LG CNS CO., LTD. and Subsidiaries

Consolidated Financial Statements December 31, 2022 and 2021

LG CNS CO., LTD. and Subsidiaries

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December 31, 2022 and 2021

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Board of Directors and Shareholders of LG CNS CO., LTD.

Opinion

We have audited the accompanying consolidated financial statements of LG CNS CO., LTD. (referred to as the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as at December 31, 2022, and the consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for the year 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, 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standard as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

We conducted our audit 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.

Estimation of total contract costs for construction contracts

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

As described in Notes 18 and 23 to the consolidated financial statements, the Group recognizes revenue over time using the cost-based input method to construction contracts. The Group measures the progress by project at the ratio of the accumulated amount of contract costs divided by the total contract costs. Since total contract cost is estimated on the basis of future forecasting of labor cost, outsourcing cost and others, estimation of the total contract cost affect profit or loss of current and future periods and the calculation of contract assets and contract liabilities. Since the amounts of Group's construction contract sales and costs are material to the consolidated financial statements and there are uncertainties, under the nature of construction contracts, that the estimation of the total contract costs may vary in the future depending on significant judgments of the Group's management, we identified estimation of total contract costs for construction contracts as a key audit matter.

How our audit addressed the Key Audit Matter

We have performed the following audit procedures to address the Key Audit Matter.

- Obtained an understanding of revenue recognition accounting policies and internal controls
- Performed tests on internal controls such as management's review and approval for the estimation and changes in total contract costs
- Examined the accuracy for reflection of the estimated total contract cost in the measurement of percentage of completion
- Performed recalculation of the percentage of completion for the projects
- Performed retrospective review of projects of which total contract costs were significantly changed during the current period
- Performed review of projects of which total contract costs were significantly changed since the end of the reporting period

Other Matters

The consolidated financial statements of the Group for the year ended December 31, 2021, were audited by Deloitte Anjin LLC who expressed an unqualified opinion on those statements on March 16, 2022.

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 entity'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.

Seoul, Korea March 17, 2023

This report is effective as of March 17, 2023, 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 CNS CO., LTD. and Subsidiaries Consolidated Statements of Financial Position December 31, 2022 and 2021

(in thousands of Korean won)	Notes		2022		2021
Assets					
Current assets					
Cash and cash equivalents	5,6,34,27	₩	728,348,712	₩	607,940,799
Financial institution deposits	5,31,34,27		111,365,131		134,007,817
Current derivative assets	5,34,27		11,442,050		2,259,113
Trade receivables, net	5,7,30,34,27		1,392,333,424		1,107,570,578
Other receivables, net	5,7,30,34,27		27,362,497		27,869,465
Current tax assets	29		3,420,712		3,471,238
Inventories, net	8		55,358,562		51,326,511
Other assets	9,18		518,307,940		396,003,476
			2,847,939,028		2,330,448,997
Non-current assets					
Long-term financial institution deposits	5,27,31,34		12,000,000		12,000,000
Financial assets at fair value through profit or loss	5,27,31,34		32,427,995		29,241,509
Financial assets at fair value through other comprehensive income	5,27,34		20,851,533		17,726,487
Long-term trade receivables, net	5,7,27,30,34		13,057,647		14,462,388
Long-term other receivables, net	5,7,27,30,31,34		12,761,460		8,216,729
Property, plant and equipment, net	10,30		564,925,949		568,884,167
Investment property	11		33,232,704		28,328,251
Intangible assets	12,30		104,485,727		119,245,732
Investments in associates	13		91,569,155		76,489,040
Net defined benefit assets	16		575,080		32,761
Deferred tax assets	29		66,631,092		65,411,239
Other non-current assets	9,18		1,184,589		116,338
Right-of-use assets	30,32		63,493,184		54,068,366
			1,017,196,115		994,223,007
Total assets		₩	3,865,135,143	₩	3,324,672,004
Liabilities					
Current liabilities					
Current derivative liabilities	5,27,34	₩	1,810,103	₩	2,564,026
Trade payables	5,27,30,34		740,394,368		654,291,817
Other payables	5,27,30,34		251,914,266		216,712,488
Short-term borrowings	5,14,27,34,37		276,537,304		22,551,464
Current portion of long-term borrowings	5,14,27,34,37		259,918,154		89,982,760
Current tax liabilities	29		61,521,119		65,578,569
Current provisions Other liabilities	15		41,295,017		28,308,240
	17,18		357,534,679		290,705,182
Current lease liabilities	27,32,34,37		<u>14,409,630</u> 2,005,334,640		11,746,074 1,382,440,620
Non-current liabilities					
Long-term other payables	5,27,30,34		2,040,066		1,390,952
Long-term other payables Long-term borrowings	5,27,30,34 5,14,27,34,37		2,040,066 149,681,480		1,390,952 409,262,536
Long-term other payables Long-term borrowings Provisions	5,14,27,34,37 15				
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities	5,14,27,34,37 15 16		149,681,480		409,262,536
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities	5,14,27,34,37 15 16 29		149,681,480 4,011,725 2,298,401 5,546,956		409,262,536 1,694,792 2,035,066 6,590,854
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities	5,14,27,34,37 15 16 29 17		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities	5,14,27,34,37 15 16 29		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities	5,14,27,34,37 15 16 29 17		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities	5,14,27,34,37 15 16 29 17		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity	5,14,27,34,37 15 16 29 17 27,32,34,37		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity Share capital	5,14,27,34,37 15 16 29 17 27,32,34,37		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463 47,198,411		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity Share capital Capital surplus	5,14,27,34,37 15 16 29 17 27,32,34,37		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463 47,198,411 35,040,786		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756 47,198,411 36,693,312
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity Share capital Capital surplus Accumulated other comprehensive loss	5,14,27,34,37 15 16 29 17 27,32,34,37 1,19 20 21		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463 47,198,411 35,040,786 (9,285,537)	=	409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756 47,198,411 36,693,312 (8,891,940)
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity Share capital Capital surplus	5,14,27,34,37 15 16 29 17 27,32,34,37		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463 47,198,411 35,040,786 (9,285,537) 1,553,012,183		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756 47,198,411 36,693,312 (8,891,940) 1,382,397,508
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity Share capital Capital surplus Accumulated other comprehensive loss Retained earnings	5,14,27,34,37 15 16 29 17 27,32,34,37 1,19 20 21	=	149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463 47,198,411 35,040,786 (9,285,537) 1,553,012,183 1,625,965,843		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756 47,198,411 36,693,312 (8,891,940) 1,382,397,508 1,457,397,291
Long-term other payables Long-term borrowings Provisions Net defined benefit liabilities Deferred tax liabilities Other liabilities Lease liabilities Total liabilities Equity Share capital Capital surplus Accumulated other comprehensive loss Retained earnings Equity attributable to owners of the Parent Company	5,14,27,34,37 15 16 29 17 27,32,34,37 1,19 20 21		149,681,480 4,011,725 2,298,401 5,546,956 18,912,602 46,520,593 229,011,823 2,234,346,463 47,198,411 35,040,786 (9,285,537) 1,553,012,183		409,262,536 1,694,792 2,035,066 6,590,854 18,021,210 41,258,726 480,254,136 1,862,694,756 47,198,411 36,693,312 (8,891,940) 1,382,397,508

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

LG CNS CO., LTD. and Subsidiaries Consolidated Statements of Profit or Loss Years ended December 31, 2022 and 2021

(in thousands of Korean won)	Notes		2022		2021
Revenue	4,23,30	₩	4,969,651,212	₩	4,143,140,260
Cost of sales	23,24,30		4,237,640,754		3,526,176,461
Gross profit			732,010,458		616,963,799
Selling and administrative expenses	23,24,30,32		346,615,682		288,378,860
Operating profit			385,394,776		328,584,939
Financial income Financial expenses	25 25		18,189,688 19,485,134		9,760,441 15,015,171
Gain or loss from investment in associates	13		5,456,123		4,045,829
Other non-operating income Other non-operating expenses	26 26		49,446,061 74,137,386		24,739,297 36,024,873
Profit before income tax Income tax expense	29		364,864,128 99,895,973		316,090,462 81,143,966
Profit for the year		₩	264,968,155	₩	234,946,496
Profit (loss) is attributable to: Owners of the Parent Company Non-controlling interests		₩	265,375,671 (407,516)	₩	235,648,324 (701,828)
Earnings per share (in Korean won) Basic earnings per share Diluted earnings per share	28	₩	3,043 3,043	₩	2,702 2,702

The above consolidated statements of profit or loss should be read in conjunction with the accompanying notes.

LG CNS CO., LTD. and Subsidiaries Consolidated Statements of Comprehensive Income Years ended December 31, 2022 and 2021

(in thousands of Korean won)		2022		2021
Profit for the year	₩	264,968,155	₩	234,946,496
Items that will not be reclassified to profit or loss:				
Remeasurements of net defined benefit liability		796,172		59,155
Changes in retained earnings of equity-method investments		(435,033)		1,184,135
Gain (loss) on valuation of financial assets at fair value				
through other comprehensive income		(1,339,191)		4,691,638
Items that may be subsequently reclassified to profit or loss:				
Capital changes in equity-method investments		(108,721)		(267,583)
Exchange differences in translation of foreign operations		1,059,206		5,737,303
Other comprehensive income (loss) for the year, net of tax		(27,567)		11,404,648
Total comprehensive income for the year	₩	264,940,588	₩	246,351,144
Total comprehensive income (loss) attributable to:				
Owners of the Parent Company	₩	265,266,193	₩	247,057,541
Non-controlling interests		(325,605)		(706,397)

The above consolidated statements of comprehensive income should be read in conjunction with the accompanying notes.

(in thousands of Korean won)	Sł	nare Capital	Сар	oital Surplus	-	ccumulated Other mprehensive Loss		Retained Earnings		n-controlling Interests		Total Equity
Balance at January 1, 2021	₩	47,198,411	₩	36,693,312	₩	(19,057,866)	₩	1,220,926,561	₩	1,562,140	₩	1,287,322,558
Total comprehensive income:												
Profit for the year		-		-		-		235,648,324		(701,828)		234,946,496
Gain on valuation of financial assets at fair value through other comprehensive income						4.691.638						4,691,638
Changes in equity-method investments		-		-		(267,584)		1.184.135		-		916.551
Remeasurements of net defined benefit liability		-		-		(207,364)		59.155		-		59.155
Exchange differences in translation								00,100				00,100
of foreign operation		-		-		5,741,872		-		(4,568)		5,737,304
Transactions with owners:												
Cash dividends paid		-		-		-		(74,553,737)				(74,553,737)
Acquisition of subsidiaries		-		-		-		-		2,857,283		2,857,283
Disposal of subsidiaries Balance at December 31, 2021	₩	47.198.411	₩	36.693.312	₩	(8.891.940)	₩	(866,930) 1.382.397.508	₩	866,930 4,579,957	₩	1,461,977,248
Dalance at December 31, 2021	**	47,130,411	**	30,033,312	**	(0,031,340)		1,302,337,300		4,573,557		1,401,377,240
Balance at January 1, 2022 Total comprehensive income:	₩	47,198,411	₩	36,693,312	₩	(8,891,940)	₩	1,382,397,508	₩	4,579,957	₩	1,461,977,248
Profit for the year Loss on valuation of financial assets		-		-		-		265,375,671		(407,516)		264,968,155
at fair value through other comprehensive income		-		-		(1,339,191)		-		-		(1,339,191)
Changes in equity-method investments		-		-		(108,721)		(435,033)		-		(543,754)
Remeasurements of net defined benefit liability		-		-		-		719,152		77,020		796,172
Exchange differences in translation of foreign operation		-		-		1,054,315		-		4,891		1,059,206
Transactions with owners:								(05.045.445)				(DE DAE 445)
Cash dividends paid Acquisition of subsidiaries and others		-		(1,652,526)		-		(95,045,115)		568,485		(95,045,115) (1,084,041)
Balance at December 31, 2022	₩	47,198,411	₩	35,040,786	₩	(9,285,537)	₩	1,553,012,183	₩	4,822,837	₩	1,630,788,680
		,.00,		22,210,700		(1,230,007)		.,,		.,522,007	<u> </u>	.,,. 00,000

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

LG CNS CO., LTD. and Subsidiaries Consolidated Statements of Cash Flows Years Ended December 31, 2022 and 2021

(in thousands of Korean won)	Notes		2022	2021
Cash flows from operating activities				
Cash generated from operations	37	₩	268,139,578	₩ 257,457,101
Interest income received			10,442,897	6,391,926
Dividend income received			716,637	1,718,188
Income taxes received			3,927	2,689,323
Interest paid			(11,406,447)	(12,385,090)
Income taxes paid			(106,283,374)	(74,585,805)
Net cash inflow from operating activities			161,613,218	181,285,643
Cash flows from investing activities				
Decrease in financial institution deposits			23,204,384	5,380,041
Inflow from settlement of derivative instruments			10,251,449	4,967,716
Decrease in other receivables			5,255,173	3,363,654
Disposal of financial assets at fair value through other comprehensive income			-	3,292,623
Decrease in other non-current receivables			330,653	265,117
Disposal of property, plant and equipment			212,804	445,792
Disposal of intangible assets			6,092,000	199,000
Increase in long-term other payables			470,854	-
Increase in government subsidies			-	124,000
Disposal of investments in associates			-	1,872
Disposal of subsidiaries			-	2,600,000
Disposal of financial assets at fair value through profit or loss			-	434,851
Cash inflows from changes in the scope of consolidation			-	654,041
Increase in financial institution deposits			(390,300)	(1,105,933)
Outflow from settlement of derivative instruments			(27,672,173)	(10,331,981)
Increase in other receivables			(5,433,967)	(4,061,255)
Acquisition of investments in associates			(17,562,000)	-
Acquisition of investments in subsidiaries			-	(4,959,000)
Acquisitoin of financial assets at fair value through other comprehensive income			(1,720,916)	(4,862,403)
Acquisition of financial assets at fair value through profit or loss			(4,261,689)	(7,540,002)
Increase in long-term other receivables			(5,322,866)	(4,544,349)
Acquisition of property, plant and equipment			(56,793,698)	(39,204,769)
Acquisition of intangible assets			(23,218,946)	(53,647,937)
Cash outflows from changes in the scope of consolidation			(00.550.000)	(1,339,161)
Net cash outflow from investing activities			(96,559,238)	(109,868,083)
Cash flows from financing activities				
Proceeds from of short-term borrowings			294,396,667	6,373,067
Issuance of debentures			-	34,024
Redemption of short-term borrowings			(40,505,214)	(13,601,724)
Redemption of debentures			(90,000,000)	(90,000,000)
Redemption of lease liabilities			(14,118,626)	(13,732,925)
Others			(47,151)	-
Payment of dividends			(95,045,115)	(74,553,737)
Changes in controlling interests in subsidiaries			(12,595)	
Net cash inflow (outflow) from financing activities			54,667,966	(185,481,295)
Net increase (decrease) in cash and cash equivalents			119,721,944	(114,063,735)
Cash and cash equivalents at the beginning of the year			607,940,799	720,276,711
Effects of exchange rate changes on cash and cash equivalents			685,969	1,727,823
Cash and cash equivalents at the end of the year		₩	728,348,712	₩ 607,940,799
 			-,,2	,,

The above consolidated statements of cash flows should be read in conjunction with the accompanying notes.

1. General Information

1.1 The Parent Company

LG CNS Co., Ltd. (the "Parent Company") was incorporated in 1987 under the laws of the Republic of Korea to engage in the business of system integration, software design and development, providing information processing services and leasing computer hardware. It was organized under a joint venture agreement among LG Engineering Co., Ltd., E.D.S. World Corporation (Far East) and others.

As of December 31, 2022, the issued capital is \forall 47,198,411 thousand, and the Parent Company's shareholders are LG Corp. (49.95%) and others.

1.2 Consolidated Subsidiaries

Details of the consolidated subsidiaries as of December 31, 2022 and 2021, are as follows:

			Percentage of o	-
Subsidiary	Major business activity	Location	2022	2021
BIZTECH I CO., LTD. ²	Development, design, sale of computerized software and provision of related services	South Korea	96.09%	96.09%
Hangbokmaru Co., Ltd.	Building general cleaning business, non-alcoholic beverage store business, coffee shop operation business, etc.	South Korea	100.00%	100.00%
Open Source Consulting ¹	System software development and supply	South Korea	73.06%	56.21%
Rightbrain Co., Ltd.	System software development and supply	South Korea	61.91%	61.91%
Biztech On Co.,Ltd. ²	Human resources(HR), salary/welfare service, management operation and support consulting, etc.	South Korea	96.09%	-
LG CNS Philippines, Inc.	Management and consultation of IT systems	Philippine	100.00%	100.00%
LG CNS China Inc.	Management and consultation of IT systems	China	100.00%	100.00%
LG CNS Europe B.V.	Management and consultation of IT systems	Netherlands	100.00%	100.00%
LG CNS America, Inc.	Management and consultation of IT systems	USA	100.00%	100.00%
LG CNS India Pvt, Ltd.	Management and consultation of IT systems	India	100.00%	100.00%
PT. LG CNS Indonesia	Management and consultation of IT systems	Indonesia	100.00%	100.00%
LG CNS Brasil Servicos de T.I. Ltda.	Management and consultation of IT systems	Brazil	100.00%	100.00%
LG CNS COLOMBIA SAS	Management and consultation of IT systems	Colombia	100.00%	100.00%
LG CNS MALAYSIA SDN BHD	Management and consultation of IT systems	Malaysia	100.00%	100.00%
LG CNS Saudi Arabia LLC3	Management and consultation of IT systems	Saudi Arabia	-	51.00%
LG CNS JAPAN Co., Ltd.	Management and consultation of IT systems	Japan	100.00%	100.00%
LG CNS UZBEKISTAN, LLC	Management and consultation of IT systems	Uzbekistan	51.00%	51.00%
LG CNS VIETNAM CO., LTD	Management and consultation of IT systems	Vietnam	100.00%	100.00%
LG CNS FUND I LLC	Investment fund	America	100.00%	100.00%

¹ Percentage of ownership has been changed due to new issuance of share capital during the year ended December 31, 2022.

² Biztech Partners Co., Ltd. was spun off into BIZTECH I CO., LTD. (surviving company) and Biztech On Co.,Ltd. (newly established company) during the year ended December 31, 2022.

³ It was liquidated during the year ended December 31, 2022.

Summarized financial information for consolidated subsidiaries as of December 31, 2022 and 2021 and for years ended December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)	Decembe	er 31, 2022	Decembe	er 31, 2021	2022		20	21
	Total	Total	Total	Total		Profit (Loss)		Profit (Loss)
	assets	liabilities	assets	liabilities	Revenue	for the year	Revenue	for the year
BIZTECH I CO., LTD.	₩ 50,406,784	₩ 27,021,851	₩ 50,420,656	₩ 26,371,128	₩189,663,130	₩ 4,551,158	₩149,289,763	₩ 3,833,443
Hangbokmaru Co., Ltd.	2,213,558	701,044	1,951,214	578,557	3,110,616	139,857	2,689,562	42,967
Open Source Consulting	14,640,079	6,571,713	12,491,613	10,363,372	21,685,517	(1,166,835)	14,380,090	(1,803,876)
Rightbrain Co., Ltd.	7,370,598	3,216,503	7,915,893	2,722,128	8,467,123	(637,168)	470,542	(92,239)
Biztech On Co.,Ltd.	11,388,409	5,653,473	-	-	11,671,856	519,183	-	-
LG CNS Philippines, Inc.	-	3,378,919	-	3,457,810	-	-	-	-
LG CNS China Inc.	126,463,692	88,229,069	115,966,227	77,713,381	204,044,160	16,354,382	172,660,020	15,777,058
LG CNS Europe B.V.	59,988,446	40,563,515	48,420,748	35,853,341	116,822,172	7,484,072	61,025,103	4,145,244
LG CNS America, Inc.	93,420,202	70,774,265	62,334,603	43,882,495	185,045,330	13,950,349	118,957,342	11,374,291
LG CNS India Pvt, Ltd.	6,670,436	6,519,480	8,195,903	8,567,477	14,167,993	524,201	9,364,501	(2,066,063)
PT. LG CNS Indonesia	11,078,761	13,477,886	4,747,678	7,203,408	18,815,359	(51,434)	8,276,970	321,951
LG CNS Brasil Servicos de T.I. Ltda.	1,947,511	612,142	1,538,191	416,255	4,222,577	199,641	3,084,136	197,344
LG CNS COLOMBIA SAS	18,108,708	8,375,918	25,632,576	19,179,260	22,645,543	4,614,191	25,144,829	3,522,247
LG CNS MALAYSIA SDN BHD	4,622,884	5,498,558	4,059,255	5,695,344	7,183,318	794,127	5,553,546	496,845
LG CNS Saudi Arabia LLC	-	-	795	-	-	(827)	-	-
LG CNS JAPAN Co., Ltd.	4,233,787	1,434,364	7,268,970	3,682,451	7,857,241	(535,990)	13,390,811	97,052
LG CNS UZBEKISTAN, LLC	400,349	707,268	531,498	686,560	206,658	(161,766)	913,059	(54,812)
LG CNS VIETNAM CO., LTD	15,683,292	10,314,065	25,587,940	22,163,310	43,298,573	2,991,403	50,637,915	2,891,323
LG CNS FUND I LLC	29,290,404	6,108	27,654,274	21,714	-	(885,632)	-	(57,342)

2. Significant Accounting Policies

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

2.1 Basis of Preparation

The Parent Company and its subsidiaries (collectively referred to as 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 financial statements have been prepared on a historical cost basis, except for the following:

- Certain financial assets and liabilities (including derivative instruments), certain classes of property, plant and equipment and investment property – measured at fair value
- · assets held for sale measured at fair value less costs to sell, and
- defined benefit pension plans plan assets measured at fair value

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement 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.

2.1.1 New and amended standards and interpretations adopted by the Group

The Group has applied the following standards and interpretations for the first time for their annual reporting period commencing January 1, 2022.

(a) Amendments to Korean IFRS 1103 Business Combination – Reference to the Conceptual Framework

The amendments update a reference of definition of assets and liabilities to be recognized in a business combination in 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 amendment did not have a significant impact on the consolidated financial statements.

(b) Amendments to Korean IFRS 1016 Property, Plant and Equipment - Proceeds before intended use

The amendments prohibit an entity from deducting from the cost of an item 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 will recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendment did not have a significant impact on the consolidated financial statements.

(c) 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 amendment did not have a significant impact on the consolidated financial statements.

(d) 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, and earlier application is permitted. The amendments did not 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 1041 Agriculture Measuring fair value

2.1.2 New and amended standards and interpretations not yet adopted by the Group

The following new and amended accounting standards and interpretations that have been published that are not mandatory for December 31, 2022 reporting periods and have not been early adopted by the Group.

(a) 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 an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group is in review for the impact of these amendments on the consolidated financial statements.

(b) Korean IFRS 1001 Presentation of Financial Statements - Disclosure of Accounting Policies

The amendments to Korean IFRS 1001 define and require entities to disclose their material accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group is in review for the impact of these amendments on the consolidated financial statements.

(c) Korean IFRS 1008 Accounting policies, changes in accounting estimates and errors - Definition of Accounting Estimates

The amendments define accounting estimates and clarify how to distinguish them from changes in accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

(d) Korean IFRS 1012 Income Taxes - Deferred Tax related to Assets and Liabilities arising from a Single Transaction

The amendments include an additional condition to the exemption to initial recognition of an asset or liability that a transaction does not give rise to equal taxable and deductible temporary differences at the time of the transaction. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

(e) New Standard: Korean IFRS 1117 Insurance Contract

Korean IFRS 1117 *Insurance Contracts* replaces Korean IFRS 1104 *Insurance Contracts*. This Standard estimates future cash flows of an insurance contract and measures insurance liabilities using discount rates applied with assumptions and risks at the measurement date. The entity recognizes insurance revenue on an accrual basis including services (insurance coverage) provided to the policyholder by each annual period. In addition, investment components (Refunds due to termination/maturity) repaid to a policyholder even if an insured event does not occur, are excluded from insurance revenue, and insurance financial income or expense and the investment income or expense are presented separately to enable users of the information to understand the sources of income or expenses. This Standard should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted for entities that applied Korean IFRS 1109 *Financial Instruments*. The Group does not expect that this new standard has a significant impact on the consolidated financial statements.

