties	S&I Corp. ¹	-	-	-	-	-	-	351
	Total	8,800	41,321	13,338	-	-	27,473	27,907

(in millions of Ko	(in millions of Korean won)		2019								
			Dividend	Cash distribution		ncing loan		borrowing ctions			
Classification	Name	Dividend income	paid	(reduction)	Loans	Collections	Borrowings	Repayments			
Significantly influencing the Group	LG Corp. ¹	-	41,321	-	-	-	29,988	2,194			
Associates	Korea Information Certificate Authority Inc. ²	161	-	-	-	-	-	-			
	Hitachi-LG Data Storage Inc.(HLDS)	-	-	-	-	7,358	-	-			
	LG-MRI LLC	337	-	-	-	-	-	-			
	Robostar Co.,Ltd.	146	-	-	-	-	-	-			
	Acryl Inc.	-	-	1,000	-	-	-	-			
	LG-LHT Passenger Solutions GmbH	-	-	702	-	-	-	-			
	LG-LHT Aircraft Solutions GmbH	-	-	1,234	-	-	-	-			
	LG HOLDINGS (HK) LIMITED	-	-	(29,182)	-	-	-	-			
	GUANGDONG SMART LIFE TECHNOLOGY CO., LTD.	-	-	291	-	-	-	-			
		644	-	(25,955)	-	7,358	-	-			
	Total	644	41,321	(25,955)	-	7,358	29,988	2,194			

¹ Financing borrowing transactions include borrowings and repayment of principal elements of lease liabilities.

² All shares of Korea Information Certificate Authority Inc. were disposed during the year ended December 31, 2020.

(b) The compensation paid or payable to key management personnel for the years ended December 31, 2020 and 2019, consist of:

(in millions of Korean won)	2020	2019
Salaries and other short-term benefits	12,487	18,173
Post-employment benefits	2,435	3,416
Other long-term benefits	103	107
Total	15,025	21,696

Key management refers to the directors who have significant control and responsibilities on the Group's business plans, operations and control.

- (c) There is no collateral provided by the Group for the financial support of related parties at the end of the reporting period.
- (d) The Group has not recognized any bad debt expense or allowance for receivables from related parties at the end of the reporting period.

40. Risk Management

Financial Risk Management

The Group's financial risk management ("FRM") policy supports each business division to achieve excellent performance solidly and continuously against market risk, credit risk and liquidity risk. In addition, FRM helps the Group to enhance cost competitiveness through cost-efficient financing cost by improving financial structure and effective cash management.

While cooperating with other divisions, Finance Division in the Parent Company mainly implements FRM. This involves setting-up risk management policies and recognizing, evaluating and hedging risks from a global point of view.

The Group anticipatively and systematically manages the financial risks over global business activities through its four overseas treasury centers in New Jersey (United States), Amsterdam (Netherlands), Beijing (China), and Singapore in coordination with Finance Division in the Parent Company. And it also helps to improve overseas subsidiaries' business competitiveness by performing integration of their finance functions.

The Group mitigates the adverse effects from financial risk by monitoring the risk periodically and updating FRM policy each year.

The carrying amount and profit or loss of each category of financial instruments and the details of borrowings related to the financial risk management are presented in Note 5 and Note 16, respectively.

(a) Market risk

i) Foreign exchange risk

Due to its multinational business operations, the Group is mainly exposed to foreign exchange risk on the US Dollar and Euro.

The purpose of foreign exchange risk management is to provide the foundation of a stable business operation by minimizing the uncertainty and volatility of foreign exchange gains and losses from foreign exchange rate fluctuations.

The Group's foreign exchange risk management is implemented under its own foreign exchange policy through which the Group can minimize the exposure to foreign exchange risk by preferentially making equal amount of foreign exchange assets and liabilities from general operating activities. And the Group continuously considers efficient foreign exchange risk hedges against its remaining exposure with derivative financial instruments and scrutinizes changes in foreign exchange exposure and the results of hedging activities on a monthly basis. Speculative foreign exchange trading is prohibited in principle.

