LG Electronics Inc. and its subsidiaries

Consolidated financial statements for the year ended December 31, 2024 with the independent auditor's report

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Independent auditor's report

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Independent auditor's report

The Stockholders and Board of Directors LG Electronics Inc.

Opinion

We have audited the consolidated financial statements of LG Electronics Inc. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as of December 31, 2024, and the consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and the notes to the consolidated financial statements, including material accounting policy information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2024, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS").

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISA) and Korean Standards on Auditing (KSA). 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 International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code) and the ethical requirements that are relevant to our audit of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matter

A key audit matter is the matter that, in our professional judgment, was of most significance in our audit of the consolidated financial statements of the current period. This matter was 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 this matter.

- (a) Impairment test of investments in associate related to LG Display Co., Ltd.
- 1) Reasons why the matter was determined as a key audit matter

As described in Note 14 to the consolidated financial statements, the Group holds 36.7% ownership in LG Display Co., Ltd., over which the Group exercises significant influence, and accordingly classifies its shares in the entity as the investment in associates with the application of equity method accounting. As of December 31, 2024, the book value of its shares in LG Display Co., Ltd. amounts to $\frac{1}{2}$ 2319,533 million, which account for $\frac{1}{2}$ 35% of total assets held by the Group.



As of December 31, 2024, the market value of the Group's shares in LG Display Co., Ltd. is significantly lower than the book value and LG Display Co., Ltd. continues to incur operating losses, which are considered indicators of impairment. In accordance with KIFRS 1036 *Impairment of Assets*, the Group performed an impairment test by determining the recoverable amount based on the value-in-use, calculated by discounting the expected future cash flows from the relevant assets at an appropriate discount rate. We determined the impairment test of investments in associate as a key audit matter, since the amount of investments in the associate accounts for a significant portion of the Group's total assets and estimating future cash flows in the value-in-use assessment is complex and involves significant management's judgments.

2) How our audit addressed the key audit matter

We have performed the following audit procedures in relation to the valuation model, key assumptions, and judgments associated with the value-in-use assessment. We also involved our valuation specialists when performing these audit procedures. Our audit procedures included:

- •Understanding and evaluating the accounting policies and internal controls of the Group related to impairment testing of investments in associates.
- •Reviewing management's assessment on whether there are any indicators of impairment for the investments in associates held by the Group.
- •Evaluating the qualifications, competence and objectivity of the specialists involved in the value-in-use assessment by the Group's management.
- Making inquiries and reviewing the valuation model applied by the Group's management.
- •Understanding LG Display Co., Ltd.'s future cash flow projections and assessing if such estimates are based on the business plans approved by management.
- •Assessing the reasonableness of the estimates made under the past business plan of LG Display Co., Ltd. by comparing the actual performance with the past business plans.
- •Evaluating the key assumptions applied in the valuation model, such as discount rates and growth rates, by comparing them with external benchmarks from the same industry and historical financial information of LG Display Co., Ltd.
- •Performing an independent recalculation of the discount rate used for the cash flow discounting and comparing it with the discount rate applied in the impairment test.
- •Assessing the result of sensitivity analysis on discount rate and permanent growth rate performed by management for the purposes of evaluating the impact of changes in key assumptions on the impairment assessment.

Other matters

The consolidated financial statements of the Group for the year ended December 31, 2023 have been audited by Samil PwC, in accordance with ISA and KSA, whose report dated March 14, 2024 expressed an unqualified opinion thereon. The auditor mentioned above has expressed an unqualified opinion on the consolidated financial statements in which the adjustments described in Note 40 are not reflected, while such adjustments are reflected in the consolidated financial statements for the year ended December 31, 2023 presented herein for comparative purposes.



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 KIFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

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, or has no realistic alternative but to do so.

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 ISA or KSA 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 ISA and KSA, 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 one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- •Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- •Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- •Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- •Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- •Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.



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

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

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

The engagement partner on the audit resulting in this independent auditor's report is Jung Ho Chae.