(f) Korean IFRS 1001 Presentation of Financial Statements - Disclosure of gain or loss on valuation of financial liabilities subject to adjustment of exercise price

If the entire or a part of financial instrument, whose exercise price is subject to change due to the issuer's share price, is classified as a financial liability, the carrying amount of the financial liability and related gains and losses shall be disclosed. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

2.2 Basis of consolidation

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

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

- the size of the Group's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- · potential voting rights held by the Group, other vote holders or other parties;
- · rights arising from other contractual arrangements; and

any additional facts and circumstances that indicate that the Group has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

The consolidation of subsidiaries begins when the parent acquires control of the subsidiary and ceases when the parent loses control of the subsidiary. Especially, income and expenses of subsidiaries acquired or disposed of during the year are included in the consolidated statements of comprehensive income from the date the Group gains control until the date when the Group ceases to control the subsidiary. Profit or loss and each component of other comprehensive income are attributed to the owners of the Group and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies in line with the Group's accounting policies.

All intragroup transactions and related assets, liabilities, income and expenses are eliminated in full on consolidation.

The non-controlling interest of the subsidiary is identified separately from the capital of the entity. If the element of the non-controlling interest in the acquiree at the acquisition date is the current interest and the holder grants rights to the proportionate share of the Group's net assets at the time of liquidation, the non-controlling interest is classified as one of the amount of the identifiable net assets of the acquiree in one of the proportional shares of the present equity instruments. The choice of these metrics is made for each acquisition transaction. All other non-controlling interests are measured at their fair value at the acquisition date. After the acquisition, the carrying amount of the non-controlling interest is the amount initially recognized, reflecting the proportionate share of non-controlling interest in the capital change after acquisition. Even if non-controlling interest becomes negative balance, total comprehensive income is attributed to non-controlling interest.

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

When the Parent Company loses control of a subsidiary, a gain or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in other comprehensive income and accumulated in equity, the amounts previously recognized in other comprehensive income and accumulated in equity are accounted for as if the Parent Company had directly disposed of the relevant assets (i.e., reclassified to profit or loss or transferred directly to retained earnings). The fair value of any investment retained in

the former subsidiary at the date when control is lost is recognized as the fair value on initial recognition for subsequent accounting under Korean IFRS 1109 *Financial Instruments*, or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

2.3 Business Combination

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

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

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

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

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

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement-period adjustments depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity. Contingent consideration that is classified as an asset or a liability is remeasured at subsequent reporting dates in accordance with Korean IFRS 1039 Financial Instruments: Recognition and Measurement or Korean IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets, as appropriate, with the corresponding gain or loss being recognized in profit or loss.

When a business combination is achieved in stages, the Group's previously held interests in the acquired entity are remeasured at its acquisition-date (of which the Group obtains control) fair value and the resulting gain or loss, if any, is recognized in profit or loss or other comprehensive income. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognized in other comprehensive income are reclassified to profit or loss under the same standards as would be appropriate if that interest was disposed of.

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

2.4 Foreign Currency Translation

The individual financial statements of each of the consolidated entities are presented in the currency of the primary economic environment in which the entity operates (the functional currency). In order to prepare the consolidated financial statements, each entity's performance and financial position are expressed in 'Korean won,' which is the functional currency of the Group and the presentation currency of the consolidated financial statements.

In preparation of the Group's consolidated financial statements, any transaction that occurred in currency other than its functional currency will be recorded in translated amount using the exchange rate of the transaction. At the end of the reporting period, all monetary assets and liabilities will be translated using the exchange rate at the end of the reporting date. Meanwhile, non-monetary assets and liabilities measured at fair value will be retranslated using the exchange rate on the day of fair value evaluation, whereas non-monetary assets and liabilities measured at historical cost will not be translated.

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

 Exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings;

- Exchange differences on transactions entered into in order to hedge certain foreign currency risks; and
- Foreign exchange differences arising from monetary items that form part of the net investment in a foreign establishment as a bond or obligation that has no plans to settle in the foreseeable future for a foreign operation and is unlikely to be settled. Such exchange differences are recognized in other comprehensive income and reclassified from equity to profit or loss at the time of disposal or partial disposal of the net investment.

In order to prepare the consolidated financial statements, the assets and liabilities of foreign entities included in the Group are presented using the exchange rates at the end of the reporting period. Unless the foreign currency exchange rate fluctuates significantly during the year and the exchange rate at the transaction date is not required to be used, the items of profit or loss are translated at the average exchange rate for the period. Foreign exchange differences arising therefrom are recognized in other comprehensive income.

In case of disposing of overseas business sites (i.e., the disposal of all of the equity of the Group's overseas business sites; the disposal of loss of control over the subsidiary, including the overseas business sites; and the partial disposal of the interests of the joint venture), the Group reclassifies all foreign currency exchange differences related to the foreign operations attributable to the parent's profit or loss. The cumulative exchange differences related to the foreign operations attributable to non-controlling interests are eliminated, but not reclassified to profit or loss.

For certain disposals that do not result in a loss of control of a subsidiary, including its foreign operations, the proportionate share of the accumulated foreign exchange differences is reassigned to non-controlling interests and is not reclassified to profit or loss. For all other disposals (i.e., a decrease in ownership interest in an associate or joint venture of a group that does not result in significant influence or loss of joint control), the proportionate share of the accumulated foreign exchange differences is recognized in profit or loss that is reclassified.

Goodwill and fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate at the end of the reporting period. Foreign exchange differences arising therefrom are recognized in other comprehensive income.

2.5 Cash and cash equivalents

Cash and cash equivalents include petty cash, bank deposits and other highly liquid short-term investments with maturity of less than three months at the time of acquisition. The overdraft is included in the short-term borrowings account in the consolidated statements of financial position.

2.6 Financial assets and financial liabilities

Financial assets and financial liabilities are recognized in the Group's consolidated statements of financial position when the Group becomes a party to the contractual provisions of the instrument.

Financial assets and financial liabilities are initially measured at fair value, except for trade receivables that do not have a significant financing component, which are measured at transaction price. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

2.7 Financial assets

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

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

(a) Classification of financial assets

Debt instruments that meet the following conditions are measured subsequently at amortized cost:

- The financial asset is held within a business model, whose objective is to hold financial assets in order to collect contractual cash flows.
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Debt instruments that meet the following conditions are measured subsequently at fair value through other comprehensive income:

- The financial asset is held within a business model, whose objective is achieved by both collecting contractual cash flows and selling the financial assets.
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

By default, all other financial assets are measured subsequently at fair value through profit or loss.

Despite the foregoing, the Group may make the following irrevocable election/designation at initial recognition of a financial asset:

- The Group may irrevocably elect to present subsequent changes in fair value of an equity investment in other comprehensive income if certain criteria are met (see (a–3) below).
- The Group may irrevocably designate a debt investment that meets the amortized cost or fair value through other comprehensive income criteria as measured at fair value through profit or loss if doing so eliminates or significantly reduces an accounting mismatch (see (a-4) below).

(a-1) Amortized cost and effective interest method

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

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

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

For purchased or originated credit-impaired financial assets, the Group recognizes interest income by applying the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The calculation does not revert to the gross basis even if the credit

risk of the financial asset subsequently improves so that the financial asset is no longer credit impaired.

Interest income is recognized in profit or loss and is included in the 'financial income - interest income' line item.

(a-2) Debt instruments classified as at fair value through other comprehensive income

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

(a-3) Equity instruments designated as at fair value through other comprehensive income

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

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

Dividends on these investments in equity instruments are recognized in profit or loss in accordance with Korean IFRS 1109, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends are included in the 'financial income' line item in profit or loss.

The Group designated all investments in equity instruments that are not held for trading as at fair value through other comprehensive income on initial recognition.

A financial asset is held for trading if:

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

(a-4) Financial assets at fair value through profit or loss

Financial assets that do not meet the criteria for being measured at amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. Specifically:

- Investments in equity instruments are classified as at fair value through profit or loss, unless the Group designates an equity investment that is neither held for trading nor a contingent consideration arising from a business combination as at fair value through other comprehensive income on initial recognition (see (a-3) above).
- Debt instruments that do not meet the amortized cost criteria or the fair value through other comprehensive income criteria (see (a-1) and (a-2) above) are classified as at fair value through profit or loss. In addition, debt instruments that meet either the amortized cost criteria or the fair value through other comprehensive income criteria may be designated as at fair value through profit or loss upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency (so called 'accounting mismatch') that would arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

Financial assets at fair value through profit or loss are measured at fair value at the end of each reporting period, with any fair value gains or losses recognized in profit or loss to the extent they are not part of a designated hedging relationship (see hedge accounting policy). The net gain or loss recognized in profit or loss includes any dividend in the 'financial income' line item. Fair value is determined in the manner described in Note 35.

(b) Foreign exchange gains and losses

The carrying amount of financial assets that are denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of each reporting period. Specifically;

- For financial assets measured at amortized cost that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the 'other gains and losses' line item:
- For debt instruments measured at fair value through other comprehensive income that are not part of a designated hedging relationship, exchange differences on the amortized cost of the debt instrument are recognized in profit or loss in the 'other gains and losses' line item. As the foreign currency element recognized in profit or loss is the same as if it was measured at amortized cost, the residual foreign currency element based on the translation of the carrying amount (at fair value) is recognized in other comprehensive income in the investments revaluation reserve;
- For financial assets measured at fair value through profit or loss that are not part of a
 designated hedging relationship, exchange differences are recognized in profit or loss in
 the 'other gains and losses' line item as part of the fair value gain or loss (see Note 26);
 and
- For equity instruments measured at fair value through other comprehensive income, exchange differences are recognized in other comprehensive income in the investments revaluation reserve.

(c) Impairment of financial assets

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

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

For all other financial instruments, the Group recognizes lifetime expected credit loss when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on the financial instrument has not increased significantly since initial recognition, the Group

measures the loss allowance for that financial instrument at an amount equal to 12-month expected credit loss.

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

(c-1) Significant increase in credit risk

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

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

An actual or expected significant deterioration in the financial instrument's external (if available) or internal credit rating.

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

Irrespective of the outcome of the above assessment, the Group presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments

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are more than 30 days past due, unless the Group has reasonable and supportable information that demonstrates otherwise.

Despite the aforementioned, the Group assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the end of the reporting period. A financial instrument is determined to have low credit risk if:

- (1) The financial instrument has a low risk of default.
- (2) The debtor has a strong capacity to meet its contractual cash flow obligations in the near term.
- (3) Adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil its contractual cash flow obligations.

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

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

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

(c-2) Definition of default

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

- · Significant financial difficulties of issuers or obligors of financial assets
- · A default or delay in interest payment or principal repayment
- Inevitable conditions of initial borrowing due to economic or legal reasons related to the borrower's financial difficulties
- Possibility of bankruptcy of borrower or other financial restructuring
- · Financial difficulties in the active market for financial assets

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Irrespective of the analysis above, the Group considers that default has occurred when a financial asset is more than 180 days past due, unless the Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

(c-3) Credit-impaired financial assets

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

- 1 Significant financial difficulty of the issuer or the borrower;
- ② A breach of contract, such as a default or past-due event (see (c-2) above);
- ③ The lender(s) of the borrower, for economic or contractual reasons relating to the borrower's financial difficulty, having granted to the borrower a concession(s) that the lender(s) would not otherwise consider;
- ④ It is becoming probable that the borrower will enter bankruptcy or other financial reorganization; or
- ⑤ The disappearance of an active market for that financial asset because of financial difficulties.

(c-4) Write-off policy

The Group writes off a financial asset when there is information indicating that the debtor is in severe financial difficulty, and there is no realistic prospect of recovery, e.g., when the debtor has been placed under liquidation or has entered into bankruptcy proceedings.

(c-5) Measurement and recognition of expected credit losses

The measurement of expected credit losses is a function of the probability of default, loss-given default (i.e., the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss-given default is based on historical data adjusted by forward-looking information as described above.

As for the exposure at default, for financial assets, this is represented by the assets' gross carrying amount at the end of the reporting period; for financial guarantee contracts, the exposure includes the amount drawn down at the end of the reporting period, together with any additional amounts expected to be drawn down in the future by default date determined based on historical trend, the Group's understanding of the specific future financing needs of the debtors and other relevant forward-looking information.

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

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

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

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

(d) Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and, substantially, all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

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

2.8 Inventories

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

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

2.9 Investments in associates and joint ventures

An associate is an entity that has significant influence and is not a subsidiary or joint venture. Significant influence is the ability to participate in the financial and operating policies of the investee and not to have control or joint control over those policies.

A joint venture is a joint arrangement in which the parties holding joint control of the agreement have the right to net assets of the arrangement and the joint control is a contractual agreement on the control of the arrangement. It exists only when the consent of the entire sharing parties is required.

Unless an investment in an associate or a joint venture is classified as a held for sale under Korean IFRS 1105 Non-current Assets Held for Sale and Discontinued Operations, the net profit or loss is included in the consolidated financial statements by applying the equity method of accounting. In applying the equity method, investments in associates and joint ventures are carried at the acquisition cost, less any impairment loss on the investments in associates and joint ventures, adjusted for changes in equity in the net assets of associates and joint ventures are presented in the consolidated financial statements. Losses of associates and joint ventures that exceed the interests of the Group in relation to the associates and joint ventures (including long-term investments that actually form part of the net investments of the Group and the joint ventures) are recognized only when the entity has a legal or constructive obligation or is required to make payments on behalf of the joint venture.

Investments in associates and joint ventures are accounted for using the equity method from the date the investee becomes an associate or joint venture. Fair value of identifiable assets, liabilities and contingent liabilities of associates and joint ventures at the acquisition date, net of acquisition costs greater than the Group's interest is recognized as goodwill, and goodwill is included in the carrying amount of the investment. If the Group's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities exceeds the cost of acquisition, even after reassessment, it is recognized in profit or loss.

The Group determines whether an impairment loss is recognized in respect of investments in associates and joint ventures in accordance with Korean IFRS 1028, Investments in associates

and joint ventures. If there is an indication of impairment, the total carrying amount of the associate and joint venture (including goodwill) is compared to the recoverable amount (the greater of net fair value and value in use) in accordance with Korean IFRS 1028. The recognized impairment loss is not allocated to any assets (including goodwill) that are part of the carrying amount of the associate and the joint venture. The reversal of the impairment loss is recognized in accordance with Korean IFRS 1036 as the recoverable amount of the investment asset subsequently increases.

The Group ceases to use the equity method when it ceases to meet the definition of an associate or joint venture. If the entity has retained some of the investment assets of existing associates and joint ventures even after it has lost significant influence over the associates and joint ventures, the fair value of the investment assets at the point when the significant influence is lost is considered to be the fair value at the initial recognition of the financial asset in accordance with Korean IFRS 1109. The difference between the carrying amount and fair value of the investment assets held is recognized in profit or loss, including gains (losses) on disposal of associates (or jointly controlled entities). In addition, the investor accounts for all amounts recognized in other comprehensive income in relation to the associates and joint venture on the same basis as the accounting treatment of associates and joint ventures when the related assets or liabilities are disposed of directly. Therefore, if the gain or loss previously recognized in other comprehensive income is reclassified to profit or loss as a result of the disposal of the related asset or liability, the Group derecognizes gains or losses from equity when the entity has lost significant influence over the associate and the joint venture and reclassifies them to profit or loss (reclassification adjustment).

If the equity method is applied consistently while the ownership interest in the associate or joint venture is reduced, but the gain or loss previously recognized in other profit or loss is reclassified to profit or loss as a result of disposal of the related asset or liability, the proportionate portion of the decrease in ownership interest is reclassified to profit or loss. In addition, Korean IFRS 1105 is applied when a portion of investments in associates or joint ventures is classified as held for sale.

When an investment in an associate is a joint venture or, conversely, a joint venture is an investment in an associate, the Group continues to apply the equity method and does not remeasure any residual equity.

When the Group transacts with an associate or a joint venture, the gain or loss on the transaction between the associate and the joint venture is included in the consolidated financial statements of the Group.

The Group applies Korean IFRS 1109 *Financial Instruments*, including the impairment requirements, to its long-term investment interests in associates and joint ventures that form part of its net investment without applying the equity method. In addition, when applying Korean IFRS 1109 to long-term investments, the Group does not consider adjustments to the carrying amount required by Korean IFRS 1028. Examples of such adjustments include an impairment assessment or an adjustment to the carrying amount of the long-term investment interest resulting

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from the allocation of losses to the investee in accordance with Korean IFRS 1028.

2.10 Goodwill

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

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

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

On disposal of the relevant CGU, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

The Group's accounting policies for goodwill arising from the acquisition of an associate are described in Note 2.9.

2.11 Property, plant and equipment

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

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

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

Useful lives

Buildings 25 - 40 years Structures 40

Machinery	4
Vehicles	4 - 5
Tools and equipment	4
Furniture and fixtures	3 – 25
Others	3 – 20

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

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

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

2.12 Investment property

Investment properties are properties held to earn rentals and/or for capital appreciation. Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are reported at cost, less accumulated depreciation and accumulated impairment losses.

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

While land is not depreciated, all other investment property is depreciated based on the respective assets estimated useful lives ranging from 25 to 40 years using the straight-line method.

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

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

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2.13 Intangible assets

(a) Intangible assets acquired separately

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

(b) Internally generated intangible assets - research and development expenditure

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

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

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

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

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

(c) Intangible assets acquired in a business combination

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

are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

(d) Derecognition of intangible assets

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

(e) Patent rights and trademarks

Patents and trademarks are initially measured at acquisition cost and amortized using the straight-line method over the estimated useful life.

2.14 Impairment of property, plant and equipment and intangible assets other than goodwill

At each reporting date, the Group reviews the carrying amounts of its property, plant and equipment and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the CGU to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual CGUs, or otherwise, they are allocated to the smallest group of CGUs for which a reasonable and consistent allocation basis can be identified.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired.

Recoverable amount is the higher of fair value, less costs to sell or value in use. If the recoverable amount of an asset (or a CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or the CGU) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss.

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

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2.15 Financial liabilities and equity instruments

(a) Classification as debt or equity

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

In addition, the Group does not reassess the classification of financial liabilities or equity instruments after the initial recognition of a financial instrument if the terms of the contract of the issued financial instrument are not subsequently modified.

(b) Equity instruments

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

Repurchase of the Group's own equity instruments is recognized and deducted directly in equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Group's own equity instruments.

(c) Financial liabilities

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

(d) Financial liabilities at fair value through profit or loss

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

A financial liability is classified as held for trading if:

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

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

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

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

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

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

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

(e) Financial liabilities measured subsequently at amortized cost

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

The effective interest method is a method of calculating the amortized cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or

received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortized cost of a financial liability.

(f) Financial guarantee contracts

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

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

- The amount of the loss allowance determined in accordance with Korean IFRS 1109.
- The amount recognized initially less, where appropriate, cumulative amortization recognized in accordance with Korean IFRS 1115.

(g) Foreign exchange gains and losses

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

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

(h) Derecognition of financial liabilities

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

2.16 Leases

(a) Lessee

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

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date. The lease payments is discounted using the interest rate implicit in the lease if that rate can be readily determined, but if that rate cannot be readily determined, the Group uses lessee's incremental borrowing rate.

The incremental borrowing rate depends on the term, currency and start date of the lease and is determined based on a series of inputs, including the risk-free rate based on government bond rates, a country-specific risk adjustment, a credit risk adjustment based on bond yields and an entity-specific adjustment when the risk profile of the entity that enters into the lease is different from that of the Group and the lease does not benefit from a guarantee from the Group.

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

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

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

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

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

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

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

Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognized and measured under Korean IFRS 1037. To the extent that the costs relate to a right-of-use asset, the costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

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

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

The Group applies Korean IFRS 1036 to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss.

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

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

(b) Lessor

The Group enters into lease agreements as a lessor with respect to some of its investment properties. The Group also rents equipment to retailers necessary for the presentation and customer fitting and testing of footwear and equipment manufactured by the Group.

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

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

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

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

Subsequent to initial recognition, the Group regularly reviews the estimated unguaranteed residual value and applies the impairment requirements of Korean IFRS 1109, recognizing an allowance for expected credit losses on the lease receivables.

Finance lease income is calculated with reference to the gross carrying amount of the lease receivables, except for credit-impaired financial assets for which interest income is calculated with reference to their amortized cost (i.e., after a deduction of the loss allowance).

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

2.17 Borrowing costs

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

If borrowings are borrowed at variable interest rates to acquire qualifying assets and the borrowings are subject to qualifying cash flow hedges of interest rate risk, the effective portion of the derivative is recognized in other comprehensive income and reclassified to profit or loss when qualifying assets affect the profit or loss. If borrowings are borrowed at fixed interest rates to acquire qualifying assets and the borrowings are subject to fair value hedges of interest rate risk, capitalized borrowing costs reflect the interest rate to be hedged.

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

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

2.18 Derivative financial instruments

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

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

A derivative with a positive fair value is recognized as a financial asset; a derivative with a negative fair value is recognized as a financial liability. Derivatives are not offset in the consolidated financial statements, unless the Group has both legal right and intention to offset. A derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the instrument is more than 12 months and it is not expected to be realized or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

2.19 Post-employment benefits costs and termination benefits

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

For defined benefit post-employment benefits plans, the cost of providing benefits is determined using the projected unit credit method, with actuarial valuations being carried out at the end of each reporting period. Remeasurement, comprising actuarial gains and losses, the effect of the

changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the consolidated statements of financial position with a charge or credit recognized in other comprehensive income in the period in which it occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss; income is not reclassified. Past service cost is recognized in profit or loss when the plan amendment or curtailment occurs, or when the Group recognizes related restructuring costs or termination benefits, if earlier.

Net interest is calculated by applying a discount rate to the net defined benefit liability or asset. Defined benefit costs are split into three categories:

- service costs, which include current service cost, past service cost and gains and losses on curtailments and settlements:
- · net interest expense or income; and
- remeasurements

Service costs are recognized in the cost of sales and selling & administrative expenses, net interest expense (or net interest income) is recognized within financial expenses, and the remeasurement component in other comprehensive income. Curtailment gains and losses are accounted for as past service costs.

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

A liability for a termination benefit is recognized at the earlier of when the entity can no longer withdraw the offer of the termination benefit and when the entity recognizes any related restructuring costs.

The welfare contribution of an employee or a third party is reducing the cost of work when such contribution to the system is paid. When it is specified that there will be contributions from an employee or a third party to the formal agreement of the scheme, the accounting will depend on whether the contribution is linked to the service as follows:

If the contribution is not linked to work services (for example, contributions to reduce underwriting losses from loss of plan assets or loss of insurance premiums), contributions will affect remeasurement of net defined benefit liabilities (assets).

If the contribution is linked to work services, the contribution reduces the cost of the work. For contributions determined by the number of years of service, we allocate contributions to the total pay for the duration of the service according to the allocation method required by paragraph 70 of Korean IFRS 1109. On the other hand, for service years and independent contributions, the

Group recognizes these contributions as a reduction in the cost of services rendered during the period in which the related services are provided.

2.20 Provisions

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

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material).

When some, or all, of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

(a) Onerous contract

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

(b) Warranties

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

(c) Restoration liabilities

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

(d) Contingent liabilities acquired in a business combination

Contingent liabilities acquired in a business combination are initially measured at fair value at the acquisition date. At the end of subsequent reporting periods, such contingent liabilities are measured at the higher of the amount that would be recognized in accordance with Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, or the amount initially recognized, less cumulative amortization recognized in accordance with Korean IFRS 1115 *Revenue from Contracts with Customers*

2.21 Government grants

Government grants are recognized when criteria for government grants are complied with and receipt is reasonably assured.

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

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

Other government grants are recognized as revenue using a systematic standard to match the cost it is intended to reimburse. Government grants that reimburse losses incurred in the prior period or government grants awarded without further costs incurred are recognized in profit or loss of the period in which the rights to that grant arise.

Government grants to cover the cost of training employees are recognized in profit or loss over the period required to respond to the related costs and are deducted from related costs.

Government grants relating to the acquisition of property, plant and equipment are recognized in profit or loss for their useful lives, net of the carrying amount of the asset.

2.22 Revenue recognition

The Group recognizes revenue from sale of goods, service and construction contracts.

(a) Sale of goods

The Group recognizes revenue from sale of goods when significant risks and rewards from ownership of goods have been transferred and retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods. Therefore, the Group recognizes revenue for the manufactured goods at acceptance and merchandises at delivery. Revenue is recognized by estimating the total amount of returns expected monthly by using the expected return period and the return rate. Based on past experience, in case of a

return condition transaction with a low importance of the amount, the entire amount of the sale is recognized as revenue.

At the point of sale, a refund liability and a corresponding adjustment to revenue are recognized for those products expected to be returned. At the same time, the Group has a right to recover the product when customers exercise their right of return; so, it consequently recognizes a right to returned goods asset and a corresponding adjustment to cost of sales. Previously, these effects were recognized as warranty provisions.