As at December 31, 2020 and 2019, if the foreign exchange rate of the Korean won fluctuated for monetary assets and liabilities denominated in major foreign currency other than functional currency by 10% while other variables were fixed, the effects on income (loss) before tax would be as follows:

	December	31, 2020	December 31, 2019		
(in millions of Korean won)	10% increase	10% decrease	10% increase	10% decrease	
USD/KRW	(21,571)	21,571	(89,461)	89,461	
EUR/KRW	1,300	(1,300)	2,049	(2,049)	

ii) Interest rate risk

The Group is exposed to interest rate risk through changes in interest-bearing liabilities or assets. The risk mainly arises from borrowings and deposits held by financial institutions with variable interest rates linked to market interest rate changes in the future. The objective of interest rate risk management lies in improving corporate value by minimizing uncertainty caused by fluctuations in interest rates and minimizing net interest expense.

The Group minimizes its borrowings from others and optimizes its deposits by expanding internal finance sharing. The Group periodically establishes the plan for reaction by the monitoring trends of internal and external interest rates and minimizes the risk of net interest expense by properly operating short-term borrowings with variable interest rates and deposits.

If interest rates fluctuate by 1%p with all other variables held constant, the effects on income and expenses related to borrowings and deposits held by financial institutions with variable interest rates for the years ended December 31, 2020 and 2019, are as follows:

	20	20	2019		
(in millions of Korean won)	1%p increase	1%p decrease	1%p increase	1%p decrease	
Interest income	58,359	(58,359)	45,006	(45,006)	
Interest expense	5,314	(5,314)	7,161	(7,161)	

iii) Details of derivatives contracts are as follows:

Derivatives for hedging purposes

The Group entered into the currency forward, cross-currency swap and the interest rate swap contracts to hedge cash flow risks related to the floating interest rates and foreign exchange rates.

Details of hedging instruments are as follows:

		Contracted	Contracted	Internet rete			Book a (in mill Korear	ions of
	Contractor	amount (in millions)	currency rate	Interest rate (paid) (%)	Starting date	Expiration date	Assets	Liabilities
Currency forward	Oberbank AT and others	CZK 260 (EUR/CZK)	25.9 ~ 26.1	-	2020. 2.28 ~ 2020. 3. 2	2021. 1. 4 ~ 2021. 6. 2	-	112
	Commerzbank and others	USD 5 (EUR/USD)	1.2	-	2020.12. 3	2020. 1.11 ~ 2021. 4. 6		66
Cross-currency swap	MUFG Bank and others	USD 605 (USD/KRW)	1,067.9 ~ 1,233.7	2.00 ~ 3.64	2017. 2. 2 ~ 2020. 5.28	2022. 2. 2 ~ 2028. 6. 8		60,523
	DBS	SGD 140 (SGD/KRW)	859.3	1.21	2020. 7. 9	2024. 1. 9	-	5,058
Interest rate swap	Woori Bank and others	KRW 1,144,893 / EUR 100 / USD 235	-	1.00 ~ 4.53	2014. 1. 3 ~ 2018. 5.24	2023. 2.24 ~ 2030. 7. 7		104,646

Interest rates received for the above swap contracts are equal to annual interest rates of borrowings and debentures (Note 16).

Details of hedged items are as follows:

(in millions of Korean won)	Hedged items	Book amount	Changes in fair value (net of tax)
Currency forward	Forecast transactions	-	672
Cross-currency swap	Borrowings	771,005	47,497
Interest rate swap	Borrowings	1,533,738	26,289

(in millions of Korean won)	Changes in fair value of derivatives (net of tax)	Line items in profit or loss	Reclassified to profit or loss (net of tax)	Other comprehensive loss (net of tax)	Accumulated other comprehensive loss
Currency forward	(672)	Exchange differences	299	(373)	(560)
Cross-currency swap	(47,497)	Interest expense and exchange differences	44,189	(3,308)	(25,766)
Interest rate swap	(26,289)	Interest expense	14,934	(11,355)	(76,838)

The results of hedge accounting are as follows:

Non-derivative for hedging purposes

LG Innotek Co., Ltd., a subsidiary, applied cash flow hedging accounting by designating the amount of contract liabilities from customers as hedging instrument to hedge foreign exchange risk of the future expected sales.