March 12, 2025

This audit report is effective as of March 12, 2025, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

LG Electronics Inc. and its subsidiaries

Consolidated financial statements for each of the two years in the period ended December 31, 2024

"The accompanying consolidated financial statements, including all footnotes and disclosures, have been prepared by, and are the responsibility of, the Group."

JOO WAN CHO Chief Executive Officer LG Electronics Inc.

LG Electronics Inc. and its subsidiaries Consolidated statements of financial position as of December 31, 2024 and 2023

(in millions of Korean won)			
	Notes	2024	2023
Assets			
Current assets			
Cash and cash equivalents	5,6,37	7,573,036	8,487,563
Deposits held by financial institutions	5,6,37	46,681	26,386
Trade receivables	5,7,37	10,535,614	9,265,022
Other receivables	5,7,37	1,583,477	595,793
Other financial assets	5,8,37	76,226	102,054
Inventories Current tax assets	9	10,729,360	9,125,404
Contract assets	10	258,606 1,352,092	226,253 1,129,399
Other current assets	11	1,764,807	1,379,180
Assets held for sale	39	3,618	4,155
Assets field for said		33,923,517	30,341,209
Non-current assets			
Deposits held by financial institutions	5,6,37	193,637	195,189
Trade receivables	5,7,37	1,645,716	639,439
Other receivables	5,7,37	1,022,169	1,779,637
Other financial assets	5,8,37	644,325	385,370
Property, plant and equipment	12	17,075,231	16,818,629
Intangible assets	13	3,518,728	2,867,687
Deferred tax assets	19	3,509,556	2,821,557
Investments in associates and joint ventures	14	2,775,655	3,004,464
Investment properties	15	92,627	94,461
Net defined benefit assets	20	507,087	557,822
Contract assets	10	410,604	426,278
Other non-current assets	11	310,737	309,051
		31,706,072	29,899,584
Total assets	_	65,629,589	60,240,793
Liabilities			
Current liabilities			
Trade payables	5,37	9,884,770	9,427,288
Borrowings	5,16,37	2,889,260	2,601,636
Lease liabilities	5,17,37	385,675	336,772
Other payables Other financial liabilities	5,18,37	5,729,464 2,967	4,624,046 9,292
Current tax liabilities	5,8,37	370,854	226,343
Provisions	21	1,515,367	1,049,625
Contract liabilities	10	2,146,029	1,898,005
Other current liabilities	22	4,383,053	3,987,373
outer surrous number		27,307,439	24,160,380
Non-current liabilities			
Borrowings	5,16,37	11,093,282	10,719,175
Lease liabilities	5,17,37	874,185	856,251
Other payables	5,18,37	319,949	212,648
Other financial liabilities	5,8,37	57,039	52,754
Deferred tax liabilities	19	35,077	35,025
Net defined benefit liabilities	20	146,985	105,278
Provisions	21	244,347	327,495
Contract liabilities	10	100,177	63,497
Other non-current liabilities	22	239,445 13,110,486	209,754 12,581,877
Total liabilities	_	40,417,925	36,742,257
Equity			
Paid-in capital:	23		
Share capital		904,169	904,169
Share premium		3,088,179	3,088,179
Retained earnings	24	16,352,773	16,201,439
Accumulated other comprehensive income (loss)	25	812,913	(420,818)
Accumulated other comprehensive income (loss) from assets held for sale	39	(457)	(136)
Other components of equity	26	(162,808)	(108,079)
Equity attributable to owners of the Parent Company	_	20,994,769	19,664,754
Non-controlling interests	_	4,216,895	3,833,782
Total equity	_	25,211,664	23,498,536
Total liabilities and equity		65,629,589	60,240,793

LG Electronics Inc. and its subsidiaries

Consolidated statements of profit or loss for each of the two years in the period ended December 31, 2024