(b) Rendering of service

The Group recognizes revenue from rendering of service using percentage-of-completion method when the outcome of the transaction can be estimated reliably and stage of completion at reporting date, including costs incurred and the cost to complete the transaction, can be measured reliably.

(c) Construction contracts

The projects that are developed to suit the customer's characteristics are recognized as revenue over time because the assets the Group has created do not have an alternative use to themselves, and they have the right to enforceable payment for performance completed. Therefore, revenue from construction contracts is recognized over time on a cost-based input method (i.e., based on the proportion of contract costs incurred for work performed to date relative to the estimated total contract costs). The directors consider that this input method is an appropriate measure of the progress toward complete satisfaction of these performance obligations under Korean IFRS 1115.

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

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

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

The amount added from the recognized profit to the accumulated accrued costs exceeding the amount claimed for progress is classified as contract assets, and the amount claimed for progress exceeding the amount added to the recognized profit to the accumulated accrued costs is indicated as contract liabilities. Amounts received before the related work is performed are

included in the consolidated statements of financial position as a liability, as advances received. Amounts billed for work performed, but not yet paid by the customer, are included in the consolidated statements of financial position under trade and other receivables.

2.23 Income tax

Income tax expense consists of current tax and deferred tax.

(a) Current tax payable

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

A provision is recognized for those matters for which the tax determination is uncertain, but it is considered probable that there will be a future outflow of funds to a tax authority. The provisions are measured at the best estimate of the amount expected to become payable. The assessment is based on the judgement of tax professionals within the Group supported by previous experience in respect of such activities and in certain cases based on specialist independent tax advice.

(b) Deferred tax

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the liability method. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

The Group recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, branches and associates and interests in joint arrangements, except to the extent that the Group is able to control the timing of the reversal of the temporary difference, and it is probable that the temporary difference will not reverse in the foreseeable future. A deferred tax asset for all deductible temporary differences arising from above-mentioned investments is recognized to the extent, and only to the extent, it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

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

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset is realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

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

For the purpose of measuring deferred tax liabilities and deferred tax assets for investment properties that are measured using the fair value model, the carrying amounts of such properties are presumed to be recovered entirely through sale, unless the presumption is rebutted. The presumption is rebutted when the investment property is depreciable and is held within a business model whose objective is to consume substantially all of the economic benefits embodied in the investment properties over time, rather than through sale.

(c) Recognition of current tax payable and deferred tax

Current tax and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current tax and deferred tax are also recognized in other comprehensive income or directly in equity. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

2.24 Treasury shares

In the event of reacquisition of its own equity instruments ("treasury share"), the incremental costs incurred directly related to the equity transaction are accounted for by deducting the net income tax benefit from equity, and other capital items are marked as the total capital reduction item in the consolidated statements of financial position. On the other hand, the gain or loss on the purchase, sale or incineration of own shares is not recognized in profit or loss, but is recognized directly in equity.

2.25 Fair value

Fair value is the price that will be received on sale of assets or paid on transfer of liabilities at the measurement date in normal transactions between market participants, whether the price is directly observable or estimated using valuation techniques. In estimating the fair value of an asset or liability, we consider the characteristics of the asset or liability that market participants consider when pricing the asset or liability at the measurement date. Equity-based payment transactions within the scope of Korean IFRS 1102 *Share-based Payment*, lease transactions within the scope of Korean IFRS 1116 *Leases*, net realizable value of Korean IFRS 1002 *Inventories* and the value of use of Korean IFRS 1036 *Impairment of assets* are determined in accordance with the principles described in measurement or disclosure, except for measurements that are similar in part, but are not fair value.

In addition, based on the observable degree of input used for measuring fair value for financial reporting purposes and the significance of input variables for the entire fair value measurement, the fair value measurement is classified as Levels 1, 2 or 3.

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Unobservable inputs for the asset or liability (Level 3).

2.26 Allocation of greenhouse gas emission rights and accounting for trading systems

The Group classifies the emission rights as intangible assets, and the emission rights allocated free of charge by the government are measured at zero and the sales rights purchased are measured at cost. In addition, the emission liabilities shall be measured at zero if the emission rights granted free of charge by the government are sufficient for fulfilling obligations under emission liabilities incurred in the current period in connection with the corresponding year of implementation, and the emission liabilities shall be measured at the best estimate as of the end of the reporting period for the expenditure expected to be incurred for the discharge of emission liabilities in excess of the amount of free quota.

3. Significant Accounting Estimates and Assumptions

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

Estimation and assumptions are continuously reviewed. Effects of changes in accounting estimates are recognized during the period of changes made only in case that those changes affect a corresponding period. Effects of changes are recognized during both current and future years and, in such case, those changes affect both periods.

3.1 Uncertainty on the estimation of the total construction revenue

Gross contract revenue is measured based on the initially agreed contract amount, but during the process of performing contract, this amount can be increased or reduced according to revision of contract condition. Therefore, the measurement of contract revenue is influenced by various uncertainty related to the result of future incidents. In case there is a high probability that the client approves fluctuation of revenue amount due to revision of contract condition, or the Group has high probability to fulfill achievement criteria and measure the amount reliably, the Group include it into contract revenue.

3.2 Estimation of the total construction cost

Contract profit amount is being influenced by progress rate measured based on accumulated contract cost, and gross contract cost will be estimated based on future estimated figures, such as material cost, labor cost and project period. The Group periodically reviews any changes of estimated total contract cost and reflects such changes when it calculates current progress rate at the end of reporting period.

4. Operating Segments

The Group consists of single business segment – IT Service. For management purposes, the Group determined its operating segments should be identified at the level of each entity of the Group since such information is provided to the CEO for decision-making based on the nature of goods sold or services rendered. The segments are categories for Group's reporting of its business, and accounting policies applied for each segment are same as described in Note 2.

Revenue and profit or loss before income tax for each operating segment of the Group for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of	Reve	enue¹	Profit or loss be	efore income tax1
Korean won)	2022	2021	2022	2021
LG CNS CO., LTD.	₩ 4,590,452,884	₩ 3,826,781,022	₩ 320,252,070	₩ 277,527,548
BIZTECH I CO., LTD.4	189,663,130	149,289,763	5,996,039	4,648,441
Hangbokmaru Co., Ltd.	3,110,616	2,689,562	213,295	48,186
Sejong Green Power Corporation ²	_	3,753,737	· .	(5,745,965)
Open Source Consulting	21,685,517	14,380,090	(1,209,515)	(1,846,556)
Rightbrain Co., Ltd. ³	8,467,123	470,542	(583,125)	(92,239)
Biztech On Co.,Ltd. ⁴	11,671,856	-170,042	413,602	(02,200)
LG CNS China Inc.	204,044,160	172,660,020	20,236,347	21,090,292
LG CNS Europe B.V.	116,822,172	61,025,103	10,224,379	5,873,921
LG CNS America, Inc.	185,045,330	118,957,342	18,719,798	15,616,924
LG CNS India Pvt, Ltd.	14,167,993	9,364,501	695,822	(110,644)
PT LG CNS Indonesia	18,815,359	8,276,970	742,017	326,964
LG CNS Brasil Servicos	10,010,009	0,270,970	742,017	320,304
de T.I. Ltda.	4,222,577	3,084,136	295,502	298,537
LG CNS COLOMBIA	,,	2,221,122	,	
SAS	22,645,543	25,144,829	6,893,245	5,063,237
LG CNS MALAYSIA				
SDN BHD	7,183,318	5,553,546	1,147,504	544,833
LG CNS Saudi Arabia LLC⁵			(007)	
	7.057.044	40 000 044	(827)	-
LG CNS JAPAN Co., Ltd. LG CNS UZBEKISTAN,	7,857,241	13,390,811	(534,525)	116,404
LLC	206,658	913,059	(161,766)	146,533
LG CNS VIETNAM	200,000	310,000	(101,700)	140,000
Co.,Ltd.	43,298,573	50,637,915	3,169,989	3,045,310
LG CNS FUND I LLC	-	-	(885,632)	(57,342)
	5,449,360,051	4,466,372,948	385,624,220	326,494,384
Consolidation				. ,
adjustments 1	(479,708,839)	(323,232,688)	(20,760,092)	(10,403,922)
	₩ 4,969,651,212	₩ 4,143,140,260	₩ 364,864,128	₩ 316,090,462

¹ Revenue by segments is presented before elimination of internal transactions, and profit or loss before income tax by segments is net profit (loss) before distribution of revenue and expenses. Elimination of gain (loss) on internal transaction is presented in the consolidation adjustments.

² Disposed in the prior year

³ Acquired shares in the prior year

⁴ Biztech Partners Co., Ltd. was spun off into BIZTECH I CO., LTD. (surviving company) and Biztech On Co.,Ltd. (newly established company) during the year ended December 31, 2022.

⁵ It was liquidated during the year ended December 31, 2022.

Assets of each operating segment of the Group as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022			2021
LG CNS CO., LTD.	₩	3,590,761,148	₩	3,072,644,490
BIZTECH I CO., LTD.		50,406,784		50,420,656
Hangbokmaru Co., Ltd.		2,213,558		1,951,214
Open Source Consulting		14,640,079		12,491,613
Rightbrain Co., Ltd.		7,370,598		7,915,893
Biztech On Co.,Ltd.		11,388,409		-
LG CNS China Inc.		126,463,692		115,966,227
LG CNS Europe B.V.		59,988,446		48,420,748
LG CNS America, Inc.		93,420,202		62,334,603
LG CNS India Pvt, Ltd.		6,670,436		8,195,903
PT LG CNS Indonesia		11,078,761		4,747,678
LG CNS Brasil Servicos de T.I. Ltda.		1,947,511		1,538,191
LG CNS COLOMBIA SAS		18,108,708		25,632,576
LG CNS MALAYSIA SDN BHD		4,622,884		4,059,255
LG CNS Saudi Arabia LLC		-		795
LG CNS Japan Co., Ltd.		4,233,787		7,268,970
LG CNS UZBEKISTAN, LLC		400,349		531,498
LG CNS VIETNAM CO., LTD		15,683,292		25,587,940
LG CNS FUND I LLC		29,290,404		27,654,274
		4,048,689,048		3,477,362,524
Consolidation adjustments		(183,553,905)		(152,690,520)
	₩	3,865,135,143	₩	3,324,672,004

Goods sold and services rendered for each operating segment of the Group for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	Goods sold or services rendered		2022		2021
LG CNS CO., LTD.	Sales of merchandise	₩	920,787,431	₩	724,479,709
	Service revenue		1,693,767,658		1,419,375,080
	Construction revenue		1,975,897,795		1,682,926,233
BIZTECH I CO., LTD.	Sales of merchandise		2,248,291		6,296,618
	Service revenue		82,116,360		73,783,818
	Construction revenue		105,298,479		69,209,327
Hangbokmaru Co., Ltd.	Service revenue		3,110,616		2,689,562
Sejong Green Power Corporation	Service revenue		-		3,753,737
Open Source Consulting	Sales of merchandise		16,040,339		9,996,927
	Service revenue		5,645,179		4,383,163
Rightbrain Co., Ltd.	Construction revenue		8,467,123		470,542
Biztech On Co.,Ltd.	Sales of merchandise		10,900		-
	Service revenue		11,660,956		-
LG CNS China Inc.	Sales of merchandise		99,241,823		72,954,405
	Service revenue		77,134,277		67,922,343
	Construction revenue		27,668,059		31,783,272
LG CNS Europe B.V.	Sales of merchandise		54,027,401		15,336,648
	Service revenue		36,746,122		29,209,863
	Construction revenue		26,048,648		16,478,592
LG CNS America, Inc.	Sales of merchandise		27,873,281		14,796,484
	Service revenue		98,975,267		68,376,240
	Construction revenue		58,196,782		35,784,618
LG CNS India Pvt, Ltd.	Sales of merchandise		3,451,238		2,930,077
	Service revenue		10,006,950		6,327,439
	Construction revenue		709,803		106,985
PT LG CNS Indonesia	Sales of merchandise		283,012		9,623
	Service revenue		4,263,049		3,466,514
	Construction revenue		14,269,298		4,800,833
LG CNS Brasil Servicos de T.I. Ltda.	Service revenue		4,222,577		3,084,136
LG CNS COLOMBIA SAS	Sales of merchandise		14,369,445		18,601,044
	Service revenue		8,276,099		6,543,785
LG CNS MALAYSIA SDN BHD	Sales of merchandise		46,870		85,984
	Service revenue		3,569,103		2,808,330
	Construction revenue		3,567,345		2,659,232
LG CNS Japan Co., Ltd.	Sales of merchandise		141,035		1,595,926
	Service revenue		5,315,458		6,080,526
	Construction revenue		2,400,748		5,714,359
LG CNS UZBEKISTAN, LLC	Construction revenue		206,658		913,059
LG CNS VIETNAM CO., LTD	Sales of merchandise		26,980,471		31,325,875
	Service revenue		8,682,188		5,732,313
	Construction revenue		7,635,914		13,579,727
			5,449,360,048		4,466,372,948
Consolidation adjustments		,	(479,708,836)		(323,232,688)
	-	₩	4,969,651,212	₩	4,143,140,260

The Group's revenue and non-current assets by geographical location before consolidation adjustments for the years ended December 31, 2022 and 2021 and as of December 31, 2022 and 2021, respectively, are as follows:

(in thousands of	Reve	enue	Non-current assets			
Korean won)	2022	2021	December 31, 2022	December 31, 2021		
Korea	₩ 4,825,051,128	₩ 3,997,364,715	₩ 894,593,307	₩ 880,613,880		
China	204,044,160	172,660,020	2,953,090	3,409,390		
Asia	91,529,142	88,136,802	545,123	246,715		
North America	185,045,330	118,957,342	5,740,939	5,340,659		
Mid-South America	26,868,120	28,228,966	2,050,166	2,886,524		
Europe	116,822,172	61,025,103	1,416,010	583,101		
	₩ 5,449,360,052	₩ 4,466,372,948	₩ 907,298,635	₩ 893,080,269		

Revenue to customers that consist more than 10% of the Group's total sales for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021	
LG Electronics Inc. ¹	₩	1,062,386,856	921,435,147	
LG Chem Ltd. ¹		1,017,036,768	743,644,620	

¹ It includes the transaction of subsidiaries.

5. Classification of Financial Instruments and Fair Value

The carrying amount and fair value of financial assets and liabilities as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021			
Financial assets	Carrying amount		Fair value	Carrying amount		Fair value	
Cash and cash equivalents	144		,	144			
Cash and cash equivalents	₩ 728,348	712 ₩	728,348,712	₩ 607,940,799	₩	607,940,799	
Financial assets at fair value through profit or loss							
Derivative assets for trading	11,442	050	11,442,050	2,259,113		2,259,113	
Investment ¹	32,427	995	32,427,995	29,241,509		29,241,509	
	43,870	045	43,870,045	31,500,623		31,500,623	
Financial assets at fair value through other comprehensive income							
Marketable equity securities	1,596	237	1,596,237	-		-	
Unmarketable equity securities	19,255	296	19,255,296	17,726,487		17,726,487	
	20,851	533	20,851,533	17,726,487	-	17,726,487	
Financial assets at amortized cost							
Financial institution deposits	123,365	131	123,365,131	146,007,817		146,007,817	
Trade receivables	1,405,391	071	1,405,391,071	1,122,032,966		1,122,032,966	
Loans	10,902	295	10,902,295	8,205,197		8,205,197	
Other receivables	12,100	817	12,100,817	14,625,118		14,625,118	
Accrued income	1,873	387	1,873,387	860,023		860,023	
Deposits	15,247	458	15,247,458	12,395,856		12,395,856	
	1,568,880	159	1,568,880,159	1,304,126,977		1,304,126,977	
	₩ 2,361,950	448 ₩	2,361,950,448	₩ 1,961,294,886	₩	1,961,294,886	

¹ Contains investments where the Group has significant influence based on the shareholders' agreement.

(in thousands of Korean won)	2022		20	2021	
Financial liabilities	Carrying amount	Fair value	Carrying amount	Fair value	
Financial liabilities at fair value through profit or loss					
Derivative liabilities for trading Financial assets at amortized cost	<u>₩</u> 1,810,103	1,810,103	2,564,026	2,564,026	
Trade payables	740,394,368	740,394,368	654,291,817	654,291,817	
Borrowings	276,537,304	276,537,304	22,551,464	22,551,464	
Other payables 1	50,935,324	50,935,324	42,420,512	42,420,512	
Accrued expenses 1	15,238,791	15,238,791	12,573,090	12,573,090	
Dividend payables	6,126	6,126	4,422	4,422	
Deposits received	1,718,213	1,718,213	1,247,359	1,247,359	
Debentures	409,599,634	384,796,224	499,245,297	495,725,611	
	1,494,429,761	1,469,626,351	1,232,333,961	1,228,814,275	
	₩ 1,496,239,864	1,471,436,454	1,234,897,987	1,231,378,301	

¹ Other payables, accrued expenses and others that are not related financial liabilities are excluded.

6. Cash and Cash Equivalents

Cash and cash equivalents in the consolidated statements of cash flows are equivalent to cash and cash equivalents in the consolidated statements of financial position. Details of cash and cash equivalents as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021		
Cash on hand	₩	5,671	₩	6,611	
Bank deposits and others		728,343,041		607,934,188	
	₩	728,348,712	₩	607,940,799	

7. Trade and Other Receivables

Details of trade and other receivables before deducting accumulated impairment losses as of December 31, 2022 and 2021, are as follows:

(in thousands of			2	2022		
Korean won)	Neither past due nor impaired receivables	Past due, but not impaired receivables	Impaired receivables	Total	Consolidation adjustment	Total
Trade receivables	₩ 1,366,872,098	₩ 172,269,148	₩ 10,576,366	₩ 1,549,717,612	₩ (134,313,227)	₩ 1,415,404,385
Other receivables	39,996,211	689,457	3,133,931	43,819,599	(3,517,702)	40,301,897
	₩ 1,406,868,309	₩ 172,958,605	₩ 13,710,297	₩ 1,593,537,210	₩ (137,830,929)	₩ 1,455,706,282
(in thousands of			:	2021		
Korean won)	Neither past due nor impaired receivables	Past due, but not impaired receivables	Impaired receivables	•		Total
Trade receivables	₩ 1,111,998,162	₩ 115,053,326	₩ 14,978,323	₩ 1,242,029,811	₩ (106,044,061)	₩ 1,135,985,750
Other receivables	34,135,984	2,830,719	5,715,502	42,682,205	(3,640,704)	39,041,501
	₩ 1,146,134,146	₩ 117,884,045	₩ 20,693,825	₩ 1,284,712,016	₩ (109,684,765)	₩ 1,175,027,251

Aging analysis based on committed collection period of past due, but not impaired trade and other receivables as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)	2022			2021
1 day ~ 29 days	₩	128,031,091	₩	75,429,186
30 days ~ 60 days		15,509,575		13,055,818
61 days ~ 90 days		6,871,834		1,940,173
91 days ~ 120 days		2,732,559		4,615,813
More than 120 days		19,813,547		22,843,055
	₩	172,958,605	₩	117,884,045

The Group measures the allowance for losses on trade receivables at amounts equivalent to the lifetime expected credit losses. The expected credit losses on trade receivables are estimated using the provisioning schedule based on the experience of borrowers' past defaults, in which adjusted by assessing the factors specific to the borrower and the general economic situation in the industry to which the borrower belongs to, and the current and future direction of forecast at the end of the reporting period. There are no changes in valuation techniques or important assumptions during this year.

Changes in provisions for impairment of receivables for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022					20		
	re	Trade ceivables	re	Other eceivables	re	Trade ceivables	re	Other ceivables
Beginning balance	₩	13,952,784	₩	2,955,307	₩	13,472,133	₩	2,196,321
Impairment loss		524,240		148,718		784,264		768,367
Write-off		(57,263)		(498,352)		(151,781)		(9,365)
Reversal of impairment loss Effect of foreign currency		(4,537,689)		(2,426,564)		(18,654)		-
translation		100,479		13		(184,914)		(16)
Others		30,763		(1,182)		51,736		_
Ending balance	₩	10,013,314	₩	177,940	₩	13,952,784	₩	2,955,307

Aging analysis of impaired trade and other receivables as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		2022	2021		
Less than 6 months	₩	2,612,918	₩	7,961,821	
More than 6 months and less than 1 year		129,868		199,608	
More than 1 year		10,967,511		12,532,396	
	₩	13,710,297	₩	20,693,825	

8. Inventories

Inventories as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022											
	A	cquisition cost		aluation llowance		Carrying amount						
Merchandise	₩	54,451,555	₩	(64,860)	₩	54,386,695						
Raw materials		10,911		-		10,911						
Other inventories		960,956		-		960,956						
	₩	55,423,422	₩	(64,860)	₩	55,358,562						
(in thousands of Korean won)				2021								
	A	cquisition cost		aluation llowance		Carrying amount						
Merchandise	₩	50,719,437	₩	(82,599)	₩	50,636,838						
Raw materials		7,581		-		7,581						
Other inventories		773,973		(91,881)		682,092						
	₩	51,500,991	₩	(174,480)	₩	51,326,511						

Inventory costs recognized in cost of sales for the years ended December 31, 2022 and 2021, are $\mbox{$\forall$}$ 1,287,231,302 thousand and $\mbox{$\forall$}$ 999,313,780 thousand, respectively. Loss on valuation of inventories for the year ended December 31, 2022, is $\mbox{$\forall$}$ 25,132 thousand and reversal of loss on valuation of inventories for the year ended December 31, 2021, is $\mbox{$\forall$}$ 17,306 thousand.