Details of hedging instruments are as follows:

	Contracted				Expected time	to be realized
(in millions of	amount	Starting	Expiration			
Korean won)	(in millions)	date	date	Book amount	Within 1 year	1 to 2 years
Contract liabilities	USD 86	2019.12	2021.12	93,568	93,568	-

The highly probable forecast transactions in relation to cash flow hedges are expected to happen on various dates until the expiration date for the hedging, and they are expected to affect future cash flows. At the end of the reporting period, the book amount of contract liabilities is a reasonable approximation of its fair value.

There is no forecast transaction that needs to be changed for which hedges had previously been used, but which is no longer expected to occur.

The results of hedge accounting are as follows:

(in millions of Korean won)	Line items in profit or loss	Reclassified to profit or loss (net of tax)	comprehensive income (net of tax)	Accumulated other comprehensive loss
Foreign exchange risk hedge for sales	Sales	7,169	9,191	1,943

Trading purposes

The Group entered into the currency forward, the cross-currency swap and the interest rate swap contracts to manage the risk against possible future changes in foreign exchange rates and interest rates. Details of currency forward contracts of subsidiaries, the cross-currency swap contracts and the interest rate swap contracts as at December 31, 2020, and related profit or loss for the year ended December 31, 2020, are as follows:

(in millions of Korean won)	Purchase	Sale	Gain (loss) on valuation	Gain on transaction
Currency forward	778,327	797,126	(10,209)	19,790
Cross-currency swap	-	-	1,750	-
Interest rate swap	-	-	305	44

iv) Price risk

The Group is exposed to price risk through equity securities owned by the Group classified as financial assets at fair value through other comprehensive income.

The listed securities owned by the Group are traded in the open market, and related to KOSDAQ Index, NASDAQ Index and Austrian Traded Index.

The effect of price index's fluctuation related to the listed securities on the equity (before applying the tax effect) is set out in the below table. The analysis is performed in respect of 30% increase/decrease in the price index under the assumption that other variations are consistent and the listed securities owned by the Group have correlation with the relevant past index.

	Decembe	r 31, 2020	December 31, 2019		
(in millions of Korean won)	30% increase	30% decrease	30% increase	30% decrease	
KOSDAQ	12,742	(12,742)	2,654	(2,654)	
NASDAQ	9,236	(9,236)	-	-	
Austrian Traded Index	129	(129)	2,867	(2,867)	

The valuation and changes in book amounts of the financial assets at fair value through other comprehensive income related to the market risk above are presented in Note 8.

(b) Credit risk

The Group operates a consistent Global Credit / TR (trade receivables) policy to manage credit risk exposures.

In regard to receivables, the Group operates an integrated receivable insurance program with the world top three receivable insurers (Euler Hermes, Atradius and Coface) and Korea Trade Insurance Corporation (K-SURE). In an effort to minimize receivable credit risk, the Group applies the credit rating of the counterparty when determining the insurance coverage. In addition, the Group performs stringent credit risk management based on credit valuation criteria for receivables without insurance coverage or collateral.

Details of credit quality for trade receivables that are neither past due nor impaired are as follows:

(in millions of Korean won)	December 31, 2020	December 31, 2019
Trade receivables with insurance or collateral		
Excellent	1,826,166	1,736,057
Good	897,052	683,289
Fair	1,882,725	1,541,774
Poor ¹	668,407	395,299
Subtotal	5,274,350	4,356,419
Trade receivables without insurance or collateral		
Tier 1	609,203	697,240
Tier 2	299,011	365,324
Tier 3	378,637	178,453
Subtotal	1,286,851	1,241,017
Total	6,561,201	5,597,436

¹ Debtors with insurance or collateral, but without credit rating are included herein.