(in millions of Korean won, except per share amounts)	Notes	2024	2023
Out the transmission			
Continuing operations			
Net sales	28	87,728,182	82,262,664
Cost of sales	29	66,348,948	62,461,405
Gross profit		21,379,234	19,801,259
Selling expenses	29,30	11,168,813	9,986,193
Administrative expenses	29,30	2,295,340	1,997,202
Research and development expenses	29,30	2,687,295	2,546,867
Service costs	29,30	1,808,111	1,617,703
Operating profit (loss)		3,419,675	3,653,294
Financial income	31	1,167,721	1,279,526
Financial expenses	31	1,132,596	1,381,297
Profit (Loss) from equity method valuation	14	(992,387)	(1,044,728)
Other non-operating income	32	2,405,944	2,293,082
Other non-operating expenses	32	3,532,562	2,761,830
Profit (Loss) from net monetary items resulting from hyperinflation		<u>-</u>	(23,150)
Profit (Loss) before income tax		1,335,795	2,014,897
Income tax expense (benefit)	19	462,520	756,971
Profit (loss) from continuing operations		873,275	1,257,926
Discontinued operations			
Profit (Loss) from discontinued operations		(281,910)	(107,315)
Profit (Loss) for the period		591,365	1,150,611
Profit (Loss) for the period attributable to:			
Owners of the Parent Company			
Profit (Loss) from continuing operations		649,425	820,217
Profit (Loss) from discontinued operations		(281,910)	(107,315)
	•	367,515	712,902
Non-controlling interests	•		
Profit (Loss) from continuing operations		223,850	437,709
Profit (Loss) from discontinued operations			-
		223,850	437,709
Earnings (Losses) per share attributable			
to owners of the Parent Company during the period (in Korean won)	33		
Earnings (Losses) per ordinary share			
From continuing operations		3,602	4,550
From discontinued operations		(1,566)	(596)
Earnings (Losses) per preferred share		2,036	3,954
From continuing operations		3,652	4,600
From discontinuing operations From discontinued operations		(1,566)	(596)
		2,086	4,004
	•		.,001

LG Electronics Inc. and its subsidiaries

Consolidated statements of comprehensive income

for each of the two years in the period ended December 31, 2024

(in millions of Korean won)			
	Notes	2024	2023
Profit (Loss) for the period		591,365	1,150,611
Other comprehensive income (loss), net of tax	_		
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of the net defined benefit liability	20	114,291	(256,951)
Share of remeasurements of associates	14	(49,362)	18,228
Financial assets at fair value through other comprehensive income	8	1,165	(2,267)
Items that will be reclassified subsequently to profit or loss:			
Share of other comprehensive income			
(excluding remeasurements) of associates and joint ventures	14	268,324	25,004
Cash flow hedges	37	(17,299)	(58,110)
Exchange differences on translation of foreign operations	_	1,159,195	368,598
Other comprehensive income (loss) for the period, net of tax	_	1,476,314	94,502
Total comprehensive income (loss) for the period, net of tax	=	2,067,679	1,245,113
Total comprehensive income (loss) for the period, net of tax,			
attributable to:			
Owners of the Parent Company		1,619,689	818,301
Non-controlling interests	-	447,990	426,812
Total comprehensive income (loss) for the period, net of tax	_	2,067,679	1,245,113

(in millions of Korean won)