9. Other Assets

Details of other assets as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022				2021					
		Current	No	n-current		Current	No	n-current		
Advance payments	₩	4,828,647	₩	89,033	₩	6,342,898	₩	63,436		
Prepaid expenses		14,473,564		1,095,556		7,551,819		52,902		
Contract asset		391,541,814		-		272,094,402		-		
Costs to fulfil a contract		100,033,814		-		108,574,548		-		
Prepaid value-added tax		7,358,053		-		1,327,636		-		
Other current assets		72,048		-		112,172				
	₩	518,307,940	₩	1,184,589	₩	396,003,475	₩	149,099		

10. Property, Plant and Equipment

Details of property, plant and equipment as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	1					2022				
	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Furniture and fixtures	Construction- in-progress	Others	Total
Acquisition cost	₩ 90,164,479	₩ 495,732,815	₩ 3,805,589	₩ 142,759	₩ 48,079	₩ 416,577	₩ 92,817,585	₩ -	₩ 401,017,502	₩ 1,084,145,385
Accumulated depreciation	-	(146,782,214)	(571,102)	(124,277)	(34,457)	(413,024)	(52,305,970)	-	(317,920,376)	(518,151,421)
Impairmentloss	-	-	-	-	-	-	-	-	(151,897)	(151,897)
Government grants		(836,774)					(79,344)			(916,118)
Carryingamount	₩ 90,164,479	₩ 348,113,827	₩ 3,234,487	₩ 18,482	₩ 13,623	₩ 3,553	₩ 40,432,271	₩ -	₩ 82,945,229	₩ 564,925,949
(in thousands of Korean won))					2021				
(in thousands of Korean won)	Land	Buildings	Structures	Machinery	Vehicles	2021 Tools and equipment	Furniture and fixtures	Construction- in-progress	Others	Total
(in thousands of Korean wor) Acquisition cost		Buildings ₩ 490,680,716	Structures ₩ 3,805,589	Machinery ₩ 142,373	Vehicles ₩ 53,627	Tools and			Others ₩ 399,485,050	Total ₩ 1,076,086,670
,	Land	-		·		Tools and equipment	fixtures	in-progress		
Acquisition cost	Land ₩ 87,786,527	₩ 490,680,716	₩ 3,805,589	₩ 142,373	₩ 53,627	Tools and equipment ₩ 419,886	fixtures ₩ 88,832,434	in-progress	₩ 399,485,050	₩ 1,076,086,670
Acquisition cost Accumulated depreciation	Land ₩ 87,786,527	₩ 490,680,716	₩ 3,805,589	₩ 142,373	₩ 53,627	Tools and equipment ₩ 419,886	fixtures ₩ 88,832,434	in-progress	₩ 399,485,050 (325,104,057)	₩ 1,076,086,670 (506,072,003)

Changes in property, plant and equipment for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)								2022									
	Land	Buildings	Structures	Mad	chinery	Ve	ehicles		ols and ipment	Fu	rniture and fixtures		nstruction- progress		Others		Total
Opening net book amount	₩ 87,786,527	₩ 358,610,737	₩ 3,335,835	₩	46,307	₩	25,920	₩	28,219	₩	39,935,497	₩	4,880,468	₩	74,234,657	₩	568,884,167
Acquisitions	2,377,952	5,233,365	-		-		-		-		8,683,473		865,014		38,924,863		56,084,667
Disposals	-	-	-		-		-		-		(30,233)		-		(139,655)		(169,887)
Depreciation	-	(15,549,010)	(101,348)		(28,217)		(11,241)		(24,666)		(8,169,225)		-		(30,157,898)		(54,041,606)
Transfer	-	(181,265)	-		-		-		-		(2,681)		(5,745,483)		(49,305)		(5,978,734)
Other changes	-	-	-		-		-		-		-		-		32,200		32,200
Effect of foreign currency																	
translation					391		(1,056)				15,439				100,367		115,142
			₩ 3,234,48														
Closing net book amount	₩ 90,164,479	₩ 348,113,827	7	₩	18,482	₩	13,623	₩	3,553	₩	40,432,271	₩	-	₩	82,945,229	₩	564,925,949

(in thousands of Korean won)	2021											
						Tools and	Furniture and	Construction-				
	Land	Buildings	Structures	Machinery	Vehicles	equipment	fixtures	in-progress	Others	Total		
Opening net book amount	₩ 88,869,672	₩ 378,562,668	₩ 3,187,027	₩ 2,659,718	₩ 54,952	₩ 52,885	₩ 32,752,443	₩ 3,094,197	₩ 74,658,774	₩ 583,892,336		
Acquisitions	-	2,191,500	286,618	198,165	-	-	15,219,814	4,540,655	24,389,315	46,826,067		
Disposals	-	(43,924)	-	-	-	-	(14,168)	-	(371,123)	(429,215)		
Depreciation	-	(15,434,146)	(101,505)	(73,126)	(14,430)	(24,666)	(7,375,244)	-	(27,616,469)	(50,639,586)		
Transfer	(1,290,608)	(3,364,140)	(36,305)	-	-	-	-	(2,754,384)	2,754,384	(4,691,053)		
Government grants	-	-	-	-	-	-	(124,000)	-	-	(124,000)		
Changes in the scope of consolidation	207,463	(993,690)	-	(486,621)	(3,370)	-	49	-	24,876	(1,251,293)		
Impairmentloss	-	(2,664,591)	-	(2,251,870)	(8,035)	-	(38)	-	(35,339)	(4,959,873)		
Otherchanges	-	357,245	-	-	-	-	(589,597)	-	34,546	(197,806)		
Effect of foreign currency translation		(185)		41	(3,197)		66,238		395,693	458,590		
Closing net book amount	₩ 87,786,527	₩ 358,610,737	₩ 3,335,835	₩ 46,307	₩ 25,920	₩ 28,219	₩ 39,935,497	₩ 4,880,468	₩ 74,234,657	₩ 568,884,167		

LG CNS CO., LTD. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

Changes in government grants for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022											
			Fur	niture and								
	Bu	ildings	f	fixtures		Total						
Beginning balance	₩	873,820	₩	110,344	₩	984,163						
Credited to depreciation expense		(37,046)		(31,000)		(68,045)						
Ending balance	₩	836,774	₩	79,344	₩	916,118						
(in thousands of Korean won)				2021								
			Fur	niture and								
	Bu	ildings	f	ixtures		Total						
Beginning balance	₩	910,865	₩	27,095	₩	937,960						
Receipt		-		124,000		124,000						
Credited to depreciation expense		(37,045)		(40,751)		(77,796)						
Ending balance	₩	873,820	₩	110,344	₩	984,164						

Details of disposal of property, plant and equipment for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022											
		niture and extures		Others	Total							
Carrying amount before disposal	₩	30,233	₩	139,655	₩	169,887						
Disposal amount		5,405		207,399		212,804						
Gain (loss) on disposal, net	₩	(24,827)	₩	67,744	₩	42,917						

(in thousands of Korean won)	2021											
	В	Furniture and Buildings fixtures Others Total										
Carrying amount before disposal Disposal amount	₩	43,924	₩	14,168 1.547	₩	371,123 614,245	₩	429,215 615,792				
Gain (loss) on disposal, net	₩	(43,924)	₩	(12,621)	₩	243,122	₩	186,577				

11. Investment Property

Details of investment property as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022									
		Land		Buildings ¹		Structures		Total		
Acquisition cost	₩	8,163,667	₩	31,752,179	₩	275,259	₩	40,191,105		
Accumulated depreciation		-		(6,890,417)		(67,984)		(6,958,401)		
Ending balance	₩	8,163,667	₩	24,861,762	₩	207,275	₩	33,232,704		

¹ Right-of-use assets related to LG ARTS CENTER and LG Discovery Lab are included.

(in thousands of Korean won)	2021									
		Land		Buildings		Structures		Total		
Acquisition cost	₩	8,163,667	₩	25,825,431	₩	275,259	₩	34,264,357		
Accumulated depreciation		-		(5,876,782)		(59,324)		(5,936,106)		
Ending balance	₩	8,163,667	₩	19,948,649	₩	215,935	₩	28,328,251		

Changes in investment property for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022								
		Land		Buildings		Structures		Total	
Beginning balance	₩	8,163,667	₩	19,948,649	₩	215,935	₩	28,328,251	
Depreciation		-		(1,013,635)		(8,660)		(1,022,295)	
Transfer and others		-		5,926,748		_		5,926,748	
Ending balance	₩	8,163,667	₩	24,861,762	₩	207,275	₩	33,232,704	

(in thousands of Korean won)	2021								
		Land		Buildings		Structures		Total	
Beginning balance	₩	6,873,059	₩	17,502,787	₩	189,088	₩	24,564,934	
Depreciation		-		(918,278)		(9,458)		(927,736)	
Transfer		1,290,608		3,364,140		36,305		4,691,053	
Ending balance	₩	8,163,667	₩	19,948,649	₩	215,935	₩	28,328,251	

The fair value of investment property as of December 31, 2022, are as follows:

(in thousands of Korean won)		Land		iildings and structures		Total
Carrying amount						
Sangam DDMC ¹ Right-of-use assets related to LG ARTS	₩	13,461,407	₩	31,849,550	₩	45,310,957
CENTER and LG Discovery Lab		-		5,753,885		5,753,885
Evaluation result						
Sangam DDMC ^{2,3} Right-of-use assets related to LG ARTS			₩	343,000,000	₩	343,000,000
CENTER and LG Discovery Lab4				5,753,885		5,753,885

¹ Includes the value of investment property occupied by the owner (land: ₩ 5,297,740 thousand and buildings and structures: ₩ 12,534,398 thousand).

² This is the valuation amount for entire Sangam DDMC. In case of Sangam DDMC, the total value of real estate includes land and buildings, and constructions.

³ Fair value assessment was performed by an independent third party, Samchang Appraisal Co., Ltd., utilizing cost method, sales comparison approach and yield capitalization method. Capital expenditures after appraisal date are not reflected in the fair value.

⁴ The carrying amount of right-of-use assets was regarded as the fair value.

12. Intangible Assets

Details of intangible assets as of December 31, 2022 and 2021, are as follows:

(in thousands of				2022			
Korean won)		Industrial				Computer	
	Development	property			Construction	software and	
	costs	rights	Membership	Goodwill	in progress	others	Total
Acquisition cost Accumulated	₩ 116,916,063	₩ 4,027,429	₩ 14,632,164	₩ 9,959,669	₩ 1,112,874	₩ 100,777,926	₩ 247,426,126
depreciation	(38,891,034)	(1,622,167)	-	-	-	(81,853,455)	(122,366,656)
Accumulated							
impairment loss	(15,790,115)	(1,307)	(2,168,581)	(2,612,377)		(1,363)	(20,573,743)
	₩ 62,234,915	₩ 2,403,955	₩ 12,463,583	₩ 7,347,292	₩ 1,112,874	₩ 18,923,108	₩ 104,485,727
(in thousands of				2021			
Korean won)	Development costs	Industrial property rights	Membership	Goodwill	Construction in progress	Computer software and others	Total
Acquisition cost	₩ 62,535,525	₩ 3,797,087	₩ 20,127,868	₩ 10,433,497	₩ 36,565,923	₩ 100,719,943	₩ 234,179,843
depreciation	(27,763,109)	(1,308,180)	-	_	-	(75,659,316)	(104,730,605)
Accumulated impairment loss	(4,903,114)	(1,307)	(2,168,581)	(2,612,377)	(516,764)	(1,363)	(10,203,506)
	₩ 29,869,302		₩ 17,959,287				

Changes in intangible assets for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of				2022			
Korean won)	Development costs	Industrial property rights	Membership	Goodwill	Construction in progress	Computer software and others	Total
Beginning balance	₩ 29,869,302	₩ 2,487,599	₩ 17,959,287	₩ 7,821,119	₩ 36,049,160	₩ 25,059,264	₩ 119,245,732
Acquisition	-	230,343	655,209	-	34,842	1,934,108	2,854,501
Increase due to internal development	-	-	-	-	18,966,355	-	18,966,355
Disposals	-	-	(6,148,020)	-	-	(11,988)	(6,160,008)
Amortization	(11,197,793)	(313,987)	-	-	-	(7,588,732)	(19,100,512)
Transfers	52,506,469	-	-	-	(52,506,469)	(194,600)	(194,600)
Impairment loss	(8,929,562)	-	-	-	(1,440,674)	-	(10,370,237)
Other changes	-	-	-	(473,827)	-	(288,000)	(761,827)
Effect of foreign currency translation	(5,562)		(2,892)		1,722	13,055	6,323
Ending balance	₩ 62,242,854	₩ 2,403,955	₩ 12,463,583	₩ 7,347,292	₩ 1,104,934	₩ 18,923,108	₩ 104,485,727
(in thousands of Korean won)				2021			
Korean won)	Development costs	Industrial property rights	Membership	Goodwill	Construction in progress	Computer software and others	Total
Beginning balance	₩ 17,550,654	₩ 2,399,086	₩ 15,716,625	₩ 4,300,839	₩ 12,969,050	₩ 22,864,371	₩ 75,800,625
Acquisition	-	370,561	2,435,780	-	114,881	7,574,886	10,496,108
Increase due to internal development	-	-	-	-	44,307,795	-	44,307,795
Disposals	-	-	(204,698)	-	-	-	(204,698)
Changes in scope of consolidation	-	-	-	3,520,281	-	1,946,624	5,466,905
Amortization	(6,362,180)	(282,047)	-	-	-	(7,351,894)	(13,996,121)
Transfers	20,828,669	-	-	-	(20,828,669)	-	-
Impairment loss	(2,156,654)	-	-	-	(516,764)	(1,047)	(2,674,465)
Other changes						(2)	(0)
I though of townion	-	-	-	-	-	(3)	(3)
Effect of foreign currency translation	8,813	-	11,580	<u>-</u>	2,866	26,327	49,586

Details of accumulated impairment loss of goodwill as of December 31, 2022 and 2021, are as follows:

1) Carrying amount of goodwill that is allocated to cash-generating unit is as follows:

(in thousands of Korean won)		2022		2021
BIZTECH I CO., LTD.	₩	1,665,313	₩	1,665,313
Open Source Consulting		2,635,526		2,635,526
Rightbrain Co., Ltd.		3,046,452		3,520,281
	₩	7,347,291	₩	7,821,120

- 2) Recoverable amount of cash-generating unit is determined based on the calculation of usage value, which is calculated using the estimation of cash flow after tax from business plan of five years, as approved by the management. Cash flow that exceeds five years is estimated in the range that does not exceed the long-term average growth rate of the industry that the cashgenerating unit is involved in.
- 3) Management determined the estimated pre-tax cash flow projections based on past performance and its expectations of market development. Value in use is measured by applying the pre-tax discount rates reflecting specific risks relating to the cash-generating unit. Significant assumptions used for calculating the value in use are as follows:

	Discount rates	Nominal long-term growth rates
BIZTECH I CO., LTD.	17.09%	0.0%
Open Source Consulting	19.73%	2.0%
Rightbrain Co., Ltd.	17.09%	0.0%

Changes in government grants for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022	2021		
	Computer software and others	Computer software and others		
Beginning balance	₩	- ₩ 374		
Credited to amortization expense		- (374)		
Ending balance	₩	- ₩ -		

LG CNS CO., LTD. and Subsidiaries

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Details of disposal of intangible assets for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022							
	Me	mbership	Compu	uter software		Total			
Carrying amount before disposal	₩	6,148,020	₩	11,988	₩	6,160,008			
Disposal amount		6,092,000		-		6,092,000			
Gain (loss) on disposal, net	₩	(56,020)	₩	(11,988)	₩	(68,008)			

(in thousands of Korean won)	2021						
		Membership		Total			
Carrying amount before disposal	₩	204,69	8 ₩	204,698			
Disposal amount		199,00	0	199,000			
Loss on disposal	₩	(5,698) ₩	(5,698)			

The expenses related to research and development for the years ended December 31, 2022 and 2021, are \forall 47,841,016 thousand and \forall 34,661,031 thousand, respectively. Those amounts are recognized in selling and administrative expenses.

13. Investments in Associates

Details of the Group's investments in associates and jointly controlled entity as of December 31, 2022 and 2021, are as follows:

						2021				
	Location					Number of shares issued		Percentage	Percentage	
	of		Closing	Ordinary	Preferred	Ordinary	Preferred	of	of	
Companies	incorporation	Major business activities	date	share	share	share	share	ownership	ownership	
Tmoney Co., Ltd.	South Korea	System software development and supply	December 31	3,927,167	-	11,934,085	-	32.91%	32.91%	
Songdo U-Life LLC ¹	South Korea	Health care, integrated wireless environment, integrated smart cards and building management	December 31	5,880	-	35,880	-	16.39%	16.39%	
RECAUDO BOGOTA S.A.S.	Colombia	Public system development and service	December 31	2,126	-	10,630	-	20.00%	20.00%	
Hellas SmarTicket Societe Anonyme	Greece	Public system development and service	December 31	22,500	-	75,000	-	30.00%	30.00%	
Daegu Natural Energy Co., Ltd.	South Korea	Energy supply	December 31	25,000	-	100,000	-	25.00%	25.00%	
Cloudgram Co. Ltd.	South Korea	Hosting and related service	December 31	1,075,000	-	3,075,000	-	34.96%	34.96%	
KoreaDRD Co., Ltd. ¹	South Korea	Information service and blockchain technology- related service	December 31	119,400	-	600,000	-	19.90%	19.90%	
HEMPKING INC. ²	South Korea	System software development and supply	December 31	-	25,000	100,000	25,000	-	-	
Danbi Inc.	South Korea	System software development and supply	December 31	50,000	-	250,000	-	20.00%	20.00%	
bithumb META ^{1,3}	South Korea	Other information services	December 31	600,000	-	5,800,000	-	10.34%	-	
Sejong-smartcity Co., Ltd. ^{1,3}	South Korea	Residential / non-residential buildings development and supply	December 31	1,201,000	255,200	6,750,000	2,250,000	17.79%	-	

¹ The Group has significant influence since contractual right by which the Group is able to appoint one member of the Board of Directors even though the percentage of ownership is less than 20%.

² The Group has significant influence based on the shareholders' agreement. As a redeemable convertible preference share, it is classified as a financial asset at fair value through profit or loss as mentioned in Note 5.

³ It was acquired during the year ended December 31, 2022.

Changes in investments in associates for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of								2022						
Korean won)		Beginning balance	A	cquisition	Gain (loss) on valuation of equity Dividends method received investments		Other changes in equity using equity method		In	npairment loss		Total		
Tmoney Co., Ltd.	₩	53,552,680	₩	-	₩	-	₩	7,163,455	₩	(488,263)	₩	-	₩	60,227,872
Songdo U-Life LLC		578,918		-		-		183,983		184,763		-		947,664
RECAUDO BOGOTA S.A.S.		1,396,944		-		-		251,710		(252,826)		-		1,395,828
Hellas SmarTicket Societe Anonyme Daegu Natural		4,543,288		-		(735,410)		1,054,121		29,722		-		4,891,721
Energy Co., Ltd. ¹		-		-		-		-		-		-		-
Cloudgram Co. Ltd.3		15,793,145		-		-		(724,284)		(70,370)		(6,605,625)		8,392,866
KoreaDRD Co., Ltd.		624,066		-		-		56,085		-		-		680,151
Danbi Inc. ²		-		-		-		-		-		-		-
bithumb META		-		3,000,000		-		(443,461)		_		-		2,556,539
Sejong-smartcity Co., Ltd.		<u> </u>		14,562,000				(2,085,486)		<u></u>				12,476,514
	₩	76,489,041	₩	17,562,000	₩	(735,410)	₩	5,456,123	₩	(596,974)	₩	(6,605,625)	₩	91,569,155

¹ The net equity value as of December 31, 2022, is ₩ 11,065 thousand, and it has been fully impaired before the current period. Accumulated equity method loss, which was not recognized, is ₩ 4,228 thousand.

 $^{^2}$ It has been fully impaired before the current period. Accumulated equity method loss, which was not recognized, is \forall 72,469 thousand.

³ In the current year, the Group recognized impairment losses of ₩ 6,605,625 thousand as a result of evaluating the recoverable amount of investments in associate once identifying indicators of impairment of Cloudgram Co. Ltd. At the end of the current year, the recoverable amount of investments was determined based on value in use, and the discount rates applied when using the discounted future cash flow method was 17.91%. The value-in-use calculations use cash flow projections based on historical operating performance and future business plan and cash flow projections thereafter are extrapolated using the long-term growth rate of 1.00%.

(in thousands of Korean won)	_ ~		Gain (loss) on valuation of equity method investments	Other changes in equity using equity method	Collections and others	Ending balance
Tmoney Co., Ltd.	₩ 47,017,491	₩ -	₩ 5,119,008	₩ 1,416,181	₩ -	₩ 53,552,680
Songdo U-Life LLC RECAUDO	365,166	-	213,752	-	-	578,918
BOGOTA S.A.S. Hellas SmarTicket	2,737,072	-	(1,074,727)	(265,402)	-	1,396,943
Societe Anonyme Ulleungdo Natural	4,550,025	(1,035,994)	1,013,160	16,097	-	4,543,288
Energy Co., Ltd. Daegu Natural	38,591	-	-	-	(38,591)	-
Energy Co., Ltd. ¹	-	-	-	-	-	-
Cloudgram Co. Ltd.	18,758,577	-	(1,264,910)	(522)	(1,700,000)	15,793,145
KoreaDRD Co., Ltd.	584,520	-	39,546	-	-	624,066
Danbi Inc. ²						
	₩ 74,051,442	₩ (1,035,994)	₩ 4,045,829	₩ 1,166,354	₩ (1,738,591)	₩ 76,489,040

¹ The net equity value as of December 31, 2022, is \forall 11,248 thousand, and it has been fully impaired before the current period. Accumulated equity method loss, which was not recognized, is \forall 4,046 thousand.

 $^{^2}$ It has been fully impaired before the current period. Accumulated equity method loss, which was not recognized, is orall 46,121 thousand.

A summary of financial information of the associates as of December 31, 2022 and 2021, is as follows:

				2022			
(in thousands of		Non-current		Current	Non-current		
Korean won)	Current assets	assets	Total assets	liabilities	liabilities	Total liabilities	Total equity
Tmoney Co., Ltd.	∜ 419,415,109 ₩	⁴ 98,564,250 ³	₩ 517,979,359 ¥	∜ 357,180,240	₩ 4,430,661	₩ 361,610,901	₩ 156,368,458
Songdo U-Life LLC	6,178,228	19,569,325	25,747,553	-	166,280	166,280	25,581,273
RECAUDO BOGOTA S.A.S.	28,324,467	57,761,062	86,085,529	21,010,107	54,620,089	75,630,196	10,455,333
Hellas SmarTicket Societe							
Anonyme	16,287,555	28,366,152	44,653,707	11,311,602	17,038,610	28,350,212	16,303,495
Daegu Natural Energy Co.,							
Ltd.	11,908	356,502	368,410	324,151	-	324,151	44,259
Cloudgram Co. Ltd.	23,033,812	512,096	23,545,908	9,959,098	967,946	10,927,044	12,618,864
KoreaDRD Co., Ltd.	3,425,490	47,169	3,472,659	54,820	-	54,820	3,417,839
HEMPKING INC.	465,481	1,065	466,546	13,346	230,000	243,346	223,200
Danbi Inc.	13,496	5,946	19,442	373,472	150,000	523,472	(504,030)
bithumb META	7,565,816	17,131,263	24,697,079	491,187		491,187	24,205,892
Sejong-smartcity Co., Ltd.	88,976,628	409,316	89,385,944	1,752,593	-	1,752,593	87,633,351
				2021			
(in thousands of	.	Non-current		Current	Non-current		
Korean won)	Current assets	assets	Total assets	liabilities	liabilities	Total liabilities	Total equity
Tmoney Co., Ltd.	₩ 349,410,595	₩ 114,884,117	₩ 464,294,712	₩ 304,129,538	₩ 23,994,306	₩ 328,123,844	₩ 136,170,868
Songdo U-Life LLC	6,183,845	17,313,595	23,497,440	-	166,280	166,280	23,331,160
RECAUDO BOGOTA S.A.S.	24,668,791	81,178,412	105,847,203	21,783,518	73,602,776	95,386,294	10,460,909
Hellas SmarTicket Societe	, ,	, ,	. ,		, ,		, ,
Anonyme	20,520,960	27,042,156	47,563,116	11,517,302	21,337,350	32,854,652	14,708,464
Daegu Natural Energy Co., Ltd.	12,639	356,502	369,141	324,151	-	324,151	44,990
Cloudgram Co. Ltd.	19,197,938	400,125	19,598,063	4,272,702	433,798	4,706,500	14,891,563
KoreaDRD Co., Ltd.	3,650,375	12,120	3,662,495	526,488	-	526,488	3,136,007
HEMPKING INC.	379,314	2,339	381,653	178,079	-	178,079	203,574
Danbi Inc.	17,444	5,946	23,390	245,681	150,000	395,681	(372,291)

A summary of profit and loss of associates for the years ended December 31, 2022 and 2021, are as follows:

			2022		
(in thousands of Korean won)	Revenue	Operating profit (loss)	Income tax expenses	Other comprehensive income	Total comprehensive income (loss)
Tmoney Co., Ltd.	₩ 250,881,242	₩ 9,102,858	₩ 7,141,506	₩ (1,483,760)	₩ 20,197,590
Songdo U-Life LLC RECAUDO BOGOTA	-	(299,958)	-	-	1,122,678
S.A.S.	46,589,009	(715,198)	948,840	(1,264,128)	(5,576)
Hellas SmarTicket Societe Anonyme	13,526,724	963,824	997,724	79,200	4,026,525
Daegu Natural Energy Co., Ltd.	-	(740)	-	-	(731)
Cloudgram Co. Ltd.	30,820,916	(2,317,598)	-	(201,292)	(2,272,699)
KoreaDRD Co., Ltd.	3,658,789	295,858	-	-	281,833
HEMPKING INC.	406,762	(137,106)	-	-	19,625
Danbi Inc.	445,582	(101,326)	-	-	(131,740)
bithumb META	107,933	(4,073,567)	-	-	(4,254,798)
Sejong-smartcity Co., Ltd.	6	(3,567,144)	-	-	(2,366,649)
			2021		
(in thousands of Korean won)	Revenue	Operating profit	Income tax expenses	Other comprehensive income	Total comprehensive income
Tmoney Co., Ltd.	₩ 216,599,513	₩ (7,506,661)	₩ 3,233,157	₩ 4,303,572	₩ 19,958,480
Songdo U-Life LLC RECAUDO BOGOTA	-	(356,112)	-	-	1,304,330
S.A.S. Hellas SmarTicket	39,823,978	(103,881)	982,985	(1,327,009)	(6,700,643)
Societe Anonyme	13,506,524	731,843	1,001,744	23,312	2,915,242
Daegu Natural Energy Co., Ltd.	-	(680)	-	-	(667)
Cloudgram Co. Ltd.	25,101,547	(3,877,971)	-	-	(3,618,237)
KoreaDRD Co., Ltd.	3,520,289	190,472	-	-	198,724
HEMPKING INC.	152,275	(151,589)	-	-	(343,925)
Danbi Inc.	431,215	(212,226)	-	-	(530,603)

Adjustments to carrying amount of investments in associates from net asset value of associates as of December 31, 2022 and 2021, are as follows:

				2022			
(in thousands of Korean won)	Net assets of associates (A)	Ownership rate of the Group (B)	Controlling interest of net assets (AxB)	(+) Goodwill	(-) Elimination of intercompany transactions and others	(-) Impairment loss	Ending balance
Tmoney Co., Ltd.	₩ 156,368,458	32.91%	₩ 51,456,357	₩ 8,776,673	₩ (5,158)	₩ -	₩ 60,227,872
Songdo U-Life LLC	25,581,273	16.39%	4,192,233	3,493,041	-	(6,737,610)	947,664
RECAUDO BOGOTA S.A.S. Hellas SmarTicket Societe	10,455,333	20.00%	2,091,067	-	-	(695,239)	1,395,828
Anonyme	16,303,495	30.00%	4,891,049	-	672	-	4,891,721
Daegu Natural Energy Co., Ltd.	44,259	25.00%	11,065	-	4,229	(15,294)	-
Cloudgram Co. Ltd.	12,618,864	34.96%	4,411,467	12,287,159	(135)	(8,305,625)	8,392,866
KoreaDRD Co., Ltd.	3,417,839	19.90%	680,151	-	-	-	680,151
bithumb META	24,205,892	10.34%	2,504,058	55,791	(3,310)	-	2,556,539
Sejong-smartaity Co., Ltd.	87,633,351	16.18%	14,179,076	-	(1,702,562)	-	12,476,514
(in thousands of	Ownership Controlling Net assets of rate of the interest of net associates (A) Group (B) assets (A x B) (+) Goodwi		2021	(-) Elimination of intercompany			
Korean won)			interest of net	(+) Goodwill	transactions and others	(-) Impairment loss	Ending balance
Korean won)	associates (A)	Group (B)	interest of net assets (AxB)		transactions and others	loss	balance
Korean won) Tmoney Co., Ltd.	associates (A) ₩ 136,170,868	Group (B) 32.91%	interest of net assets (A x B) ₩ 44,809,916	₩ 8,776,673	transactions	loss ₩ -	balance ₩ 53,552,680
Korean won) Tmoney Co., Ltd. Songdo U-Life LLC RECAUDO BOGOTA S.A.S.	associates (A)	Group (B)	interest of net assets (AxB)		transactions and others	loss	balance
Korean won) Tmoney Co., Ltd. Songdo U-Life LLC	associates (A) ₩ 136,170,868 23,331,160	Group (B) 32.91% 16.39%	interest of net assets (A x B) ₩ 44,809,916 3,823,487	₩ 8,776,673	transactions and others	loss ₩ - (6,737,610)	balance ₩ 53,552,680 578,918
Korean won) Tmoney Co., Ltd. Songdo U-Life LLC RECAUDO BOGOTA S.A.S. Hellas SmarTicket Societe	# 136,170,868 23,331,160 10,460,909	32.91% 16.39% 20.00%	interest of net assets (A x B)	₩ 8,776,673	transactions and others	loss ₩ - (6,737,610)	balance
Korean won) Tmoney Co., Ltd. Songdo U-Life LLC RECAUDO BOGOTA S.A.S. Hellas SmarTicket Societe Anonyme	### 136,170,868 23,331,160 10,460,909 14,708,464	32.91% 16.39% 20.00% 30.00%	interest of net assets (A x B)	₩ 8,776,673	transactions and others W (33,909) - 130,748	loss	balance

14. Borrowings

Short-term borrowings as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021	
	Annual interest rate (%)	est rate Maturity Carry		Carrying amount	
Short-term borrowings in Korean won					
Kookmin Bank and others Short-term borrowings in	6.16 ~ 6.78	2023.11.18	₩ 270,000,000	₩	3,000,000
foreign currency					
Export-Import Bank of Korea and others	1.63 ~ 11.15	2023.11.20	6,537,304		19,551,464
			₩ 276,537,304	₩	22,551,464

Debentures from long-term borrowings as of December 31, 2022 and 2021, are as follows:

			2021		
Туре	Annual interest rate (%)	Maturity date	Carrying amount		Carrying amount
Unguaranteed public bond					
9-3rd public offering	-	-	₩ -	₩	50,000,000
10-2nd public offering	-	-	-		40,000,000
11-2nd public offering	2.83	2023-04-11	110,000,000		110,000,000
12-1st public offering	1.60	2023-05-12	150,000,000 150		150,000,000
12-2nd public offering	1.75	2025-05-14	50,000,000		50,000,000
12-3rd public offering	1.99	2027-05-14	100,000,000		100,000,000
			410,000,000		500,000,000
Discount or	debentures		(400,366)		(754,704)
Current portion	n of debentures		(259,918,154)		(89,982,760)
			₩ 149,681,480	₩	409,262,536

15. Provisions

Changes in provisions for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of	LVLL											
Korean won)	Beginning balance		Usage Ro		Reversal	Reversal (Others		Increase		
Provision for construction (product) warranties	₩	19,169,060	₩	(9,197,995)	₩	(3,843,415)	₩	(196,905)	₩	14,096,112	₩	20,026,857
Restoration liabilities ¹		1,694,792		(45,363)		(152,243)		(5,196)		2,519,735		4,011,725
Others		9,139,180		(17,637,185)		(240,687)		13,071		29,993,780		21,268,159
	₩	30,003,032	₩	(26,880,543)	₩	(4,236,345)	₩	(189,030)	₩	46,609,627	₩	45,306,741

 $^{^{1}}$ Increases in valuation of present value for the year ended December 31, 2022, amounting to \forall 111,716 thousand are included.

(in thousands of		2021										
Korean won)	Beginning balance	Increase	Usage	Reversal	Others	Changes in the scope of consolidation	Total					
Provision for construction (product)	₩ 22.903.500	₩ 15.802.506	₩ (12,691,968)	₩ (6,764,577)	₩ (80,401)	₩ -	₩ 19,169,060					
warranties Restoration liabilities ¹	1,323,674	446,497	(35,494)	(67,514)	6,677	20,952	1,694,792					
Others	11,475,309	8,271,953	(8,433,742)	(2,469,583)	295,243		9,139,180					
	₩ 35,702,483	₩ 24,520,956	₩ (21,161,204)	₩ (9,301,674)	₩ 221,519	₩ 20,952	₩ 30,003,032					

 $^{^{1}}$ Increases in valuation of present value for the year ended December 31, 2021, amounting to $\mbox{$W$}$ 36,963 thousand are included.

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Nature of provisions and expected timing for outflow of economic benefits are as follows:

(in thousands of Korean won)	2022						
	Withi	n 12 months	After	12 months		Total	
Provision for construction (product)							
warranties ¹	₩	20,026,857	₩	-	₩	20,026,857	
Restoration liabilities ²		-		4,011,725		4,011,725	
Others ³		21,268,159				21,268,159	
	₩	41,295,016	₩	4,011,725	₩	45,306,741	

¹ Estimated provision for construction warranties that would be expected in past service revenue.

³ Liability of compensation for damages and estimated provision related to hardware and SI construction work.

(in thousands of Korean won)	2021						
	Withi	n 12 months	After	12 months		Total	
Provision for construction (product)							
warranties ¹	₩	19,169,060	₩	-	₩	19,169,060	
Restoration liabilities ²		-		1,694,792		1,694,792	
Others ³	-	9,139,180		<u> </u>		9,139,180	
	₩	28,308,240	₩	1,694,792	₩	30,003,032	

¹ Estimated provision for construction warranties that would be expected in past service revenue.

16. Retirement Benefit Plan

(1) Defined contribution plan

The Group operates a defined contribution plan for employees. Obligation of the Group is to make payments to third-party funds. The benefits for employees are determined by the payments made to the funds and the investment earnings from the funds. Plan asset is managed by the third party and is segregated from the Group's assets. The contributions to defined contribution plan for the years ended December 31, 2022 and 2021, are $\mbox{$W$}$ 55,264,756 thousand and $\mbox{$W$}$ 47,305,900 thousand, respectively. Other payables in relation to defined contribution plans as of December 31, 2022 and 2021, are $\mbox{$W$}$ 9,274,004 thousand and $\mbox{$W$}$ 6,135,132 thousand, respectively.

For the year ended December 31, 2022, the expense recognized in the current period in relation to defined contribution plan was \W 57,972,166 thousand (2021: \W 48,680,309 thousand).

² Measured at present value of future restoration estimation costs on leased assets.

² Measured at present value of future restoration estimation costs on leased assets.

³ Liability of compensation for damages and estimated provision related to hardware and SI construction work.

(2) Defined benefit plan

The Group operates a defined benefit plan for employees, and according to the plan, employees will be paid their average salary of the final three months multiplied by the number of years vested, adjusted for payment rate and others. The valuations of related plan assets and defined benefit liability are performed by an independent reputable actuary using the projected unit credit method at its present value, relevant current service cost and past service costs.

Details of net defined benefit liabilities recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Present value of defined benefit obligations	₩	16,971,773	₩	17,151,133
Fair value of plan assets		(15,248,452)		(15,148,828)
	₩	1,723,321	₩	2,002,305
Net defined benefit liabilities	₩	2,298,401	₩	2,035,066
Net defined benefit assets		(575,080)		(32,761)

Movements in the defined benefit obligations for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021		
Beginning balance	₩	17,151,133	₩	15,047,231	
Current service cost		3,236,744		2,833,545	
Interest expense		514,316		193,995	
Remeasurements		(1,135,760)		(40,645)	
Benefit payments		(2,880,267)		(1,145,690)	
Changes in the scope of consolidation		-		492,315	
Transfer from (to) affiliated company		91,212		(254,504)	
Effect of foreign currency translation		(5,605)		24,886	
Ending balance	₩	16,971,773	₩	17,151,133	

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Profit or loss related to defined benefit plan for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022	2021		
Service cost:				
Current service cost ₩	3,236,744	₩	2,833,545	
Net interest on the net defined benefit liability (asset):				
Interest expense on defined benefit obligation	514,316		193,995	
Interest income on plan assets	(464,701)		(186,577)	
₩	49,616	₩	7,418	
Management fee for plan assets	22,887		20,884	
₩	3,309,247	₩	2,861,847	

On the other hand, defined benefit plan gain or loss is allocated to each item as follows:

(in thousands of Korean won)		2022		2021
Amounts included in the retirement benefits (selling and administrative expenses)	₩	2,916,492	₩	2,359,945
Amounts included in the commissions (selling and administrative expenses)		22,887		20,884
Amounts included in the cost of sales		369,868		481,018
	₩	3,309,247	₩	2,861,847

Movements in the fair value of plan assets for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022			2021		
Beginning balance	₩	15,148,828	₩	13,667,859		
Expected return on plan		464,701		186,577		
Remeasurements:						
Return on plan assets		(200,610)		34,427		
Transfer from affiliated company		623,468		110,800		
Management fee for plan assets		(22,887)		(20,884)		
Benefits paid		(2,864,729)		(1,123,495)		
Company's contributions to plan asset		2,100,000		2,293,000		
Effect of foreign currency translation		(319)		544		
Ending balance	₩	15,248,452	₩	15,148,828		

As of December 31, 2022 and 2021, all of the plan assets are invested in financial instruments that guarantee principal and interest rate.

The significant actuarial assumptions as of December 31, 2022 and 2021, are as follows:

	2022	2021
Discount rate (%)	5.1% ~ 7.5%	2.4% ~ 6.2%
Expected rate of salary increase (%)	3.0% ~ 9.8%	5.0% ~ 6.2%

The sensitivity of the defined benefit obligation to changes in the principal assumptions is:

(in thousands of Korean won)	2022						
	Defined benefit obligation		1% increase		1% decrease		
Change in discount rate	₩	16,971,773	₩	16,433,504	₩	17,549,019	
Change in rate of salary increase		16,971,773		17,547,664		16,424,524	

¹ The above sensitivity is estimated based on the assumption that holding all other assumptions constant.

(in thousands of Korean won)	2021						
	Defined benefit obligation		1% increase		1% decrease		
Change in discount rate	₩	17,151,133	₩	16,622,654	₩	17,716,741	
Change in rate of salary increase		17,151,133		17,697,845		16,629,308	

¹ The above sensitivity is estimated based on the assumption that holding all other assumptions constant.

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

Remeasurements related to net defined benefit liability(asset) for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021		
Actuarial losses (gains) arising from changes in demographic assumptions	₩	(17,579)	₩	32	
Actuarial gains arising from changes in financial assumptions		(1,855,004)		(502,632)	
Actuarial losses arising from experience		783,914		499,280	
Return on plan assets, excluding amounts included in interest income Actuarial gains arising from transfer in/out		200,610		(34,427)	
adjustments		(47,091)		(37,325)	
	₩	(935,150)	₩	(75,072)	

As of December 31, 2022, the weighted average duration of the defined benefit obligation is 3.82 years (December 31, 2021: 3.67 years). The expected maturity analysis of undiscounted pension benefits as of December 31, 2022, is as follows:

(in thousands of Korean won)	2022						
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years	Total		
Defined benefit obligation	₩ 2,913,094	₩ 5,369,231	₩ 3,592,543	₩ 9,260,095	₩ 21,134,963		

The estimated contributions expected to be paid in the next fiscal year are as follows:

(in thousands of Korean won)

Estimated contribution to plan assets1

₩

2,437,641

2023

¹ The expected amount for 2023 is calculated assuming that the ratio of the plan assets to the retirement benefit allowance as of December 31, 2022 will be maintained as of December 31, 2023.

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December 31, 2022 and 2021

17. Other Liabilities

Other liabilities as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022			20			
		Current	N	on-current		Current	N	on-current
Advance receipts Withholding value-added	₩	7,770,011	₩	-	₩	7,981,196	₩	-
tax		82,656,540		-		65,404,311		-
Withholdings		53,850,728		-		43,923,304		-
Government subsidies		2,169		-		160,342		-
Other long-term employee liabilities		-		18,912,602		-		18,021,210
Contract liabilities		213,255,231		-		173,236,029		-
	₩	357,534,679	₩	18,912,602	₩	290,705,182	₩	18,021,210

18. Contract Assets and Liabilities

Contract assets as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Construction contracts	₩	398,079,147	₩	278,117,008
Less: allowance for loss		(6,537,333)		(6,022,607)
	₩	391,541,814	₩	272,094,402

There are no changes in estimates or important assumptions applied when assessing the loss allowance for contract assets in construction contracts for the year ended December 31, 2022.

Changes in expected credit losses of contract assets for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022			2021		
Beginning balance	₩	6,022,607	₩	6,124,816		
Increase (decrease) in allowance for loss		514,726		(102,209)		
Ending balance	₩	6,537,333	₩	6,022,607		

Notes to the Consolidated Financial Statements December 31, 2022 and 2021

Contract costs as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Costs to fulfil a contract	₩	100,033,814	₩	108,574,548

Among the costs incurred before signing the contract (or expected contract) and the costs incurred in connection with the contract, the cost of creating, increasing the value and recovering the Group's resources to fulfill its future performance obligations was recognized as the costs to fulfil a contract. In the current year, there is no impairment loss recognized regarding the costs to fulfil a contract.

Contract liabilities as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021		
Construction contracts	₩	151,922,182	₩	115,146,927	
Equipment supply and maintenance		61,333,049		58,089,102	
	₩	213,255,231	₩	173,236,029	

The contract liabilities related to construction contracts are the balances received from the customers in accordance with construction contracts. This occurs when the amount received under the milestone exceeds the revenue recognized up to that point in accordance with the cost-based input method. There is no significant change in balance of the contract liabilities for the year ended December 31, 2022.

Revenue recognized for the years ended December 31, 2022 and 2021, that was included in the contract liabilities at the beginning of the year, is as follows:

(in thousands of Korean won)	2022		2021	
Construction contracts	₩	108,552,060	₩	83,492,998
Equipment supply and maintenance		46,929,041		28,600,840
	₩	155,481,101	₩	112,093,838

There is no revenue recognized for the year ended December 31, 2022 from the performance obligations that were satisfied during the year ended December 31, 2021.

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

Changes in estimated total contract amount and total contract cost for the construction contracts effective as of January 1, 2022, that recognize revenue over time by using the cost-based input method, effects of profit or loss for the current and future reporting periods and changes in contract assets and liabilities are as follows:

(in thousands of Korean won)	Changes in estimated total contract amount	Changes in estimated total contract costs	Effects of profit or loss in the current year	Effect of profit or loss in the future period	Changes in contract assets (contract liabilities) ¹
Construction contracts	₩ 73,030,450	₩ 111,330,681	₩ (35,035,097)	₩ (3,265,134)	₩ (35,076,966)

¹The contract loss provisions related to construction contracts as of December 31, 2022, are ₩ 14,801,356 thousand.

For the year ended December 31, 2022, there is no contract in which the amount of contract is 5% or more of the sales amount of the prior year, as contracts recognized revenue using the cost-based input method.

19. Share Capital

Details of share capital as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won and in shares)	Total number of authorized shares	Total number of shares issued	shares owned by related parties	Par va per sl (in Korea	hare	Share capital ¹	Share premium
Ordinary share	400,000,000	87,197,353	76,142,992	₩	500	₩ 47,198,411	₩ 46,625,595

Mumbarat

¹ As the Parent Company purchased 7,199,469 shares via tender offer at ₩ 12,000 per share and had retired them before the prior year, the share capital and total number of shares issued multiplied by par value are not equal.

20. Capital Surplus

Details of capital surplus as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022		2021	
Share premium	₩	46,625,595	₩	46,625,595
Gain on disposal of treasury share		454,597		454,597
Consolidated capital surplus		(12,039,406)		(10,386,880)
	₩	35,040,786	₩	36,693,312

21. Accumulated Other Comprehensive Income (Loss)

Details of accumulated other comprehensive income (loss) as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Unrealized gain on equity method	₩	2,597,316	₩	2,706,037
Loss on valuation of financial assets at fair value through other comprehensive income Loss on disposal of financial assets		(11,527,813)		(10,188,622)
at fair value through other comprehensive income		(157,716)		(157,716)
Loss on translation of foreign operations		(197,324)		(1,251,639)
	₩	(9,285,537)	₩	(8,891,940)

Equity instruments designated as fair value through other comprehensive income are not recognized for impairment. Accumulated gains and losses arising from the valuation of those equity instruments are not subsequently reclassified to profit or loss.

For the year ended December 31, 2022, there are no accumulated gains and losses arising from the valuation of those equity instruments that are subsequently reclassified to retained earnings.

Changes in fair value due to credit risk of financial liabilities measured at fair value through profit or loss are recognized in the other comprehensive income. Accumulated gains and losses arising from the valuation are not subsequently reclassified to profit or loss.

Notes to the Consolidated Financial Statements

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Changes in unrealized gain on equity method for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021		
Beginning balance	₩	2,706,037	₩	2,973,620	
Changes in unrealized gain on equity method		(161,940)		(232,173)	
Income tax effect		53,219		(35,410)	
Ending balance	₩	2,597,316	₩	2,706,037	

Changes in gain on valuation of financial assets at fair value through other comprehensive income for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Beginning balance	₩	3,796,505	₩	-
Changes in gain on valuation of financial assets at fair value through other comprehensive income		(1,320,873)		3,912,783
Income tax effect				(116,278)
Ending balance	₩	2,475,632	₩	3,796,505

Changes in loss on valuation of financial assets at fair value through other comprehensive income for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Beginning balance Changes in loss on valuation of financial assets at	₩	(13,985,127)	₩	(14,884,869)
fair value through other comprehensive income		(23,852)		1,186,993
Income tax effect		5,534		(287,251)
Ending balance	₩	(14,003,445)	₩	(13,985,127)

The changes in gain (loss) on translation of foreign operations for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022			2021
Beginning balance Changes in gain (loss) on translation of foreign	₩	(1,251,639)	₩	(6,993,509)
operations		1,054,315		5,741,870
Ending balance	₩	(197,324)	₩	(1,251,639)

22. Retained Earnings and Dividends

Changes in retained earnings for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022			2021
Beginning balance	₩	1,382,397,508	₩	1,220,926,561
Profit for the year attributable to owners of the Parent Company		265,375,671		235,648,324
Dividends paid Remeasurements of net defined benefit liabilities		(95,045,115)		(74,553,737)
recognized		846,810		75,073
Income tax effect		(127,658)		(15,918)
Changes in retained earnings using the equity method		(435,033)		1,184,135
Disposal of subsidiaries		<u> </u>		(866,930)
Ending balance	₩	1,553,012,183	₩	1,382,397,508

Details of dividend payments for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won and in shares)	2022			2021
Total number of shares issued		87,197,353		87,197,353
Number of shares attributable to dividend		87,197,353		87,197,353
(X) Dividend per share (in Korean won)	₩	1,090	₩	855
Total dividends	₩	95,045,115	₩	74,553,737

23. Revenue and Operating Profit

The Group is making profit by transferring goods and services over time or at a point in time in the following key business unit. The classification of key business unit is consistent with the disclosure of revenue by reportable segments in accordance with Korean IFRS 1108:

(in thousands of Korean won)		2022		2021
Sales recorded at a point in time:				
Sales of merchandise				
Equipment supply	₩	824,902,629	₩	660,142,166
Others		181,667,226		163,519,419
		1,006,569,855		823,661,585
Sales recorded over time:				
Service revenue				
Maintenance and others		1,911,696,191		1,598,873,590
Construction revenue				
Development service		1,602,468,128		1,343,232,494
Others		448,917,038		377,372,591
		3,963,081,357		3,319,478,675
	₩	4,969,651,212	₩	4,143,140,260

Details of operating profit for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022			2021
Revenue				
Sales of merchandise	₩	1,006,569,855	₩	823,661,585
Service revenue		1,911,696,191		1,598,873,590
Construction revenue		2,051,385,166		1,720,605,085
		4,969,651,212		4,143,140,260
Cost of goods sold				
Cost of merchandise		886,824,069		731,399,233
Service cost		1,613,942,074		1,350,406,153
Construction cost		1,736,874,611		1,444,371,075
		4,237,640,754		3,526,176,461
Gross profit		732,010,458		616,963,799
Selling and administrative expenses				
Salaries and wages		141,536,566		127,243,776
Retirement benefits		11,864,380		10,114,865
Welfare		25,888,619		27,466,965
Depreciation		9,929,002		7,246,537
Amortization of intangible		5.040.000		4 007 400
assets Research and development		5,213,900		4,337,128
expenses		47,841,016		34,661,031
Commission		16,208,676		11,172,189
Training expenses		7,940,969		5,531,049
Service contract expenses		33,994,931		19,898,375
Rent expense		4,160,449		5,110,975
Bad debt expenses (reversal)		(4,013,449)		765,610
Increase in provision		3,790,424		539,452
Others	-	42,260,199	-	34,290,908
		346,615,682		288,378,860
Operating profit	₩	385,394,776	₩	328,584,939

24. Breakdown of Expenses by Nature

Breakdown of expenses by nature for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022							
		hanges in nventories			tive			Total
Changes in inventories:								
Merchandise	₩	(3,749,857)	₩	-	₩	890,574,588	₩	886,824,731
Other inventories	(278,865)			-		400,685,435		400,406,570
		(4,028,722)		-		1,291,260,023		1,287,231,302
Used raw material		-		-		630,318		630,318
Employee benefits		-		179,289,565		840,350,056		1,019,639,621
Depreciation and amortization		-		15,142,902		73,745,315		88,888,217
Commission		-		16,208,676	169,415,910			185,624,586
Rent expense		-		4,160,449	221,897,216			226,057,665
Service contract expenses	-			33,994,931		1,470,279,090		1,504,274,021
Others		-		97,819,159		174,091,548		271,910,707
	₩	(4,028,722)	₩	346,615,682	₩	4,241,669,476	₩	4,584,256,436

¹ Consolidation adjustments are reflected on each account of selling and administrative expenses.

(in thousands of Korean won)	2021							
	Changes in inventories		Selling and administrative expenses ¹		C	ost of sales	Total	
Changes in inventories:								
Merchandise	₩	(16,977,114)	₩	-	₩	749,268,999	₩	732,291,885
Other inventories		414,704		-		266,607,191		267,021,895
		(16,562,410)				1,015,876,190		999,313,780
Used raw material		-		-		472,694		472,694
Employee benefits		-		164,825,606		741,815,960		906,641,566
Depreciation and amortization		-		11,583,665		67,410,785		78,994,450
Commission		-		11,172,189		198,756,141		209,928,330
Rent expense		-		5,110,975		106,713,506		111,824,481
Service contract expenses		-		19,898,375		1,230,181,855		1,250,080,230
Others		_		75,788,050		181,511,740		257,299,790
	₩	(16,562,410)	₩	288,378,860	₩	3,542,738,871	₩ :	3,814,555,321

¹ Consolidation adjustments are reflected on each account of selling and administrative expenses.