Criteria of categorizing trade receivables with insurance or collateral are as follows:

Category	Atradius	Euler	Coface	K-SURE
Excellent	1~28	1~3	8~10	A~B
Good	29~40	4~5	7	С
Fair	41~72	6~7	3~6	D~E
Poor	73~	8~10	0~2	F~R

Debtors for which credit ratings are not provided by insurance company are categorized using the criteria from domestic credit rating agency.

Criteria of categorizing trade receivables without insurance or collateral are as follows:

- Tier 1 National or local government, domestic and global credit rating agency AA- ~ AAA+, including related parties such as associates
- Tier 2 Debtors with domestic and global credit rating other than Tier 1

Tier 3 - Small debtors without credit history

The credit rating of cash equivalents and deposits held by financial institutions estimated by the Group using external credit rating criteria as at December 31, 2020 and 2019, is as follows:

Category	December 31, 2020	December 31, 2019
Excellent	5,145,157	4,220,305
Good	609,855	495,099
Others	281,856	166,972
Total	6,036,868	4,882,376

Excellent: Equal to or more than A-(Global credit rating agency such as S&P), AAA(Domestic credit rating agency such as Korea investors service)

Good: Equal to or more than BBB-(Global credit rating agency such as S&P), AA(Domestic credit rating agency such as Korea investors service)

Others: Financial deposit without credit rating

(c) Liquidity risk

The Group forecasts its cash flow and liquidity status, and sets action plans on a regular basis to manage liquidity risk proactively. The Group systematically works with experts in four regional treasury centers to carry out fund and liquidity management that can react proactively to the changing global financial environment.

The Group maintains adequate amount of cash and committed credit facilities in Kookmin Bank, Shinhan Bank and SC Bank to cope with potential financial distress.

In addition, the Group is able to source funds any time in the domestic and international financial markets because it has good investment credit grades of AA Stable from Korea Investors Service, Korea Ratings and NICE Information Service, BBB from Standard & Poors, and Baa3 from Moody's at the end of the reporting period.

i) Cash flow information on maturity of financial liabilities as at December 31, 2020, are as follows:

(in millions of Korean won)	Total	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years
Trade payables	8,728,159	8,728,159	-	-	-
Borrowings	11,278,036	1,706,470	1,735,651	3,616,032	4,219,883
Lease liabilities	962,838	297,901	193,706	293,103	178,128
Other payables	3,619,148	3,555,997	664	41,725	20,762
Other financial liabilities	27,020	21,758	2,071	3,191	-
Total	24,615,201	14,310,285	1,932,092	3,954,051	4,418,773

The above cash flows are calculated at nominal value based on the earliest maturity dates and include cash flows of principal and interests. The Group's trading portfolio derivative within other financial liabilities that are not qualified for hedge accounting have been included at their fair value of \forall 19,669 million within the less than 1-year time bucket. This is because the contractual

maturities are not essential for an understanding of the timing of the cash flows. These contracts are managed on a net-fair value basis rather than by maturity date. Derivatives for cash flow hedges from changes in interest rate and exchange rate are reflected in the cash flows of related borrowings.

ii) The maturity analysis of financial guarantee contracts provided by the Group to third party companies as at December 31, 2020, are as follows:

		Within 1			Over 5
(in millions of Korean won)	Total	year	1 to 2 years	2 to 5 years	years
Financial guarantee contracts	46,000	46,000	-	-	-

The above cash flow is the maximum amount of guarantees allocated to earliest period in which the Group can be required to make payments.

Capital Risk Management

The Group's capital risk management purpose is to maximize shareholders' value through maintaining a sound capital structure. The Group monitors financial ratios, such as liability to equity ratio and net borrowing ratio each month and implements required action plan to improve the capital structure.