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	Notes	Paid-in capital	Retained earnings	Accumulated other comprehensive income (loss)	Accumulated other comprehensive income (loss) from assets held for sale	Other components of equity	Total	Non-controlling interests	Total equity
Balance as of January 1, 2023		3,992,348	15,834,021	(750,372)	838	(84,727)	18,992,108	3,499,889	22,491,997
Financial statement restatement effects		-,,	,	(,,		(5 -,- =-)	,,	2,,	,,
under hyperinflationary economy		-	-	4,602	-	-	4,602	-	4,602
Total comprehensive income (loss):									
Profit (Loss) for the period		-	712,902	-	-	-	712,902	437,709	1,150,611
Remeasurements of the net defined benefit liability	20	-	(236,599)	-	-	-	(236,599)	(20,352)	(256,951)
Share of remeasurements of associates	14	-	18,228	-	-	-	18,228	-	18,228
Financial assets at fair value through	8								
other comprehensive income	o	-	(208)	(2,606)	-	-	(2,814)	547	(2,267)
Share of other comprehensive income									
(excluding remeasurements) of									
associates and joint ventures	14	-	-	25,004	-	-	25,004	-	25,004
Cash flow hedges	37	-	-	(54,510)	-	-	(54,510)	(3,600)	(58,110)
Exchange differences									
on translation of foreign operations			-	357,064	(974)		356,090	12,508	368,598
Total comprehensive income (loss):			494,323	324,952	(974)	<u>-</u>	818,301	426,812	1,245,113
Transactions with owners:									
Dividends	24		(126,905)	_	_		(126,905)	(114,082)	(240,987)
Changes in controlling interests in subsidiaries	24	-	(120,903)	-	-	(23,352)	(23,352)	16,363	(6,989)
Paid-in capital increase of subsidiaries						(20,002)	(23,332)	4,800	4,800
Total transactions with owners			(126,905)			(23,352)	(150,257)	(92,919)	(243,176)
Balance as of December 31, 2023		3,992,348	16,201,439	(420,818)	(136)	(108,079)	19,664,754	3,833,782	23,493,934
			,,,	(:==;=:=)	(155)	(100,010)	,,	5,555,55	
Balance as of January 1, 2024 Total comprehensive income (loss):		3,992,348	16,201,439	(420,818)	(136)	(108,079)	19,664,754	3,833,782	23,498,536
Profit (Loss) for the period		-	367,515	-	-	-	367,515	223,850	591,365
Remeasurements of the net defined benefit liability	20	-	74,683	-	-	-	74,683	39,608	114,291
Share of remeasurements of associates	14	-	(49,362)	-	-	-	(49,362)	-	(49,362)
Financial assets at fair value through									
other comprehensive income	8	-	(6,557)	7,470	-	-	913	252	1,165
Share of other comprehensive income									
(excluding remeasurements) of									
associates and joint ventures	14	-	-	268,324	-	-	268,324	-	268,324
Cash flow hedges	37	-	-	(14,641)	-	-	(14,641)	(2,658)	(17,299)
Exchange differences									
on translation of foreign operations			-	972,578	(321)		972,257	186,938	1,159,195
Total comprehensive income (loss)			386,279	1,233,731	(321)		1,619,689	447,990	2,067,679
Transactions with owners:									
Dividends	24	_	(234,945)	-	-	_	(234,945)	(81,764)	(316,709)
Changes in controlling interests in subsidiaries		_	(== :,5 :0)	_	-	(54,729)	(54,729)	16,887	(37,842)
Total transactions with owners			(234,945)	-		(54,729)	(289,674)	(64,877)	(354,551)
Balance as of December 31, 2024		3,992,348	16,352,773	812,913	(457)	(162,808)	20,994,769	4,216,895	25,211,664
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LG Electronics Inc. and its subsidiaries