25. Financial Income and Expenses

Financial income for the years ended December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		2022		2021		
Interest income	₩	13,166,363	₩	7,626,816		
Dividend income		17,997		682,195		
Gain on foreign currency translation and transaction		4,728,389		802,531		
Gain on valuation of financial assets at fair value through profit or loss		276,938		648,899		
	₩	18,189,687	₩	9,760,441		

Interest income included in financial income for the years ended December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		2022	2021			
Interest income by effective interest method Financial assets at amortized cost	₩	42.400.202	₩	7.540.700		
Interest income on financial assets at fair value through profit or loss	VV	13,166,363	VV	7,513,723		
Financial assets at fair value through profit or loss		-		113,093		
	₩	13,166,363	₩	7,626,816		

Financial expenses for the years ended December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		2022	2021		
Interest expense	₩	13,626,160	₩	13,503,358	
Loss on foreign currency translation and					
transaction		5,248,427		1,348,960	
Loss on transaction of derivatives		47,151		-	
Loss on valuation of derivatives		464,301		-	
Loss on disposal of financial assets					
at fair value through profit or loss		-		16,900	
Loss on valuation of financial assets					
at fair value through profit or loss		91,380		128,452	
Loss on disposal of					
financial assets at fair value through other					
comprehensive income		-		17,501	
Others		7,715		<u>-</u>	
	₩	19,485,134	₩	15,015,171	
		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	

Interest expenses included in financial expenses for the years ended December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)	-	2022	2021		
Bank overdrafts and loan interest	₩	3,368,099	₩	761,555	
Interest expense on lease liabilities		1,334,619		1,161,499	
Interest expense on debentures		9,289,116		10,898,614	
Other interest expense		375,073		1,408,735	
Less: interest expense capitalized ¹		(740,746)		(727,045)	
	₩	13,626,161	₩	13,503,358	

¹ Capitalization interest rates used for the years ended December 31, 2022 and 2021, are 2.51% and 2.23%, respectively.

26. Other Non-Operating Income and Expenses

Other non-operating income and expenses for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022	2021		
Other non-operating income					
Rental income	₩	3,044,516	₩	2,731,744	
Commission		615,309		616,572	
Gain on foreign currency translation and transaction		20,984,849		10,447,633	
Gain on disposal of property, plant and equipment		193,943		469,845	
Gain on disposal of right of use asset		106,290		81,972	
Gain on disposal of intangible assets		51,220		-	
Gain on transactions of derivatives		10,251,449		4,967,716	
Gain on valuation of derivatives		11,442,050		2,037,607	
Gain on disposal of investments in subsidiaries		23,669		-	
Miscellaneous gain		306,202		1,052,632	
Reversal of other bad debt expenses Reversal of impairment of investments in		2,426,564		1,000	
associates		-		1,872	
Other non-operating income		<u> </u>		2,330,703	
	₩	49,446,061	₩	24,739,297	
Other non-operating expenses					
Loss on foreign currency translation and transaction	₩	24,895,713	₩	7,867,026	
Loss on disposal of property, plant and equipment		151,026		283,268	
Loss on disposal of right of use asset		46,717		3,897	
Loss on disposal of intangible assets		119,228		5,698	
Loss on transaction of derivatives		27,397,938		12,315,065	
Loss on valuation of derivatives		1,345,802		2,564,026	
Loss on disposal of investments in subsidiaries Loss on impairment of property, plant and		-		16,760	
equipment		-		6,036,141	
Loss on impairment of intangible assets		10,370,237		2,674,464	
Loss on impairment of investments in associates		6,605,625		1,700,000	
Miscellaneous loss		1,221,383		393,663	
Other bad debt expenses		148,718		768,367	
Donations and contributions		1,835,000		1,396,498	
	₩	74,137,387	₩	36,024,873	

27. Net Gains (Losses) on Financial Instruments by Category

Net gains or losses on each category of financial instruments for the years ended December 31, 2022 and 2021, are as follows:

				2022			
(in thousands of Korean won)	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other financial liabilities	Total
Reversal of bad debt	₩ 6,291,294	\	₩ -	₩ -	₩ -	₩ -	₩ 6.291.294
expenses Gain (loss) on valuation	W 6,291,294	VV -	- ۷۷	- ۷۷	VV -	-	₩ 6,291,294
of derivatives	-	11,442,050	-	-	(1,810,103)	-	9,631,947
Gain (loss) on transactions of							
derivatives	-	9,582,794	-	-	(26,776,433)	-	(17,193,639)
Interest income	13,166,363	-	-	-	-	-	13,166,363
Interest expenses	-	-	-	(11,916,469)	-	(1,334,619)	(13,251,088)
Dividend income	-	17,996	-	-	-	-	17,996
Gain (loss) on							
valuation	-	185,559	(1,344,725)	-	-	-	(1,159,166)
Gain on transaction	-	-	-	-	-	-	-
Gain (loss) on foreign currency translation							
and transaction	996,420			(4,436,517)			(3,440,097)
	₩ 20,454,077	₩ 21,228,399	₩ (1,344,725)	₩ (16,352,986)	₩ (28,586,536)	₩ (1,334,619)	₩ (5,936,390)

							2021						
	assets	ass valu	sets at fair ue through	as va	ssets at fair lue through other	I	iabilities	lial va	oilities at fair lue through				Total
₩	(1,532,978)	₩	-	₩	-	₩	-	₩	-	₩		₩	(1,532,978)
			2,037,607		-		-		(2,564,026)		-		(526,419)
			4 967 716				_		(12 315 065)				(7,347,349)
	6 715 002				_		_		(12,313,003)		_		6,828,185
	0,713,092		113,093		-	,	- 11 CEO 07E\		-		(4.464.400)		
	-		040.004			(11,000,070)		-		(1,161,499)		(12,820,374)
	-		•		•		-		-		-		682,194
	-		•		, ,		-		-		-		5,620,222
	-		(16,900)		(17,501)		-		-		-		(34,401)
	4,042,247		_		<u>-</u>		(2,835,938)						1,206,309
₩	9,224,361	₩	8,241,353	₩	5,145,078	₩ (14,494,813)	₩	(14,879,091)	₩	(1,161,499)	₩	(7,924,611)
	at	at amortized cost	assets assat amortized value cost pro	assets at fair value through profit or loss	Financial assets at fair value through profit or loss (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (2,037,607) (3,715,092) (4,967,716) (4,967,716) (6,715,092) (13,093) (16,900) (16,900)	assets at fair value through profit or loss income (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (1,532,978) (2,037,607 (1,907) (1,532,978) (1,5	Financial assets at fair value through cost value through profit or loss value through cost value through profit or loss value through profit or loss value through income value through profit or loss value through profit or loss value through income value through comprehensive at value through profit or loss value value through comprehensive value through profit or loss value through comprehensive value through value through comprehensive value through value value through value value value value through value	Financial assets Financial assets at fair value through profit or loss Value through cost Sinancial assets at fair value through profit or loss Value through other comprehensive income Financial liabilities at amortized cost ₩ (1,532,978) ₩ - ₩ - ₩ -	Financial assets at fair value through cost profit or loss at amortized cost profit or loss at amortized cost profit or loss at amortized value through profit or loss at amortized value through cost profit or loss at amortized value through at a tamortized value through cost profit or loss at amortized value through cos	Financial assets at fair value through cost Financial assets at fair value through cost Financial assets at fair value through profit or loss W (1,532,978) W - W - W - W - W - W - W - W - W - W	Financial assets at fair value through cost Financial assets at fair value through profit or loss W (1,532,978) W - W - W - W - W - W - W - W - W - W	Financial assets at fair at amortized cost Financial assets at fair value through cost Financial assets at fair value through cost Financial assets at fair value through cost Financial liabilities Inancial liabilities at fair value through profit or loss Financial liabilities at fair value through profit or loss Financial liabilities Financial l	Financial assets at fair at amortized cost Financial assets at fair value through cost Financial assets at fair at amortized cost Financial assets at fair value through profit or loss Financial liabilities at fair value through cost Financial liabilities at fair value through profit or loss Financial liabilities Financial li

28. Earnings per share

Basic earning per share is calculated by dividing the profit for the year attributable to ordinary shareholders by weighted average numbers of ordinary shares outstanding.

Details of calculation of earnings per share for years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021	
Profit for the year attributable to owners of the Parent Company	₩	265,375,671	₩	235,648,324	
Less: Profit attributable to the preferred shareholders of the Parent Company		-		-	
Less: Undeclared participating preferred share dividend		-		-	
Profit for the period attributable to the ordinary shareholders of the Parent Company		265,375,671		235,648,324	
Weighted average number of ordinary shares outstanding (excluding treasury shares)		87,197,353		87,197,353	
Basic earnings per share (in Korean won)	₩	3,043	₩	2,702	

The Parent Company did not issue any potential ordinary shares. Therefore, basic earnings per share is identical to diluted earnings per share.

29. Income taxes

Income tax expense for the years ended December 31, 2022 and 2021, consists of:

(in thousands of Korean won)		2022	2021		
Current income tax payable	₩	102,106,335	₩	101,920,051	
Adjustment relating to prior income tax expense		713,208		7,492,443	
Tax expenses related to the variation of temporary difference		(2,488,108)		(28,111,638)	
Effect of translation		(144,132)		129,583	
Beginning deferred tax assets due to temporary differences		58,820,385		31,034,021	
Ending deferred tax assets due to temporary differences		61,084,135		58,820,385	
Deferred tax directly reflected in equity		(80,226)		(454,857)	
Decrease (increase) in deferred tax assets		(526,143)		284,857	
Business Combination		-		(379,229)	
Others	-	90,681		(62,518)	
Income tax expense	₩	99,895,973	₩	81,143,966	

Reconciliation between accounting income and income tax expense of the Group for the years ended December 31, 2022 and 2021, is as follows

(in thousands of Korean won)	2022			2021
Profit before income tax expense	₩	364,864,128	₩	316,090,462
Tax at domestic tax rates applicable to profits in the respective countries		94,611,693		80,405,405
Adjustments:		5,284,280		738,561
Income not subject to tax		(31,462)		292,654
Expenses not deductible for tax purposes		6,368,592		2,174,320
Adjustment relating to prior income tax expense		708,727		7,357,799
Effect of tax credit and exemption Temporary differences not recognized as deferred tax		(17,586,119)		(10,834,740)
assets		1,900,040		939,290
Foreign tax adjustment		11,331,974		(5,498,837)
Others		2,592,528		6,308,076
Income tax expense	₩	99,895,973	₩	81,143,966

The aggregate current and deferred tax relating to items that are charged or credited directly to equity for the years ended December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		2022		2021		
Unrealized gain on equity method	₩	53,218	₩	(35,410)		
Gain (loss) on valuation of financial assets at fair value through other comprehensive income		5,534		(403,529)		
Remeasurements of defined benefit plan		(138,977)		(15,918)		
Total deferred tax directly reflected in equity	₩	(80,226)	₩	(454,857)		

Changes in deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021, are as follows

(in thousands of Korean won)	2022								
	Begin	Increase nning balance (Decrease) Ending			ding balance				
Temporary differences:									
Valuation of derivative instruments	₩	228,179	₩	(2,570,509)	₩	(2,342,329)			
Property, plant and equipment		8,249,263		2,505,921		10,755,184			
Intangible assets Financial assets at fair value through other comprehensive		(203,729)		(226,988)		(430,716)			
income		78,448		(320,016)		(241,568)			
Provisions		13,400,476		1,193,304		14,593,780			
Doubtful receivable		960,293		(135,754)		824,539			
Other		37,719,581		1,534,347		39,253,927			
Carried forward tax credit		3,605,746		(1,022,678)		2,583,068			
Consolidation adjustments		(5,217,872)		1,306,124		(3,911,749)			
Deferred tax assets (liabilities)	₩	58,820,385	₩	2,263,751	₩	61,084,135			

(in thousands of Korean won)	2021								
	Begin	Increase Beginning balance (Decrease)				ding balance			
Temporary differences:									
Valuation of derivative instruments Investments in subsidiaries and	₩	(479,906)	₩	708,085	₩	228,179			
associates		806,871		(806,871)		-			
Property, plant and equipment		6,924,495		1,324,768		8,249,263			
Intangible assets		(250,584)		46,855		(203,729)			
Financial assets at fair value through other comprehensive									
income		378,271		(299,823)		78,448			
Provisions		12,575,733		824,743		13,400,476			
Doubtful receivable		960,293		-		960,293			
Other		14,202,796		23,516,785		37,719,581			
Carried forward tax credit		(372,938)		3,978,684		3,605,746			
Consolidation adjustments		(3,711,010)		(1,506,862)		(5,217,872)			
Deferred tax assets (liabilities)	₩	31,034,021	₩	27,786,364	₩	58,820,385			

As of December 31, 2022 and 2021, details related to unrecognized deferred tax assets (liabilities) (excluding investment assets and equity-related assets) are as follows:

(in thousands of Korean won)	2	2022	2021			
Temporary differences	₩	402,247	₩	152,570		
Tax losses		5,044,188		4,347,866		
Unused tax credit		1,436,575		164,545		

Details of unrecognized temporary differences as deferred tax assets (liabilities) related to investment in subsidiaries and associates as of December 31, 2022 and 2021, are as follows

(in thousands of Korean won)	2022			2021
Investments in subsidiaries	₩	(95,309,739)	₩	(74,971,765)
Investments in associates		3,354,621		2,104,475
	₩	(91,955,118)	₩	(72,867,290)

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

The timing of collection and settlement of deferred tax assets (liabilities) is as follows.

(in thousands of Korean won)		2022	2021		
Deferred tax assets					
Deferred tax asset to be recovered after more than 12 months	₩	19,283,548	₩	17,820,061	
Deferred tax asset to be recovered within 12 months		44,384,484		41,193,609	
		63,668,032		59,013,670	
Deferred tax liabilities					
Deferred tax liability to be recovered after more than 12 months		-		-	
Deferred tax liability to be recovered within 12 months		(2,583,897)		(193,285)	
		(2,583,897)		(193,285)	
Deferred tax assets (liabilities), net	₩	61,084,135	₩	58,820,385	

30. Related Party Transactions

Details of related parties of the Group as of December 31, 2022 and 2021, are as follows:

	2	2022
Parent Company (including Immediate Parent Company and its associates)	Subsidiaries, joint ventures and associates of Parent Company (including Immediate Parent Company and its associates) (domestic) 1	Subsidiaries, joint ventures and associates of Parent Company (including Immediate Parent Company and its associates) (overseas) 1
Immediate Parent Compa	ny and its subsidiaries	
LG Corp.	D&O CORP. and others ^{2,3} LG Management Development Institute LG Sports Ltd.	LG Holdings Japan Co., Ltd. S&I NANJING Co., Ltd. and others ²
Associates and joint vent	tures	
LG CNS Co., Ltd.	Tmoney Co., Ltd. and others Songdo U-Life LLC and others Daegu clean energy Co., Ltd. Cloudgram Co., Ltd. KoreaDRD Co., Ltd. HEMPKING Danbi Inc. bithumb META ⁴ Sejong-smartcity Co., Ltd. ⁴	T money Asia sdn bhd and others RECAUDO BOGOTA S.A.S Hellas SmarTicket Societe Anonyme
Associates and joint vent LG Electronics Inc.	tures of Immediate Parent Company Hi Plaza Inc. High-M Solutec Co., Ltd.	LG Electronics Mexico S.A.DE C.V. and others

HITeleservice Co., Ltd. Ace R&A Co., Ltd. LG Innotek Co., Ltd. Innowith Co., Ltd. LG Hanuri Co. Ltd.

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

	2022							
Parent Company (including Immediate Parent Company and its associates)	Subsidiaries, joint ventures and associates of Parent Company (including Immediate Parent Company and its associates) (domestic) 1	Subsidiaries, joint ventures and associates of Parent Company (including Immediate Parent Company and its associates) (overseas) 1						
LG Chem Ltd.	ZKW Lighting Systems Korea Co., Ltd. Hi-Caresolution Corp LG Magna e-Powertrain Co., Ltd. Fitness Candy ⁵ AppleMango Co.Ltd. ⁶ Haemgboknuri Co., Ltd. FarmHannong LG ENERGY SOLUTION, LTD. Aremuri. Co. Ltd.	LG Chem America, Inc. and others						
LG Uplus Corp.	LGBCM CS Leader Ain Teleservice Medialog Corp. CS ONE Partner WithU LG Hellovision Co., Ltd. LG Uplus Homeservice Co., Ltd. CV Partners Co.,Ltd. Murex wave active senior investment association	Dacom America, Inc. and others						
LG Household & Health Care Ltd.	Coca-Cola Beverage Co. Hankook Beverage Co., Ltd. HTB Co., Ltd. Balkeunnuri Co., Ltd. FMG Co., Ltd. LG Farouk TAI GUK PHARM Co., Ltd. Ulleungdo Choosan Water RUCIPELLO KOREA INC. MiGenstory Co., Ltd. Gowoonnuri KONJIAM YEWON Co., Ltd. ⁷	Beijing LG Household Chemical Co.,Ltd. and others						
GIIR Corp.	HS Ad Co., Ltd. L.Best	GIIR America, Inc. and others						
ZKW Holding GmbH ⁸ ZKW Austria Immobilien Holding GmbH	ZKW Lighting Systems Korea Co., Ltd.	ZKW Group GmbH. and others ZKW Austria Immobilien GmbH						
Large Enterprise Group	entities and others ⁹							
Large Enterprise Group		LC Display Napiing Co. Ltd. and others						

LG Display Nanumnuri Co., Ltd. LG Display Nanjing Co., Ltd. and others

SEETEC Co., Ltd. DACOM Crossing Robostar Co., Ltd

Robostar(Shanghai) Co., Ltd.

Other related parties CRYSTAL KOREA

LIMITED

¹ Joint ventures of associates are excluded.

² Associates of subsidiaries with direct shareholding are included.

³ During the year ended December 31, 2022, S & I Corp., S&I CM Co.,Ltd. and S&I Atxpert Co., Ltd. have changed their names to D&O CORP., D&O CM CORP. CO.,LTD. and S&I Corp., respectively.

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

9 These entities are not related parties as defined in paragraph 9 of Korean IFRS 1024. However, the entities are classified as related parties in accordance with the resolution of the Securities and Futures Commission that defined the entities included in a Large Enterprise Group designated by the Fair Trade Commission are considered related parties with the substantive relationship stipulated in paragraph 10 of Korean IFRS 1024.

	2021							
	Subsidiaries and joint ventures and							
Parent Company	associates of Parent Company	Subsidiaries and joint ventures and						
(including Immediate	(including Immediate Parent	associates of Parent Company						
Parent Company and	Company and its associates)	(including Immediate Parent Company						
its associates)	(domestic) ¹	and its associates) (overseas) ¹						

Immediate Parent Company and its subsidiaries

S&I Corporation Co., Ltd. and others ² LG Corp.

LG Management Development Institute

LG Sports Ltd.

LG Holdings Japan Co., Ltd. S&I NANJING Co., Ltd. and others ²

Associates and joint ventures

LG CNS Co., Ltd. Tmoney Co., Ltd. and others

Songdo U-Life LLC and others Daegu clean energy Co., Ltd.

Cloudgram Co., Ltd. KoreaDRD Co., Ltd. **HEMPKING** Danbi Inc.

T money Asia sdn bhd and others **RECAUDO BOGOTA S.A.S** Hellas SmarTicket Societe Anonyme

LG Electronics Mexico S.A.DE C.V. and

LG Chem America, Inc. and others

Associates and joint ventures of Immediate Parent Company

LG Electronics Inc. Hi Plaza Inc.

> High-M Solutec Co., Ltd. HITeleservice Co., Ltd. Ace R&A Co., Ltd. LG Innotek Co., Ltd. Innowith Co., Ltd. LG Hanuri Co. Ltd.

ZKW Lighting Systems Korea Co., Ltd.

Hi-Caresolution Corp ³

LG Magna e-Powertrain Co., Ltd. 4

LG Chem Ltd. Haemgboknuri Co., Ltd.

FarmHannong

LG ENERGY SOLUTION, LTD.

Aremnuri. Co. Ltd. 5

LGBCM ⁶

CS Leader LG Uplus Corp.

Ain Teleservice

Dacom America, Inc.

others

⁴ Newly acquired as investment in associates during the year ended December 31, 2022.

⁵ Newly acquired as investment in subsidiaries of LG Electronics Inc. during the year ended December 31, 2022.

⁶ Newly acquired as investment in associates of LG Electronics Inc. during the year ended December 31, 2022.

⁷ Newly acquired as investment in subsidiaries of LG Household & Health Care Ltd. during the year ended December 31, 2022.

⁸ It is an associate of an Immediate Parent Company and a subsidiary of LG Electronics Inc., which is also an associate of an Immediate Parent Company. Therefore, its related party transactions are included in the transactions with LG Electronics Inc.

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

	:	2021
Parent Company (including Immediate Parent Company and its associates)	Subsidiaries and joint ventures and associates of Parent Company (including Immediate Parent Company and its associates) (domestic) 1	Subsidiaries and joint ventures and associates of Parent Company (including Immediate Parent Company and its associates) (overseas) ¹
	Medialog Corp. CS ONE Partner WithU LG Hellovision Co., Ltd. LG Uplus Homeservice Co., Ltd. CV Partners Co.,Ltd. Murex wave active senior investment association ⁷	
LG Household & Health Care Ltd.	Coca-Cola Beverage Co. Hankook Beverage Co., Ltd. HTB Co., Ltd. Balkeunnuri Co., Ltd. FMG Co., Ltd. LG Farouk TAI GUK PHARM Co., Ltd. Ulleungdo Choosan Water RUCIPELLO KOREA INC. MiGenstory Co., Ltd. RoaKorea Co., Ltd. ¹² Gowoonnuri ⁸	Beijing LG Household Chemical Co.,Ltd. and others
GIIR Corp.	HS Ad Co., Ltd. L.Best	GIIR America, Inc. and others
LG Hitachi Co., Ltd. ¹³		710110
ZKW Holding GmbH ZKW Austria Immobilien Holding GmbH	ZKW Lighting Systems Korea Co., Ltd.	ZKW Group GmbH. and others ZKW Austria Immobilien GmbH
Large Enterprise Group LG Display SEETEC Co., Ltd. DACOM Crossing	entities and others ¹¹ Nanumnuri Co., Ltd.	LG Display Nanjing Co., Ltd. and others
Robostar Co., Ltd		Robostar(Shanghai) Co., Ltd.
LX Holdings Corp. ⁹ LX Hausys, Ltd. ¹⁰ LX Semicon Co., Ltd. ¹⁰	GREENNURI CO.,LTD	LX Hausys America, Inc. and others LX Semicon U.S.A. Inc. and others
LV International Corp. 10	DANC IIN TANK TEDMINAI	LV International (America) Inc. and others

LX International (America) Inc. and others

LX MMA Corp. 10

Other related parties CRYSTAL KOREA

LX International Corp. 10

LIMITED

DANGJIN TANK TERMINAL

LX Pantos Co., Ltd. ¹⁰ PANTOS BUSAN NEWPORT HELISTAR AIR CO., LTD. Hanultari Co., Ltd.

¹ Joint ventures of associates are excluded.

² Associates of subsidiaries with direct shareholding are included.

³ Classified as a subsidiary due to acquisition of equity in 2021.

⁴ Newly established as a subsidiary of LG Electronics Inc. in 2021.

⁵ Newly established as a subsidiary of LG ENERGY SOLUTION, LTD. in 2021.

⁶ Newly established as a subsidiary of LG Chem Ltd. in 2021.

⁷ Newly established as a subsidiary of LG Uplus Corp. in 2021.

Notes to the Consolidated Financial Statements December 31, 2022 and 2021

¹⁰ It is an associate of LX Holdings Corp., which was newly established from LG Corp. due to equity sign-off during the year ended December 31, 2021. As of July 1, 2021, LG Hausys, Ltd., Silicon Works Inc., LG International Corp., LG MMA Corp. and Pantos Co., Ltd. have changed their names to LX HAUSYS, LTD., LX Semicon Co., Ltd., LX INTERNATIONAL CORP., LX MMA Corp. and LX Pantos Co., Ltd., respectively and have separated during the year ended December 31, 2022.

¹¹ These entities are not related parties as defined in paragraph 9 of Korean IFRS 1024. However, the entities are classified as related parties in accordance with the resolution of the Securities and Futures Commission that defined the entities included in a Large Enterprise Group designated by the Fair Trade Commission are considered related parties with the substantive relationship stipulated in paragraph 10 of Korean IFRS 1024.

Transactions between the Parent Company and subsidiaries have been eliminated in the process of preparing the consolidated financial statements. Details of transactions between the Group and related parties for the years ended December 31, 2022 and 2021, are as follows:

Sales and purchases with related parties for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022						2021						
	Sales	and others ³	Acquisition of property, plant and equipment and intangible			: :		and others	Acquisition of property, plant and equipment and intangible assets		Other purchases			
Immediate Parent Company and its	s subsidi	aries												
LG Corp.	₩	7,139,241	₩	-	₩	16,681,099	₩	4,774,424	₩	-	₩	14,941,869		
LG Holdings Japan co., Ltd.		360,598		-		-		-		-		73,159		
D&O CORP. 1.2		55,382,777	100	0,31 0		36,594,769		55,252,953	172,	045		32,961,879		
LG Sports Ltd.		1,573,604		_		40,000		1,149,839		-		40,000		
LG Management Development														
Institute		46,186,065				8,096,215		24,057,251				6,657,433		
		110,642,285	100,	310		61,412,083		85,234,467	172,	045		54,674,341		

⁸ Newly established as a subsidiary of Coca-Cola Beverage Co. in 2021.