Debt-to-equity ratio and net borrowing ratio as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won, except for ratios)	December 31, 2020	December 31, 2019
Liability (A)	30,662,102	28,434,737
Equity (B)	17,542,125	16,425,138
Cash and cash equivalents (C)	5,896,309	4,777,368
Borrowings and lease liabilities (D)	10,781,815	11,258,762
Debt-to-equity ratio (A/B)	174.8%	173.1%
Net borrowings ratio ((D-C)/B)	27.9%	39.5%

Fair Value Estimation

(a) The book amounts and fair values of the Group's financial assets and liabilities as at December 31, 2020 and 2019, are as follows:

	December 31, 2020				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Assets at fair value					
Financial assets at fair value through profit or loss					
Other financial assets	4,292	4,292	37,459	1	
Financial assets at fair value through other comprehensive income					
Trade receivables	802,917	1	-	-	
Other financial assets					
Listed equity securities	-	-	58,103	58,103	
Unlisted equity securities	-	-	59,317	1	
Assets at amortized cost					
Financial assets at amortized cost					
Cash and cash equivalents	5,896,309	1	-	-	
Deposits held by financial institutions	82,018	1	58,903	58,903	
Trade receivables	6,352,015	1	-	-	
Other receivables	446,426	1	458,171	429,727	
Other financial assets	-	1	1,612	1	
Total	13,583,977		673,565		

	December 31, 2020					
	Curre	ent	Non-current			
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value		
Liabilities at fair value						
Financial liabilities at fair value						
through profit or loss						
Other financial liabilities	19,669	19,669	7,244	7,244		
Derivatives for hedging purposes						
Other financial liabilities	178	178	170,227	170,227		
Liabilities at amortized cost						
Financial liabilities at amortized cost						
Trade payables	8,728,159	1	-	-		
Borrowings	1,450,135	1	8,469,620	8,719,840		
Other payables	3,555,968	1	63,136	63,135		
Other liabilities						
Lease liabilities	276,632	2	585,428	2		
Other financial liabilities	114	3	-	-		
Total	14,030,855		9,295,655			

		31, 2019		
	Curre	ent	Non-current	
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value
Assets at fair value				
Financial assets at fair value through profit or loss				
Other financial assets	2,543	2,543	23,324	1
Financial assets at fair value through other comprehensive income				
Trade receivables	612,320	1	-	-
Other financial assets				
Listed equity securities	-	-	18,638	18,638
Unlisted equity securities	-	-	51,124	1
Derivatives for hedging purposes				
Other financial assets	2,595	2,595	1,805	1,805
Assets at amortized cost				
Financial assets at amortized cost				
Cash and cash equivalents	4,777,368	1	-	-
Deposits held by financial institutions	65,971	1	39,368	39,368
Trade receivables	5,747,968	1	-	-
Other receivables	639,150	1	437,957	422,927
Other financial assets	-	-	1,612	1
Total	11,847,915		573,828	

	December 31, 2019				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Liabilities at fair value					
Financial liabilities at fair value through profit or loss					
Other financial liabilities	7,060	7,060	7,285	7,285	
Derivatives for hedging purposes					
Other financial liabilities	-	-	100,668	100,668	
Liabilities at amortized cost					
Financial liabilities at amortized cost					
Trade payables	6,820,644	1	-	-	
Borrowings	1,643,656	1	8,843,682	9,174,232	
Other payables	3,318,784	1	1,202	1,192	
Other liabilities					
Lease liabilities	274,245	2	497,179	2	
Other financial liabilities	115	3	20	3	
Total	12,064,504		9,450,036		

¹ Excluded from disclosure such as fair value hierarchy and measurement method as the book amount is the reasonable approximate of fair value.

² Lease liabilities were excluded from the fair value disclosures in accordance with Korean IFRS 1107 *Financial Instruments: Disclosures.*

³ Measured at the higher of the amount of the loss allowance determined in accordance with Korean IFRS 1109 *Financial Instruments,* and the amount initially recognized less cumulative amount of income recognized in accordance with Korean IFRS 1115 *Revenue from Contracts with Customers,* and excluded from disclosure as there is no significant difference between the book amount and its fair value.

- (b) Fair value measurements of assets and liabilities
 - i) Fair value hierarchy and measurement method

The fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The fair value measurement is to estimate 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 under current market conditions. When measuring fair value using valuation techniques, the Group maximizes the use of market information and minimizes the use of unobservable inputs.

Financial instruments measured at fair value are categorized within the fair value hierarchy, and the defined levels are as follows:

- Level 1: Financial instruments measured at the quoted prices in an active market for identical assets or liabilities are included in 'level 1'. Assets or liabilities categorized within 'level 1' are financial instruments such as listed equity securities.

- Level 2: When financial instruments are measured by using a discounted cash flow, if all significant inputs required to measure the fair value of an instrument are observable, the instrument is included in 'level 2'. Assets or liabilities categorized within 'level 2' are financial instruments such as derivative financial instruments.

- Level 3: When financial instruments are measured by using a discounted cash flow, if one or more of the significant inputs are unobservable market data, the instrument is included in 'level 3'. There are no assets or liabilities categorized within 'level 3'.

The fair value of financial instruments traded in active markets is based on quoted market prices at the end of the reporting period. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, an entity within the same industry, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price for financial assets held by the Group is the closing price at the end of the reporting period. These instruments are included in 'level 1'. Instruments included in 'level 1' comprise primarily equity investments classified as financial assets at fair value through other comprehensive income.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses various valuation techniques that the Group develops or figures that external valuation agencies provide, and makes judgements based on current market conditions. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to measure the fair value of an instrument are observable, the

instrument is included in 'level 2'.

If one or more of the significant inputs are not based on observable market data, the instrument is included in 'level 3'. Financial instrument included 'level 3' uses other method including discounting cash flow method.

ii) Financial instruments measured at fair value

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value as at December 31, 2020 and 2019, are as follows:

	December 31, 2020			
(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Other financial assets				
Financial assets at fair value through other comprehensive income				
- Listed equity securities	58,103	-	-	58,103
Financial assets at fair value through profit or loss	-	4,292	-	4,292
Liabilities				
Other financial liabilities				
Financial liabilities at fair value through profit or loss	-	26,913	-	26,913
Derivatives for hedging purposes	-	170,405	-	170,405
		December	31, 2019	
(in millions of Korean won)	Level 1	December Level 2	31, 2019 Level 3	Total
(in millions of Korean won) Assets	Level 1			Total
· <u>·····</u> ··	Level 1			Total
Assets	Level 1			Total
Assets Other financial assets Financial assets at fair value through other comprehensive	Level 1 18,638			Total 18,638
Assets Other financial assets Financial assets at fair value through other comprehensive income				
Assets Other financial assets Financial assets at fair value through other comprehensive income - Listed equity securities Financial assets at fair value		Level 2		18,638
Assets Other financial assets Financial assets at fair value through other comprehensive income - Listed equity securities Financial assets at fair value through profit or loss		Level 2 - 2,543		18,638 2,543
Assets Other financial assets Financial assets at fair value through other comprehensive income - Listed equity securities Financial assets at fair value through profit or loss Derivatives for hedging purposes		Level 2 - 2,543		18,638 2,543
Assets Other financial assets Financial assets at fair value through other comprehensive income - Listed equity securities Financial assets at fair value through profit or loss Derivatives for hedging purposes Liabilities		Level 2 - 2,543		18,638 2,543

The above fair value amounts are recurring fair value measurements.