⁹ Newly established from LG Corp due to equity spin-off in 2021 and separated during the year ended December 31, 2021.

¹² It was liquidated during the year ended December 31, 2022.

¹³ It was sold during the year ended December 31, 2022.

(in thousands of Korean won)	2022			2021		
	Sales and others ³	Acquisition of property, plant and equipment and intangible assets	Other purchases	Sales and others	Acquisition of property, plant and equipment and intangible assets	Other purchases
Associates						
Tmoney Co., Ltd. 1	22,846,130	-	1,137,113	21,798,977	-	1,273,462
RECAUDO BOGOTA S.A.S	21,007,844	-	-	11,271,570	-	-
Hellas SmarTicket Societe Anonyme	1,518,079	-	-	9,152,587	-	-
Cloudgram Co., Ltd.	-	-	3,729,228	25,250	-	2,052,027
KoreaDRD Co., Ltd.	620,000	-	587,384	1,610,000	-	773,519
HEMPKING	-	-	137,120	-	-	75,150
bithumb META	6,710,985	-	-	-	-	-
Sejong-smartcity Co., Ltd.	1,926,252		5			-
	54,629,290		5,590,850	43,858,384		4,174,159
Associates of Immediate Parent Con	mpany and its subsid	liaries				
LG Chem Ltd. ¹	1,017,036,768	-	20,357,429	743,644,620	1,817,300	12,178,990
LG Household & Health Care Ltd. 1	42,838,810	4,433	3,640,840	39,003,484	-	3,389,571
LX Hausys, Ltd. 1,4	-	-	-	9,961,340	-	-
LG Electronics Inc. ¹	1,062,386,856	132,588	141,040,752	921,435,147	32,249	146,197,271
GIIR Corp. ¹	9,772,114	7,289	1,190,608	6,959,309		241,555
LG U Plus Co., Ltd. 1	490,799,550	12,104	27,448,081	385,886,148	-	22,342,637
LG Hitachi Co., Ltd.	104,420	-	507,434	114,973	-	626,173
LX Semicon Co., Ltd. ⁴	-	-	-	1,668,430	-	-
LX International Corp. 1,4		<u> </u>	<u>-</u>	14,283,834		51,598
	2,622,938,518	156,414	194,185,144	2,122,957,285	1,849,549	185,027,795
A joint venture of Intermediate Imme	ediate Parent Compa	ny				
LX MMA Corp. ⁴			-	1,574,184	<u> </u>	-
			-	1,574,184	<u> </u>	-
Large Enterprise Group entities and	l others					
LG Display ¹	276,851,001	-	47,141	329,724,263	-	118,364
LX Holdings Corp.	1,042,458	-	-	7,084,047	-	-
LX Hausys, Ltd. 1,4	14,729,718	-	2,770	18,222,538	-	-
LX MMA Corp. ⁴	2,425,097	-	-	3,169,173	-	-
LX Semicon Co., Ltd. ⁴	4,475,979	-	-	4,413,148	-	-
LX International Corp. 1,4	54,847,613	-	150,802	36,604,179	-	270,491
Robostar Co., Ltd	4,372			<u>-</u>		
	354,376,238	-	200,713	399,217,349	-	388,855

(in thousands of Korean won)		2022			2021			
					Acquisition of			
		Acquisition of property, plant			property, plant and equipment			
		and equipment		and				
		and intangible	Other		intangible	Other		
	Sales and others ³	assets	purchases	Sales and others	assets	purchases		
	₩ 3 142 586 331	₩ 256 724	₩ 261 388 790	₩ 2 652 841 670	₩ 2.021.595	₩ 244 265 150		

¹ This includes transaction details for subsidiaries.

² This includes transaction details for associates.

 $^{^3}$ Other than the above transactions, the amount recognized related to contract assets and contract liabilities for LG Electronics Inc. and others is $\mbox{$W$}$ 63,834,624 thousand and contract assets of $\mbox{$W$}$ 189,969,350 thousand and contract liabilities of $\mbox{$W$}$ 155,503,005 thousand are recognized during the year ended December 31, 2022.

⁴ It is an associate of LX Holdings Corp., which was spun-off from LG Corp. in 2021. Transaction details were divided and recorded based on the time of the equity spin-off.

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

Outstanding balances arising from sales/purchases of goods and services as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022	2	2021				
	Trade receivables and others ¹	Trade payables and others ^{2,8}	Trade receivables and others ¹	Trade payables and others ²			
Immediate Parent Company and its subsidiaries							
LG Corp.	₩ 6,470,648	₩ 1,814,476	₩ 5,352,781	₩ 1,619,843			
S&I Corp. ^{3,4}	16,250,707	2,190,957	21,542,849	2,505,222			
LG Sports Ltd.	96,293	-	145,190	-			
LG Management Development Institute	5,391,423	308,203	8,486,171	290,033			
	28,209,071	4,313,636	35,526,990	4,415,098			
Associates							
Tmoney Co., Ltd.	2,372,377	163,467	2,741,097	70,928			
RECAUDO BOGOTA S.A.S ⁵	20,383,643	-	24,323,532	-			
Hellas SmarTicket Societe Anonyme	121,112	-	3,028,447	-			
Cloudgram Co., Ltd.	-	48,666	27,775	4,334			
KoreaDRD Co., Ltd.	-	-	-	54,483			
Sejong-smartcity Co., Ltd.	1,257,267						
	24,134,399	212,133	30,120,851	129,745			
Associates of Immediate Parent Con	npany and its subsid	diaries					
LG Chem Ltd. ³	496,177,175	6,088,604	315,778,445	5,958,116			
LG Household & Health Care Ltd. 3	4,949,072	332,023	5,287,709	449,202			
LG Electronics Inc. 3,6	339,554,618	29,880,125	323,575,918	31,471,116			
GIIR Corp. ³	3,821,115	1,198,498	3,431,042	42,432			
LG U Plus Co., Ltd. ³	131,757,777	7,963,450	80,174,354	2,968,793			
LG Hitachi Co., Ltd.			110,880	39,645			
	976,259,757	45,462,700	728,358,348	40,929,304			
Large Enterprise Group entities and	others						
LG Display	94,293,317	19,571	186,784,175	99,624			
LX Holdings Corp. ⁷	-	-	183,780	-			
LX Hausys, Ltd. ^{3,7}	-	-	5,472,850	-			
LX MMA Corp. ⁷	-	-	616,136	-			
LX Semicon Co., Ltd. ⁷	-	-	454,011	-			
LX International Corp. 3,7			11,084,297	145,817			
	94,293,317	19,571	204,595,249	245,441			
	₩ 1,122,896,544	₩ 50,008,040	₩ 998,601,438	₩ 45,719,588			

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

- ¹ Receivables from related parties consist of trade receivables, other receivables and advance payments from sales and purchase transactions.
- ² Payables to related parties consist of trade payables and other payables from purchase transactions.
- ³ It includes receivables and payables and others from/to subsidiaries.
- ⁴ It includes receivables and payables and others from/to associates.
- ⁵ The Group established provision for the receivables amounting to ₩ 180,259 thousand and ₩ 4,333,813 thousand as of December 31, 2022 and 2021, respectively.
- 6 The Group established provision for the receivables amounting to ₩ 523,180 thousand and ౖ 495,658 thousand as of December 31, 2022 and 2021, respectively.
- ⁷ During the year ended December 31, 2022, it is excluded from Large Enterprise Group entities designated by the Fair Trade Commission.
- ⁸ Other than the above transactions, right-of-use assets of \forall 35,623,630 thousand and lease liabilities of \forall 35,426,163 thousand are recognized for LG Corp. and others.

Fund transactions with related parties for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022										
		ntributions	Disposal of		Loan transactions			sactions	Borrowing transactions		
		ash (capital eduction)	interest			Loans Collection		Collections	Borrowings	Repayments	
Associates bithumb META 1	₩	3,000,000	₩	_	₩		_	₩ -	₩ -	₩ -	
Sejong-smartcity Co., Ltd. ¹		14,562,000		-							
	₩	17,562,000	₩		₩		_	₩ -	₩ -	₩ -	

¹ Newly acquired during the year ended December 31, 2022.

(in thousands of Korean won)	2021												
	Contributions in cash (capital	Disposal of	Loan tra	ansactions	Borrowing transactions								
	reduction)	interests	Loans	Collections	Borrowings	Repayments							
Associate and joint venture of	Immediate Parer	nt Company											
Ulleungdo Natural Energy Co., Ltd. ¹	₩ -	₩ 1,872	₩	- ₩ -	₩ -	₩ -							
	₩ -	₩ 1,872	₩	- ₩ -	₩ -	₩ -							

¹ Liquidated and excluded from related parties during the year ended December 31, 2021

Details of payment guaranteed provided to the related parties as of December 31, 2022, are as follows:

Related party	Guarantees	Guaranteed by	Limit of	guarantees	Guarantee period		
Hellas SmarTicket Societe Anonyme	Credit line	KEXIM Bank	EUR	28,000,000	2016.03.04~2027.03.04		

The compensation and benefits for the Group's key management (registered executives, including non-permanent and non-registered executives) who have significant authority and responsibility in respect to planning, operating and controlling of the Group's business activities for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Short-term employee benefits	₩	28,165,987	₩	25,039,106
Post-employment benefits		3,224,797		2,710,973
Other long-term benefits		7,686		5,111
	₩	31,398,470	₩	27,755,190

During the year ended December 31, 2022, dividends paid to related parties were \forall 80,743,158 thousand (\forall 47,477,368 thousand to LG Corp. and \forall 33,265,791 thousand to CRYSTAL KOREA LIMITED), and there are no unpaid dividends as of December 31, 2022.

31. Commitments and Pledging

Financing agreements as of December 31, 2022, are as follows:

(in thousands of USD, EUR, MYR,	Limit of credit ²					
Category ¹	Financial institution		credit in currency	Limit of credit in won		
Comprehensive import and export	Kookmin Bank and others	USD	33,000	-		
Overdraft	Woori Bank		-	5,000,000		
Loans for working capital	Bank of America and others	USD	33,500	-		
	KEB Hana Bank	EUR	500	-		
	HSBC	MYR	7,000	-		
	Shinhan Bank	INR	130,000	-		
	Shinhan Bank and others		-	301,455,000		
Forward exchange	Kookmin Bank and others	USD	94,800	2,500,000		
Other payment guarantee	KEB Hana Bank and others		-	109,000,000		

¹ Credit limit of comprehensive import and export referred above includes identical agreement to individual contracts.

Restricted financial assets as of December 31, 2022 and 2021, are as follows:

draft
to irance
partners
† L

² Payment guarantees provided for the related parties are described in Note 30.

LG CNS CO., LTD. and Subsidiaries Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

Details of pledging and collaterals provided by the Group are as follows:

Performance guarantee

The Group provides the following performance guarantees for contracts and warrants to customers by insuring guarantee insurance as of December 31, 2022, are as follows:

(in thousands of Korean won)	Guarar	nteed amount	Insurance company
Performance guarantees	₩	69,159,194	Seoul Guarantee Insurance
for contracts and warranties		464,688,760	Korea Software Financial Cooperative
and others		1,250,505	Korea Info. & Comm. Contractors Association
		4,740,902	Korea Specialty Contractor Financial Cooperative
		29,930,408	KEB Hana Bank and others
	₩	569,769,769	

Collateral

Details of collateral provided by the Group as of December 31, 2022, are as follows:

Remark¹

Korea Software Financial Cooperative	Capital stock investments amounting to \ensuremath{W} 1,341,561 thousand are provided as collateral
Engineering Guarantee Insurance	Capital stock investments amounting to $\ensuremath{\mbox{$W$}}$ 775,805 thousand are provided as collateral

¹ It is the amount based on the initial deposit, excluding gains and losses on valuation, and the related carrying amount is ₩ 4,579,073 thousand.

There are no financial and non-financial assets pledged as collateral as of December 31, 2022.

32. Leases

As a Lessee

Details of the right-of-use assets as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)			2022		
	Buildings	Vehicles	Furniture and fixtures	Others To	tal
Acquisition cost	₩ 89,740,929	₩ 4,553,776 ₩	₩ 2,031,252 ₩	900,205 ₩ 97,	226,162
Accumulated depreciation	(30,209,372)	(2,426,144)	(473,195)	(624,268) (33,7	' 32,979)
Carrying amount	₩ 59,531,558	₩ 2,127,632	₩ 1,558,058 ₩	275,937 ₩ 63,	493,185
(in thousands of Korean won)			2021		
	Buildings	Vehicles	Furniture and fixtures	Others To	tal
Acquisition cost	₩ 70,938,444	₩ 3,393,527 \	₩ 2,151,603 ₩	91,905 ₩ 76,	,575,479
Accumulated depreciation	(20,728,619)	(1,609,466)	(138,979)	(30,049) (22,5	507,113)
Carrying amount	₩ 50,209,825	₩ 1,784,061	₩ 2,012,624 ₩	61,856 ₩ 54,	,068,366

Changes in carrying amount of the right-of-use assets for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)						2022				
		Buildings		Vehicles	_	Furniture nd fixtures		Others		Total
Beginning balance	₩	50,209,825	₩	1,784,060	₩	2,012,624	₩	61,857	₩	54,068,366
Additional (renewal) contracts		21,585,112		1,813,294		-		806,055		24,204,461
Depreciation		(12,327,344)		(1,340,197)		(430,606)		(625,658)		(14,723,805)
Termination of contracts		(38,319)		(190,714)		(23,960)		-		(252,993)
Others		102,284		61,189		_		33,683		197,156
Ending balance	₩	59,531,558	₩	2,127,632	₩	1,558,058	₩	275,937	₩	63,493,185

(in thousands of Korean won)						2021				
		Buildings		Vehicles		niture and fixtures		Others		Total
Beginning balance	₩	54,610,457	₩	1,807,800	₩	345,352	₩	1,102,041	₩	57,865,650
Additional (renewal) contracts		8,810,125		1,129,914		2,120,856		91,905		12,152,800
Depreciation		(10,660,275)		(1,238,612)		(675,476)		(856,642)		(13,431,005)
Termination of contracts		(20,543)		(163,511)		(739,639)		(366,193)		(1,289,886)
Impairment loss		(1,072,865)		(3,403)		-		-		(1,076,268)
Changes in the scope of consolidation		(118,582)		272,692		-		-		154,110
Others		(1,338,492)		(20,820)		961,531		90,746		(307,035)
Ending balance	₩	50,209,825	₩	1,784,060	₩	2,012,624	₩	61,857	₩	54,068,366

The Group has operating lease contracts for buildings, furniture and fixtures, vehicles and others. The weighted average total lease term is 13.47 years. During the year ended December 31, 2022, about 3.3% of the leases for buildings, vehicles and others have expired. Expired contracts have been replaced by new leases with the underlying assets identified. The carrying amount of the added right-of-use assets during the year ended December 31, 2022 is \times 24,204,461 thousand.

The amounts recognized as profit or loss for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022		2021		
Depreciation of right-of-use assets	₩	14,723,805	₩	13,431,005		
Interest expense relating to lease liabilities	••	1,334,619	••	1,161,499		
Interest expense relating to short-term leases		3,254,509		2,375,024		
Expense relating to leases of low-value assets		122,916		192,671		
Expense relating to variable lease payments not included in lease liabilities ¹		272,797		201,416		

¹ The Group leases some of the equipment (multifunction devices, etc.), and the lease payments for the lease contract are variable lease fees that vary depending on the amount of use. The Group concludes a contract with these variable lease terms to reduce fixed costs. Variable lease payments account for about 1.54% of total lease payments for the year ended December 31, 2022.

As of December 31, 2022, the remaining lease agreement amount for the short-term leases is \forall 1,066,451 thousand and the total cash outflow for leases for the year ended December 31, 2022, is \forall 17,768,849 thousand. The depreciation of a foreign subsidiary of the depreciation of right-of-use assets is calculated as the average exchange rate.

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As a Lessor

The Group has a lease agreement to lease office buildings to LG Chem Co., Ltd., and 9 other companies and the future lease payment receipt plan as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)	2022									
	Futu	ıre lease payr								
	Le	ess than 1 year		Between 1-5 years	Total					
LG CHEM LTD.	₩	1,235,375	₩	-	₩	1,235,375				
LG ARTS CENTER and LG Discovery Lab		290,723		1,162,892		1,453,615				
CJ E&M Corp. and 6 other companies		1,130,912		587,968		1,718,880				
(in thousands of Korean won)				2021						
	Futu	ıre lease payr								
	Le	ess than		Between						
		1 year		1-5 years		Total				
LG CHEM LTD.	₩	1,205,961	₩	-	₩	1,205,961				
CJ E&M Corp. and others		1,557,993		1,749,990		3,307,983				

The lease income recognized by the Group in relation to the lease agreement for the years ended December 31, 2022 and 2021, is \(\preceq 3,044,516 \) thousand and \(\preceq 2,731,744 \) thousand, respectively.

33. Pending Litigations

Pending litigations as of December 31, 2022, are as follows:

(in thousands of Korean won)	Final amount of lawsuit	Plaintiff	Defendant
Request for cancellation of unfair sanctions	₩ 50,000	The Group	Public Procurement Service
Claims for damages from the Korea Customs Service	15,170,000	Korea Customs Service	The Group and others
ASAN Hospital service charge claim	10,000,000	The Group.	ASAN Foundation
Claims for damages from ASAN Hospital	37,933,444	ASAN Foundation	The Group
Request for payment of KCTC reduction	10,847,942	The Group	Republic of Korea
KCTC late compensation claim to Ssangyong	5,000,000	The Group	SsangYong Information and Communication Corp.
KCTC service charge claim from Ssangyong	3,870,344	SsangYong Information and Communication Corp.	The Group.
Claims for damages from National Defense Network	5,000,000	Republic of Korea	The Group and others
Itmate's service charge claim	1,554,285	Itmate	The Group
Claims for contract deposit from Green Energy Power Co.,Ltd	6,765,000	Green Energy Power Co.,Ltd	The Group
Unjust enrichment claim to KOREA SOFTWARE FINANCIAL COOPERARIVE	230,270	The Group and others	KOREA SOFTWARE FINANCIAL COOPERARIVE
Affirmation of the nonexistence of payables	50,000	K-SPORTS Foundation	The Group

The final result of the litigation and effect on the consolidated financial statements cannot be reasonably estimated at the end of the reporting period.

34. Risk Management

34.1 Capital Risk Management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital. In order to maintain or adjust the capital structure, the Group may adjust the amounts of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

The Group's capital structure consists of net liability, which is borrowings, less cash and cash equivalents, and equity. The overall capital risk management policy of the Group has been consistent from the prior period. In addition, items managed as capital by the Group as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Total borrowings	₩	686,136,939	₩	521,796,760
Less: cash and cash equivalents		(728,348,712)		(607,940,799)
Borrowings, net		(42,211,773)		(86,144,039)
Total equity	₩	1,630,788,679	₩	1,461,977,248
Debt ratio ¹		_		_

¹ As of December 31, 2022 and 2021, the total borrowing capital ratio is not calculated as net borrowings was negative.

34.2 Financial Risk Management

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

1) Foreign exchange risk

The Group is exposed to foreign currency risk as it makes transactions denominated in foreign currencies. The carrying amount of the Group's monetary assets and liabilities denominated in foreign currencies that are not the functional currency as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)	20	22		2021					
	Assets	L	iabilities		Assets	L	iabilities		
USD	₩ 169,790,755	₩	46,941,067	₩	106,300,048	₩	66,163,701		
EUR	32,134,141		2,728,625		24,342,445		4,853,877		
JPY	372,555		924,460		1,809,248		42,897		
CNY	222,000		130,298		590,361		385,658		
Others	99,641,689		21,175,715		55,181,795		3,470,394		
	₩ 302,161,140	₩	71,900,166	₩	188,223,897	₩	74,916,527		

The Group internally assesses the foreign currency risk from changes in exchange rates on a regular basis. The Group's sensitivity to a 10% increase and 10% decrease in the Korean won (functional currency of the Group) against the major foreign currencies as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		20	22		2021					
	Inc	rease 10%	De	crease 10%	Inc	rease 10%	De	crease 10%		
USD	₩	9,456,986	₩	(9,456,986)	₩	3,110,733	₩	(3,110,733)		
EUR		2,258,344		(2,258,344)		1,477,224		(1,477,224)		
JPY		(42,386)		42,386		133,889		(133,889)		
CNY		7,043		(7,043)		15,517		(15,517)		
Others		5,967,952		(5,967,952)		3,915,895		(3,915,895)		
	₩	17,647,938	₩	(17,647,938)	₩	8,653,258	₩	(8,653,258)		

The above sensitivity analysis is conducted for monetary assets and liabilities denominated in foreign currencies other than functional currency at the end of reporting period.

In addition, the Group entered into currency forward contracts to manage its foreign currency exchange rate risk related to its foreign currency payables and receivables and its expected sale and purchase. The evaluation of unsettled currency forward contracts as of December 31, 2022, is as follows:

(in thousands of Korean won)	Unsettl	led contractual _		Valuation ga	in ar	nd loss		Fair v	/alue		
		amounts		Gain		Loss		Assets		Liabilities	
Currency forward	₩	337,289,046	₩	11,442,050	₩	1,345,802	₩	11,442,050	₩	1,345,802	

2) Price risk

The Group is exposed to price fluctuation risk arising from equity instruments. As of December 31, 2022, marketable equity securities measured at fair value amounting to \forall 1,596,237 thousand will have impact of increase/decrease of \forall 122,591 thousand (in net of tax) on the equity, if the price of the equity securities increase/decrease by 10% with all other variables held constant.

3) Credit risk

Credit risk refers to the risk of financial losses to the Group when the counterparty defaults on the obligations of the contract.

The maximum exposure to financial losses incurred by the Group from default of the counterparty's obligations excluding the effect of collateral or other credit enhancement as of December 31, 2022 is equivalent to the carrying amount of each financial asset in the consolidated financial statements. The maximum amount to be paid by the Group if warranted by financial guarantees provided by the Group, regardless of the probability of the exercise, is $\forall 37,833,600$ thousand (the financial guarantee limit described in Note 30).

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

As of December 31, 2022, the exposure to credit risk by major industries, to which the Group's customers belong, is as follows:

(in thousands of Korean		Financial		Public			Consolidation	
won)	Manufacturing	service	Other service	institutions	Others	Subtotal	adjustments	Total
Financial assets at fair								
value through profit or	₩	₩	₩	₩	₩	₩	₩	₩
loss	-	11,856,292	-	-	32,013,753	43,870,045	-	43,870,045
Financial assets at fair								
value through other								
comprehensive income	-	-	-	-	20,851,533	20,851,533	-	20,851,533
Financial assets at								
amortized cost	927,154,404	207,868,263	461,464,820	24,650,878	81,883,993	1,703,022,358	(134,142,199)	1,568,880,159
Limit of payment								
guarantee		<u> </u>	85,348,060			85,348,060	(47,514,460)	37,833,600
	₩ 927,154,404	₩ 219,724,555	₩ 546,812,880	₩ 24,650,878	₩ 134,749,279	₩ 1,853,091,996	₩ (181,656,659)	₩ 1,671,435,337

4) Liquidity risk

The Group manages liquidity risk by establishing short-, medium- and long-term funding plan and continuously monitoring actual cash outflow and its budget to match the maturity profiles of financial assets and liabilities. Management of the Group believes that financial liability may be redeemed by cash flows arising from operating activities and financial assets.

Maturity analysis of non-derivative financial liabilities according to their remaining maturity as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)	2022										
	With	in 1 year	_	Between and 5 years		Over 5 years		Total			
Trade and other payables	₩ 9	92,308,634	₩	2,040,066	₩	-	₩	994,348,699			
Borrowings	5	58,044,722		158,262,750		-		716,307,472			
Limit of payment guarantee		37,833,600		-		-		37,833,600			
Lease liabilities		14,798,081		43,408,234		8,058,975		66,265,290			
	₩ 1,6	02,985,037	₩	203,711,050	₩	8,058,975	₩	1,814,755,062			

(in thousands of Korean won)	2021									
	W	ithin 1 year	1 :	Between and 5 years		Over 5 years		Total		
Trade and other payables	₩	871,004,304	₩	1,390,952	₩	-	₩	872,395,256		
Borrowings		123,012,082		322,881,000		100,993,000		546,886,082		
Limit of payment guarantee		37,585,520		-		-		37,585,520		
Lease liabilities		12,082,516		30,564,412		14,021,820		56,668,748		
	₩	1,043,684,422	₩	354,836,364	₩	115,014,820	₩	1,513,535,606		

The above maturity analysis is based on the earliest maturity date that the Group is required to pay on the basis of undiscounted cash flows and includes the cash flows of principal and interest.