- Valuation technique and inputs for fair value measurements categorized within 'level 2'

Valuation technique and inputs for fair value measurements categorized within 'level 2' as at December 31, 2020 and 2019, are as follows:

	Fair v	value		
(in millions of Korean won)	December 31, 2020	December 31, 2019	Valuation techniques	Inputs
Assets				
Other financial assets				
Financial assets at fair value through profit or loss	4,292	2,543	Discounted cash flow	Discount rate and exchange rate
Derivatives for hedging purposes	-	4,400	Discounted cash flow	Discount rate and exchange rate
Liabilities				
Other financial liabilities				
Financial liabilities at fair value through profit or loss	26,913	14,345	Discounted cash flow	Discount rate and exchange rate
Derivatives for hedging purposes	170,405	100,668	Discounted cash flow	Discount rate and exchange rate

- Fair value measurements categorized within 'level 3'

At the end of the reporting period, no financial instruments measured at fair value are categorized within 'level 3'.

iii) Financial instruments not measured at fair value but for which the fair value is disclosed

Financial instruments not measured at fair value but for which the fair value is disclosed as at December 31, 2020 and 2019, are as follows:

	December 31, 2020				
(in millions of Korean won)	Level 1	Level 2	Level 3	Total	
Assets					
Non-current deposits held by financial institutions	-	-	58,903	58,903	
Non-current other receivables	-	-	429,727	429,727	
Liabilities					
Non-current borrowings	-	-	8,719,840	8,719,840	
Non-current other payables	-	-	63,135	63,135	

	December 31, 2019			
(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Non-current deposits held by financial institutions	-	-	39,368	39,368
Non-current other receivables	-	-	422,927	422,927
Liabilities				
Non-current borrowings	-	-	9,174,232	9,174,232
Non-current other payables	-	-	1,192	1,192

- Valuation technique and inputs for fair value measurements categorized within 'level 2'

At the end of the reporting period, there are no financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within 'level 2'.

- Disclosure in relation to fair value measurements categorized within 'level 3'

Valuation technique, inputs and unobservable inputs of financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within 'level 3' as at December 31, 2020 and 2019, are as follows:

	Decembe	r 31, 2020	December	· 31, 2019			Significant but	Range of significant but
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	Valuation techniques	Inputs	unobservable inputs	unobservable inputs
Assets								
Non-current deposits held by financial institutions	58,903	58,903	39,368	39,368	Discounted cash flow	Discount rate and exchange rate	Discount rate	0.1% ~ 1.0%
Non-current other receivables	458,171	429,727	437,957	422,927	Discounted cash flow	Discount rate and exchange rate	Discount rate	2.7% ~ 2.9%
Liabilities								
Non-current borrowings	8,469,620	8,719,840	8,843,682	9,174,232	Discounted cash flow	Discount rate and exchange rate	Discount rate	1.0% ~ 3.7%
Non-current other payables	63,136	63,135	1,202	1,192	Discounted cash flow	Discount rate and exchange rate	Discount rate	1.1% ~ 1.2%

41. Business Combinations

(a) On December 31, 2020, Zenith Electronics LLC(Zenith), a subsidiary, acquired 56.4% shares of Alphonso Inc. and its subsidiary in order to secure growth engines through differentiating the competitiveness of service and contents of TV business.

The following table summarizes the consideration paid and the fair value of assets acquired and liabilities assumed:

(in millions of Korean won)	Amount
Consideration	
Cash and cash equivalents	75,422
Other payables ¹	67,285
Recognized amounts of identifiable assets acquired and liabilities assumed	
Current assets	
Cash and cash equivalents	35,081
Trade receivables ²	1,683
Other assets	1,507
Non-current assets	
Property, plant and equipment	126
Intangible assets	29,945
Other assets	54
Current liabilities	
Trade and other payables	1,696
Borrowings	4,352
Other liabilities	11,144
Non-current liabilities	
Borrowings	4,242
Net defined benefit liabilities	140
Deferred tax liabilities	8,224
Fair value of total identifiable net assets	38,598
Non-controlling interests ³	8,813
Goodwill ⁴	112,922

¹ Zenith Electronics LLC(Zenith), a subsidiary, agreed to tender offers for non-controlling interests if the initial public offering of Alphonso Inc. would not be complete until certain time. The Group recognized such obligation as financial liabilities at the acquisition date(Note 38).

² The fair value of above trade receivables is the same as the contractual amount in gross.

³ Non-controlling interests of \forall 8,813 million is the fair value of share options issued by Alphonso Inc. measured at the acquisition date (Note 27).

⁴ Goodwill incurred in a business combination amounting to \forall 112,922 million is due to an increase in sales from integration of business with Alphonso Inc. and its subsidiary, which is not allowed to be tax deductible.

The acquisition-related direct costs in relation to business combination amounting to \forall 2,359 million was recognized as expenses as incurred.

There is no net sales and profit of Alphonso Inc. and its subsidiary for the period from December 31, 2020, the acquisition date, included in the consolidated statements of profit or loss. Net sales and profit for the current reporting period as though the acquisition date had been as at the beginning of the annual reporting period are as follows:

(in millions of Korean won)	Before adjustments	Adjustments	After adjustments
Net sales	63,262,046	30,709	63,292,755
Profit(loss) for the year	2,063,790	(2,011)	2,061,779

(b) On October 30, 2019, LG Electronics U.S.A., Inc., a subsidiary, acquired 100% shares of LG Corp. U.S.A. from LG Corp., which holds a building to be used for future office building.

The following table summarizes the consideration paid and the fair value of assets acquired and liabilities assumed:

(in millions of Korean won)	Amount
Consideration	
Cash and cash equivalents	192,786
Recognized amounts of identifiable assets acquired and liabilities assumed	
Current assets	
Cash and cash equivalents	2,739
Other assets	3
Non-current assets	
Property, plant and equipment	329,695
Other assets	474
Current liabilities	
Short-term borrowings	116,840
Other liabilities	23,285
Non-current liabilities	
Deferred tax liabilities	1,853
Fair value of total identifiable net assets	190,933
Goodwill	1,853

The acquisition-related direct costs in relation to business combination amounting to $\forall 36$ million was recognized as expenses as incurred.

(c) On March 5, 2019, LG Electronics Tianjin Appliances Co., Ltd., a subsidiary, acquired 100% shares of QINGGONGLIAN ELECTRICAL INSTALLATION ENGINEERING CO., LTD. in order to secure competitiveness of sales and installation of air conditioners in China.

The following table summarizes the consideration paid and the fair value of assets acquired and liabilities assumed:

(in millions of Korean won)	Amount
Consideration	
Cash and cash equivalents	3,623
Recognized amounts of identifiable assets acquired and liabilities assumed	
Current assets	
Cash and cash equivalents	1,029
Trade receivables ¹	1,080
Other assets	5,165
Non-current assets	
Property, plant and equipment	222
Intangible assets	77
Current liabilities	
Trade and other payables	360
Other liabilities	3,590
Fair value of total identifiable net assets	3,623
Goodwill	

¹ The fair value of above trade receivables is the same as the contractual amount in gross.

The acquisition-related direct costs in relation to business combination amounting to $\forall 29$ million was recognized as expenses as incurred.

42. Assets Classified as Held for Sale

(a) Details of assets classified as held for sale as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	December 31, 2020 ¹	December 31, 2019 ²
Assets held for sale		
Cash and cash equivalents	53,586	-
Land	89,319	8,673
Building	188,929	6,073
Machinery	11,834	-
Other property, plant and equipment	1,192	-
Intangible assets	33,811	-
Other assets	11,144	-
Total	389,815	14,746

¹ LG Innotek Co., Ltd., a subsidiary, decided to sell assets of LED business amounting to ₩369,840 million under the approval of management on October 28, 2020, which are included above and the sale is expected to be completed by 2021.

- ² During the year ended December 31, 2020, procedure to sell land and buildings held by LG Electronics RUS, LLC and LG Electronics U.S.A., Inc., subsidiaries, was completed.
- (b) Assets held for sale were measured at fair value less costs to sell before the reclassification, and the Group recognized impairment loss on property, plant and equipment amounting to ₩43,780 million.

43. Approval of the Consolidated Financial Statements

The consolidated financial statements of the Group was approved by the Board of Directors on January 28, 2021.