The Group manages liquidity through cash inflows from financial assets and financing arrangements with financial institutions. The financial assets' maturity structures as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)	2022										
	Within 1 year	Between 1 and 5 years	Over 5 years	Total							
Financial institution deposits	₩ 111,365,131	₩ 12,000,000	₩ .	- ₩ 123,365,131							
Trade and other receivables	1,419,695,921	22,288,427	3,530,679	1,445,515,028							
Investment in equity and debt instruments	-	-	53,279,528	3 53,279,528							
	₩ 1,531,061,052	₩ 34,288,427	₩ 56,810,208	₩ 1,622,159,687							
(in thousands of Korean won)	Within 1 year	202 Between 1 and 5 years	1 Over 5 years	Total							
Financial institution deposits	₩ 134,007,817	₩ 12,000,000	₩ -	₩ 146,007,817							
Trade and other receivables	1,135,440,043	17,632,191	5,046,925	1,158,119,159							
Investment in equity and debt instruments	-	-	46,967,997	46,967,997							
instruments											

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Meanwhile, the maturity analysis of derivative financial assets (liabilities) according to their remaining maturity as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean wor	1)	2022									
		W	ithin 1 year/	1 and 5 years	i		Total				
Derivative financial assets (li for trading	abilities)										
Interest rate derivative instru	uments	₩	(464,301)	₩	-	₩	(464,301)				
	Inflows		336,611,064				336,611,064				
Foreign currency derivative instruments ¹	Outflows		(326,514,817)				(326,514,817)				
	Total	₩	10,096,248	₩	-	₩	10,096,248				

¹ As the foreign currency derivative instruments contracts are subject to total settlement, cash flows are recorded separately from outflows and inflows.

(in thousands of Korean won,	2021								
				Betwe	en		_		
		Within 1 year		1 and 5 y	ears		Total		
Derivative financial assets (lia trading	abilities) for								
Foreign currency derivative	Inflows	₩	219,354,066	₩	-	₩	219,354,066		
instruments 1	Outflows		(220,296,955)		-		(220,296,955)		
Foreign currency derivative instruments (net settlement)	Outflows		637,977		-		637,977		
		₩	(304,912)	₩	-	₩	(304,912)		

¹ As the foreign currency derivative instruments contracts are subject to total settlement, cash flows are recorded separately from outflows and inflows.

5) Interest rate risk

The Group is exposed to interest rate risk due to its borrowings with floating interest rates.

Carrying amount of assets and liabilities exposed to interest rate risk as of December 31, 2022 and 2021, is as follows:

(in thousands of Korean won)		2022		2021
Short-term borrowings	\ \	24 303 2581	₩.	13 214 773

¹ Among the borrowings with variable rates, ₩ 150,000,000 thousand of fixed interest rate products with interest rate swaps were excluded. The fixed interest rates of the swaps range between 6.4% and 6.8%. As of December 31, 2022 and 2021, if interest rates had been

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fluctuated by 1% with all other variables held constant, there is no significant effect of changes in interest rates to the post-tax profit.

The Group internally assesses the interest rate risk from changes in interest rates on a regular basis. The effect of changes in interest rates of 1% to profit (loss) for the period as of December 31, 2022 and 2021, is as follows, and there is no effect on net assets.

(in thousands of Korean won)		20	22		2021					
	Inc	rease 10%	e 10% Decrease 10%		Increase 10%		Decrease 10%			
Borrowings	₩	(183,279)	₩	183,279	₩	(93,670)	₩	93,670		

34.3 Estimation of Fair Value

The fair values of financial instruments (i.e., financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income) traded in active markets are determined with reference to quoted market prices. The Group uses the current bid price as the quoted market price for its financial assets.

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

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

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

- Quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Inputs for the asset or liability and are not based on observable market data (unobservable inputs) (Level 3).

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1) Financial instruments that are measured subsequently at fair value as of December 31, 2022 and 2021, are as follows:

	2022									
Carrying			Fair value							
	amount	Level 1		Level 2		Level 3		Total		
₩	11,442,050	₩	-	₩	11,442,050	₩	-	₩	11,442,050	
	32,427,995		-		-		32,427,995		32,427,995	
	43,870,045		-		11,442,050		32,427,995		43,870,045	
	1,596,237		1,596,237		-		-		1,596,237	
	19,255,296		-		-		19,255,296		19,255,296	
	20,851,533		1,596,237		-		19,255,296		20,851,533	
₩	64,721,578	₩	1,596,237	₩	11,442,050	₩	51,683,291	₩	64,721,578	
₩	1,810,103	₩	-	₩	1,810,103	₩	-	₩	1,810,103	
	1,810,103		-		1,810,103		-		1,810,103	
₩	1,810,103	₩	-	₩	1,810,103	₩	-	₩	1,810,103	
	₩	 ₩ 11,442,050 32,427,995 43,870,045 1,596,237 19,255,296 20,851,533 ₩ 64,721,578 ₩ 1,810,103 1,810,103 	# 1,810,103 # 1,810,103	# 1,810,103 # - 1,810,103 Level 1 W	# 1,810,103	Fair value Level 1 Level 2 W 11,442,050 ₩ - ₩ 11,442,050 32,427,995 43,870,045 - 11,442,050 1,596,237 11,442,050 19,255,296 20,851,533 1,596,237 ₩ 64,721,578 ₩ 1,596,237 ₩ 11,442,050 ₩ 1,810,103 ₩ - ₩ 1,810,103 1,810,103 1,810,103	Fair value Level 1 Level 2 ₩ 11,442,050 ₩ - ₩ 11,442,050 ₩ 32,427,995	Fair value Level 1 Level 2 Level 3 ₩ 11,442,050 ₩ - ₩ 11,442,050 ₩ - 32,427,995 - - 32,427,995 - - 32,427,995 43,870,045 - 11,442,050 32,427,995 - - - - 19,255,296 19,255,296 - - - 19,255,296 - - 19,255,296 - - 19,255,296 - - 19,255,296 - - 19,255,296 - - 19,255,296 - - 19,255,296 - - 19,255,296 - - 19,255,296 - - - 19,255,296 - - - 19,255,296 -	Fair value Level 1 Level 2 Level 3 ₩ 11,442,050 ₩ - ₩ 11,442,050 ₩ - ₩ - ₩ 32,427,995 43,870,045 32,427,995 1,596,237 1,596,237 32,427,995 19,255,296 19,255,296 20,851,533 1,596,237 - 19,255,296 № 64,721,578 ₩ 1,596,237 ₩ 11,442,050 ₩ 51,683,291 ₩ ₩ 1,810,103 ₩ - ₩ 1,810,103 ₩ - ₩ 1,810,103 - ₩ - ₩ 1,810,103 1,810,103 - ₩ - ₩	

(in thousands of Korean won)	2021									
	Carrying		Fair value							
		amount	Level	1	Level 2		Level 3		Total	
Financial assets										
Financial assets at fair value through profit or loss										
Derivative financial assets for trading	₩	2,259,113	₩	-	₩	2,259,113	₩	-	₩	2,259,113
Investment and others		29,241,509		_		-		29,241,509		29,241,509
		31,500,622		-		2,259,113		29,241,509		31,500,622
Financial assets at fair value through other comprehensive income										
Non-marketable equity securities		17,726,487		-		-		17,726,487		17,726,487
		17,726,487		-		-		17,726,487		17,726,487
	₩	49,227,109	₩	-	₩	2,259,113	₩	46,967,996	₩	49,227,109
Financial liabilities										
Financial liabilities at fair value through profit or loss										
Derivative financial liabilities for trading	₩	2,564,026	₩	-	₩	2,564,026	₩	-	₩	2,564,026
		2,564,026		-		2,564,026		-		2,564,026
	₩	2,564,026	₩	-	₩	2,564,026	₩	-	₩	2,564,026

There were no significant transfers between level 1 and 2 during the years ended December 31, 2022 and 2021.

2) Valuation method and input variables of financial instruments, which are included in Level 2 of the financial instruments that are measured at fair value in the consolidated statements of financial position, are as follows:

(in thousands of Korean won)	Fair value		Valuation technique	Inputs
Financial assets Derivative financial assets for trading Financial liabilities	₩	11,442,050	Forward pricing model	Forward exchange rate
Derivative financial liabilities for trading		1,810,103	Forward pricing model and others	Forward exchange rate, discount rate

3) The levels of fair value measurements of the financial instruments that are not measured subsequently at fair value as of December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022									
			Fair value								
	Ca	rrying amount	Level	l 1		Level 2		Level 3		Total	
Financial assets at amortized cost											
Cash and cash equivalents	₩	728,348,712	₩	-	₩	-	₩	728,348,712	₩	728,348,712	
Financial institution deposits		123,365,131		-		-		123,365,131		123,365,131	
Trade receivables ¹		1,405,391,071		-		-		1,405,391,071		1,405,391,071	
Loans ¹		10,902,295		-		-		10,902,295		10,902,295	
Non-trade receivables ¹		12,100,817		-		-		12,100,817		12,100,817	
Accrued income ¹		1,873,387		-		-		1,873,387		1,873,387	
Deposits ¹		15,247,458		-		-		15,247,458		15,247,458	
	₩	2,297,228,871	₩	-	₩	-	₩	2,297,228,871	₩	2,297,228,871	
Financial liabilities at amortized cost										_	
Trade payables ¹	₩	740,394,368	₩	-	₩	-	₩	740,394,368	₩	740,394,368	
Non-trade payables ^{1,2}		50,935,324		-		-		50,935,324		50,935,324	
Accrued expenses 1,2		15,238,791		-		-		15,238,791		15,238,791	
Dividends payable ¹		6,126		-		-		6,126		6,126	
Deposits received		1,718,213		-		1,718,213		-		1,718,213	
Borrowings		686,136,938		-		384,796,224		276,537,304		661,333,528	
	₩	1,494,429,760	₩	-	₩	386,514,437	₩	1,083,111,914	₩	1,469,626,351	

¹ Short-term receivables and payables that have been shown as Level 3 are measured at the original amount since the effect of discounting is immaterial.

²Other payables and accrued expenses that are not related financial liabilities are excluded.

(in thousands of Korean won)					
	Carrying				
	amount	Level 1	Level 2	Level 3	Total
Financial assets					
Financial institution deposits	₩ 146,007,817	₩	- ₩ -	₩ 146,007,817 ∀	∀ 146,007,817
Trade receivables ¹	1,122,032,966			1,122,032,966	1,122,032,966
Loans ¹	8,205,197			8,205,197	8,205,197
Non-trade receivables ¹	14,625,118			14,625,118	14,625,118
Accrued income ¹	860,023			860,023	860,023
Deposits ¹	12,395,856		<u>-</u>	12,395,856	12,395,856
	₩ 1,304,126,977	₩	- ₩ -	₩ 1,304,126,977	[∀] 1,304,126,977
Financial liabilities at amortized cost					
Trade payables 1	₩ 654,291,817	₩	- ₩ -	₩ 654,291,817 ₩	∀ 654,291,817
Non-trade payables 1,2	42,420,512			42,420,512	42,420,512
Accrued expenses 1,2	12,573,090			12,573,090	12,573,090
Dividends payable ¹	4,422			4,422	4,422
Deposits received	1,247,359		- 1,247,359	-	1,247,359
Borrowings	521,796,761		- 495,725,611	22,551,464	518,277,075
Lease liabilities	53,004,800		<u>-</u>	53,004,800	53,004,800
	₩ 1,285,338,761	₩	- ₩ 496,972,970	₩ 784,846,105 ₩	[∀] 1,281,819,075

¹ Short-term receivables and payables that have been shown as Level 3 are measured at the original amount since the effect of discounting is immaterial.

²Other payables and accrued expenses that are not related financial liabilities are excluded.

4) Changes in level 3 for recurring fair value measurements for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of					2022				
Korean won)			Total compre	hensive income					
	Beginning balance	Changes in the scope of consolidation	Profit or loss	Other comprehensiv e income	Purchases (issuance)	Sales (settlement)	Replacement	Others	Ending balance
Financial assets									
Investment and others Non-marketable	₩ 29,241,509	₩ -	₩ 185,559	₩ -	₩ 4,261,689	₩ -	₩ (1,606,950)	₩ 346,189	₩ 32,427,995
equity securities	17,726,487	_	_	(1,334,012)	1,720,916	_	_	1,141,904	19,255,296
	₩ 46,967,997	₩ -	₩ 185,559	₩ (1,334,012)		₩ -	₩ (1,606,950)		
(in thousands of Korean won)			Total compre	hensive income	2021				
	Beginning balance	Changes in the scope of consolidation	Profit or loss	Other comprehensiv e income	Purchases (issuance)	Sales (settlement)	Replacement	Others	Ending balance
Financial assets Investment and									
others Non- marketable equity	₩ 23,873,805	₩ 137,146	₩ 626,478	₩ -	₩ 7,539,000	₩ (434,851)	₩ (3,165,430)	₩ 665,361	₩ 29,241,509
securities	5,009,256			3,427,689	4,862,403	(7,696)	3,772,423	662,412	17,726,487
	₩ 28,883,061	₩ 137,146	₩ 626,478	₩ 3,427,689	₩ 12,401,403	₩ (442,547)	₩ 606,993	₩ 1,327,773	₩ 46,967,997

Total gains and losses recognized in other comprehensive income relate to equity securities held as of December 31, 2022 and are recognized as changes in gain (loss) on valuation of financial assets at fair value through other comprehensive income (see Note 21).

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

- Currency forward and Interest rate swaps

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

Discount rates and forward rates used to measure the fair value of interest rate swap were determined based on applicable yield curve from yields advertised in the market as of the end of the reporting period. The fair value of interest rate swap is measured as the amount of future cash flows of interest rate estimated based on the forward rate, discounted by using appropriate discount rate.

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

- Corporate bonds

The fair value of corporate bonds was measured using DCF. The discount rates used in DCF were determined based on advertised-in-market swap rates and credit spreads of the bonds, whose credit rating and period were similar to those corporate bonds. Since the discount rate, which is the input variable that significantly affects the fair value of corporate bonds, is derived based on market observable information, the Group classifies fair value measurements of corporate bonds as Level 2 in the fair value hierarchy.

- Unlisted securities and unlisted securities-linked convertible securities

The fair value of unlisted shares and unlisted securities-linked convertible securities are measured using the DCF model, which is partially based on assumptions with unobservable market prices or rates, such as sales growth rate, pretax operating profit margin rate and the weighted-average cost of capital, to estimate the future cash flows. Capital asset pricing model ("CAPM") was used to calculate the weighted-average cost of capital. The key assumptions of estimation listed above are determined to have a significant impact on the fair value of non-listed shares, and the Group has classified the fair value hierarchy system as Level 3 of the fair value measurement for non-listed shares.

- 6) There are no changes in the valuation techniques used in the fair value measurement of financial instruments categorized within level 2 and level 3 for the year ended December 31, 2022.
- 7) A description of the valuation processes in the fair value measurement for Level 2 and Level 3 that the Group is carrying out is as follows:

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

- Stock volatilities and stock correlation used in measurement of the financial instruments linked to stocks (e.g., investments in convertible bonds, equity-linked securities and consideration for conversion rights) were measured based on change in stock price during certain period before the reporting year.
- Pretax profit margin and sales growth rate, which are used to measure the fair value of non-listed shares, are estimated based on the average value of pretax operating margin and sales growth rate of comparable listed companies.
- Weighted-average cost of capital discount rate that is used to measure the fair value of non-listed shares and the fair value of the contingent consideration is estimated by the weighted-average and outside capital cost; capital cost estimates of the share value beta reflected for the purpose of the issuer of the shares; and capital structure based on the equity beta of comparable public companies derived based on the CAPM.

On the other hand, when it was difficult to use objective financial indicators necessary for measuring the fair value of unlisted stocks, market observable transaction price was used for fair value evaluation.

- 8) The Group believes that changing one or more of the unobservable inputs for reasonably possible alternative assumptions would not result in a significant change in the fair value measurement.
- 9) There is no significant change in business and economic environment affecting the fair value of the financial assets and liabilities during the year ended December 31, 2022.

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(in thousands of Korean won)

Other non-current liabilities

Total carrying amount of disposed net assets

35. Disposal of Investments in Subsidiary

During the year ended December 31, 2022, the Group closed LG CNS Saudi Arabia LLC, a subsidiary. The Group sold the share of its subsidiary, Sejong Green Power Corp. for the year ended December 31, 2021.

Sejong Green Power Corp.

1,455,085

1,455,085

2,531,000

₩

During the prior year, fair value of disposal consideration is as follows:

Consideration received as cash and cash equivalents	₩	2,600,000
Carrying amounts of the subsidiary's assets and liabilities on follows:	the day when control is	s lost are as
(in thousands of Korean won)	Sejong Gre	en Power Corp.
Current assets		
Cash and cash equivalents	₩	1,339,161
Current financial assets		1,400,524
Other current assets		1,072,476
		3,812,161
Non-current assets		
Non-current financial assets		3,045
Property, plant and equipment and intangible assets		2,074,298
		2,077,343
Current liabilities		
Current financial liabilities		1,688,691
Other current liabilities		214,728
		1,903,419
Non-current liabilities		· · · · · · · · · · · · · · · · · · ·

Loss on disposal of investments in subsidiaries in the prior year, is as follows:

(in thousands of Korean won)	Sejong Gre	en Power Corp.
Fair value of disposal consideration	₩	2,514,240
Carrying amount of disposed net assets		2,531,000
Loss on disposal of subsidiaries	₩	(16,760)

Net cash flows from disposal of investments in subsidiary in the prior year, is as follows:

(in thousands of Korean won)	Sejong Gre	en Power Corp.
Consideration received as cash and cash equivalents	₩	2,600,000
Less: Disposal of cash and cash equivalents		1,339,161
Net cash flows	₩	1,260,839

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36. Business Combination

The Group acquired 61.91% of the voting shares of its subsidiary, RightBrain Co., Ltd. during the year ended December 31, 2021. The assets and liabilities were recognized at fair value at the time of acquisition and the difference between the fair value of net of assets acquired and liabilities assumed measured, and the consideration transferred was recognized as goodwill.

As of the acquisition date, the fair value of the identifiable assets and liabilities of RightBrain Co., Ltd. is as follows:

(in thousands of Korean won)	RightBr	ain Co., Ltd.
Current assets		
Cash and cash equivalents	₩	654,041
Current financial assets		383,916
Other current assets		1,816,625
		2,854,582
Non-current assets		
Property, plant and equipment and intangible assets		2,318,212
Non-current financial assets		1,072,633
		3,390,845
Current liabilities		
Current financial liabilities		457,842
Other current liabilities		390,290
		848,132
Non-current liabilities		
Other non-current liabilities		1,474,251
		1,474,251
Net identifiable assets acquired		3,923,044
- Controlling interest		2,428,721
- Non-controlling interest		1,494,323
Total consideration		5,949,000
Goodwill		3,520,279

The net cash flows from a business combination for the year ended December 31, 2021, are as follows:

(in thousands of Korean won)	RightBrain Co., Ltd.				
Total consideration	₩	5,949,000			
Less: Trade and other payables		221,337			
Less: Cash and cash equivalents		654,041			
Net cash outflows from business combination	₩	5,073,622			

37. Cash Flows

Cash generated from operations				
(in thousands of Korean won)		2022		2021
Profit for the year	₩	264,968,155	₩	234,946,496
Adjustments for:				
Depreciation		69,787,705		64,998,327
Amortization		19,100,512		13,996,122
Impairment loss on property, plant and equipment and intangible assets		10,370,237		8,710,605
Loss (gain) on disposal of property, plant and equipment and intangible assets		25,091		(180,879)
Gain on disposal of right-of-use assets		(59,573)		(78,075)
Provisions		39,853,547		14,772,785
Loss on valuation of inventories (reversal)		25,132		(17,306)
Salaries		2,799,162		7,526,568
Retirement benefits		5,993,770		4,209,050
Interest expense		459,798		5,876,541
Loss on transaction / valuation of derivatives		7,561,693		7,873,768
Bad debt expense		(6,291,294)		1,533,978
Exchange rate difference		6,814,119		(316,307)
Gain on valuation of financial assets at fair value through profit or loss		(185,558)		(520,447)
Loss on disposal of financial assets at fair value through profit or loss		-		16,900
Loss on disposal of financial assets at fair value through other comprehensive income		-		17,501
Impairment loss on investments in associates		6,605,625		1,700,000
Reversal of impairment loss on investments in associates		-		(1,872)
Share of profit of associates and joint ventures		(5,456,123)		(4,045,829)
Income tax expense		99,895,972		81,143,966
Dividend income		(17,997)		(682,195)
Others		785,710		(399,189)
		258,067,528		206,134,012
Change in operating assets and liabilities:				
Trade receivables		(288,922,474)		(278,658,891)
Other receivables		3,009,265		(2,479,430)
Other current assets		(127,924,518)		(175,161,789)
Inventories		(3,895,421)		(16,447,206)
Long-term trade receivables		3,597,369		2,960,790
Other non-current assets		(609,431)		(89,676)
Trade payables		91,448,227		171,155,270
Other payables		30,635,158		49,577,107
Other current liabilities		67,858,846		90,880,119
Current provisions		(26,123,680)		(21,125,711)
Net defined benefit liabilities		(2,085,372)		(2,626,402)
		(2,000,012)		(2,020,702)

(in thousands of Korean won)		2022		2021
Other non-current liabilities		(1,725,899)		(1,578,709)
Change in other operating asset (liabilities)		(158,173)		(28,879)
		(254,896,103)		(183,623,407)
Cash generated from operations	₩	268,139,578	₩	257,457,101

Significant non-cash investing and financing activities for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of Korean won)		2022		2021
Increase (decrease) in advance payments related to acquisition of property, plant and equipment and intangible assets	₩	(2,476,831)	₩	-
Reclassification of current portion of borrowing and debentures		259,765,167		89,937,197
Reclassification of construction in progress		52,506,469		23,583,053
Decrease (increase) in other payables related to acquisition of property, plant and equipment and intangible assets		(4,765,217)		3,960,862
Reclassification between property, plant and equipment and investment properties		5,745,483		4,691,053
Recognition of right-of-use assets		20,677,517		10,819,197
Recognition of lease liabilities		20,858,782		10,365,240
Reclassification of non-current lease liabilities		12,393,545		10,161,526

Changes in liabilities arising from financial activities for the years ended December 31, 2022 and 2021, are as follows:

(in thousands of	2022											
Korean won)	Non-cash changes											
		Beginning				Reclassification						Ending
		balance		Cash flows		Others		to current		Others		balance
Chart tarm harrawings	₩	00 FE1 464	₩	252 204 452	\ A/	04 207	₩		₩		₩ 2	76 527 204
Short-term borrowings	٧V	22,551,464	٧V	253,891,453	VV	94,387	VV	-	VV	-	۷۷ ۷	276,537,304
Current debentures		89,982,760		(90,000,000)		-		259,765,167		170,227	2	259,918,154
Debentures		409,262,536		-		-		(259,765,167)		184,111	1	49,681,480
Current lease liabilities		11,746,074		(13,910,413)		3,812,340		12,393,545		368,083		14,409,630
Lease liabilities		41,258,726		(208,214)		16,897,090		(12,393,545)		966,536		46,520,593
	₩	574,801,560	₩	149,772,826	₩	20,803,818	₩	-	₩	1,688,958	₩ 7	47,067,162

(in thousands of	2021											
Korean won)			Non-cash changes									
		Beginning				Reclassification						Ending
		balance		Cash flows		Others to current		to current	Others			balance
Short-term borrowings	₩	29,665,108	₩	(7,228,656)	₩	115,012	₩	-	₩	_	₩	22,551,464
Current debentures		89,972,432		(90,000,000)		-		89,937,197		73,131		89,982,760
Debentures		498,810,231		34,024		-		(89,937,197)		355,478		409,262,536
Current lease liabilities		12,710,686		(13,475,101)		2,047,529		10,161,526		301,434		11,746,074
Lease liabilities		44,143,195		(257,824)		6,674,816		(10,161,526)		860,065		41,258,726
	₩	675,301,652	₩	(110,927,557)	₩	8,837,357	₩	-	₩	1,590,108	₩	574,801,560

38. Approval of Issuance of the Consolidated Financial Statements

The consolidated financial statements 2022 were approved for issue by the Board of Directors on February 8, 2023, which will be submitted for approval of the shareholders at their Annual General Meeting to be held on March 28, 2023.