Consolidated statements of cash flows

for each of the two years in the period ended December 31, 2024

		Notes	2024	2023
Cash generated from (used in) operations 34 4,934,587 7,051,46				
Cash generated from (used in) operations 34 4,934,587 7,051,46				
		34	4,934,587	7,051,467
110,001	Interest received		488,034	423,638
	Interest paid			(559,990)
	Dividend received		,	13,167
·			·	(1,014,686)
	Net cash provided by (used in) operating activities			5,913,596
Cash flows from investing activities	Cash flows from investing activities			
Decrease in deposits held by financial institutions 25,545 142,79	Decrease in deposits held by financial institutions		25,545	142,790
				143,640
·	·			117,650
				47,298
· · · · · · · · · · · · · · · · · · ·	·		26,023	14,617
Proceeds from withdrawal and disposal of investments in	·		4.540	
associates and joint ventures 1,546			1,546	12 267
Proceeds from disposal of assets held for sale - 13,36 Proceeds from disposal of business unit 6,252			6 252	13,367
			-	(193,551)
			,	(1,147,533)
				(248,695)
	•			(3,269,884)
				(867,724)
				(41,680)
Business combinations 38 (67,139)		38		-
Net cash provided by (used in) investing activities (4,211,873) (5,289,705)	Net cash provided by (used in) investing activities	_	(4,211,873)	(5,289,705)
Cash flows from financing activities	Cash flows from financing activities			
Increase in borrowings 4,355,225 6,062,47	Increase in borrowings		4,355,225	6,062,470
Increase due to transactions with non-controlling interests 1,808 63,73	Increase due to transactions with non-controlling interests		1,808	63,739
Repayments of borrowings (4,139,096) (4,021,405	Repayments of borrowings		(4,139,096)	(4,021,405)
Repayments of lease Iliabilities (380,298) (360,568	Repayments of lease lliabilities		(380,298)	(360,568)
Decrease due to transactions with non-controlling interests (225,605)	Decrease due to transactions with non-controlling interests		(225,605)	-
Dividend paid and others (316,709) (240,987)	Dividend paid and others	_	(316,709)	(240,987)
Net cash provided by (used in) financing activities (704,675) 1,503,24	Net cash provided by (used in) financing activities	_	(704,675)	1,503,249
				38,063
	Net increase (decrease) in cash and cash equivalents			2,165,203
		6 _		6,322,360
Cash and cash equivalents at the end of the period 6 7,573,036 8,487,56	Cash and cash equivalents at the end of the period	6	7,573,036	8,487,563

1. General information

LG Electronics Inc. (the "Company" or "Parent Company") was spun off from LG Electronics Inc. on April 1, 2002. The Parent Company's shares were listed on the Korea Exchange on April 22, 2002, and some of its preferred shares, in the form of global depositary receipts ("GDRs"), are listed on the London Stock Exchange as of December 31, 2024. The Parent Company is domiciled in Korea at Yeoui-daero, Yeongdeungpo-gu, Seoul.

As of December 31, 2024, LG Corp. owns 34.3% of the Parent Company's total shares, excluding preferred shares, while financial institutions, foreign investors and others own the rest.

The Parent Company and its subsidiaries (collectively referred to as the "Group") operate the following five major business segments: Home Appliance & Air Solution segment manufacturing and selling refrigerators, washing machines, vacuum cleaners, and residential and commercial air conditioners; Home Entertainment segment manufacturing and selling TVs and digital media products; Vehicle component Solutions segment designing and manufacturing automobile parts; Business Solutions segment manufacturing and selling monitors, PCs, information displays and others; and LG Innotek Co., Ltd. operating optics solutions, substrate materials and automotive components businesses. As of December 31, 2024, the Parent Company has 152 subsidiaries (See Note 1 (a)), 21 associates and joint ventures (See Note 14).

(a) Consolidated subsidiaries as of December 31, 2024 and 2023 are as follows:

			•	er 31, 2024 of ownership		r 31, 2023 of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
The Republic of Korea	Korea	Hiplaza Co., Ltd.	100.0%	-	100.0%	-	December	Wholesales and retails of electronic products	More than half of voting rights
	Korea	ACE R&A Co., Ltd.	100.0%	-	100.0%	-	December	Production and sales of air conditioning plants	More than half of voting rights
	Korea	Hi M Solutek Co., Ltd.	100.0%	-	100.0%	-	December	Other general machinery and equipment repairs	More than half of voting rights
	Korea	Hi-Caresolution Corp.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Korea	Hi Teleservice Co., Ltd.	100.0%	-	100.0%	-	December	Call center and telemarketing services	More than half of voting rights
	Korea	LG Innotek Co., Ltd. ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	Korea	Innowith Co., Ltd. ¹	40.8%	59.2%	40.8%	59.2%	December	Services	De-facto control
	Korea	Hanuri Co., Ltd.	100.0%	-	100.0%	-	December	Business facility maintenance	More than half of voting rights
	Korea	ZKW Lighting Systems Korea Co., Ltd.	70.0%	30.0%	70.0%	30.0%	December	R&D	More than half of voting rights
	Korea	LG Magna e-Powertrain Co., Ltd.	51.0%	49.0%	51.0%	49.0%	December	Production and sales of vehicle components	More than half of voting rights
	Korea	HIEVCHARGER CO., LTD.	60.0%	40.0%	60.0%	40.0%	December	Manufacture of electric transformers	More than half of voting rights
China	China	LG Electronics (China) Co., Ltd(LGECH)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	China	LG Electronics (China) Research and Development Center Co., Ltd.(LGERD)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights

			December 31, 2024		December 31, 2023				
			Percentage	of ownership	Percentage	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	China	LG Electronics Air- Conditioning(Shandong) Co., Ltd.(LGEQA)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	China	LG ELECTRONICS HK LIMITED(LGEHK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	China	LG Electronics (Huizhou) Inc.(LGEHZ)	80.0%	20.0%	80.0%	20.0%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics Nanjing New Technology Co.,Ltd(LGENT)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics Nanjing Vehicle Components Co.,Ltd.(LGENV)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	China	LG Electronics (Qinhuangdao) Co.,LTD(LGEQH)	100.0%	-	100.0%	-	December	Production of casting	More than half of voting rights
	China	LG Electronics (Shenyang) Inc(LGESY)	78.9%	21.1%	78.9%	21.1%	December	Production of electronic products	More than half of voting rights
	China	LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	80.0%	20.0%	80.0%	20.0%	December	Production of electronic products	More than half of voting rights
	China	Nanjing LG Panda Appliances Co., Ltd(LGEPN)	70.0%	30.0%	70.0%	30.0%	December	Production of electronic products	More than half of voting rights
	China	Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	China	QINGGONGLIAN ELECTRICAL INSTALLATION ENGINEERING CO.,LTD.	80.0%	20.0%	80.0%	20.0%	December	Installation and sales of air conditioners	More than half of voting rights
	China	LG Innotek Yantai Co.,Ltd.(LGITYT) ¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	China	LG Innotek Trading (Shanghai) Co.,Ltd.(LGITSH) ¹	40.8%	59.2%	40.8%	59.2%	December	Sales of electrical/electronic materials	De-facto control

			December 31, 2024 Percentage of ownership		December 31, 2023 Percentage of ownership				
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	China	ZKW Lighting Systems (Dalian) Co. Ltd.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
	China	LG Magna Nanjing e- Powertrain Vehicle Components Co., Ltd.	51.0%	49.0%	51.0%	49.0%	December	Production and sales of vehicle components	More than half of voting rights
Asia	Australia	LG ELECTRONICS AUSTRALIA PTY LIMITED(LGEAP)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	India	LG ELECTRONICS INDIA LIMITED(LGEIL) ^{4,5}	100.0%	-	100.0%	-	March	Production and sales of electronic products	More than half of voting rights
	Japan	LG Japan Lab. Inc.(LGJL)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	Japan	LG Electronics Japan, Inc.(LGEJP)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Malaysia	LG Electronics (M) Sdn. Bhd(LGEML)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Philippines	LG Electronics Philippines Inc.(LGEPH)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Singapore	LG Electronics Singapore Pte.Ltd.(LGESL)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Taiwan	LG Electronics Taiwan Taipei Co., Ltd.(LGETT)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Thailand	LG Electronics (Thailand) Company Limited(LGETH)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	India	LG Soft India Private Limited.(LGSI) ⁴	100.0%	-	100.0%	-	March	R&D	More than half of voting rights
	Indonesia	P.T. LG Electronics Indonesia(LGEIN)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Philippines	LG Electronics Pasig Inc.3	38.0%	62.0%	38.0%	62.0%	December	Real estates	De-facto control

			Decembe	er 31, 2024	Decembe	r 31, 2023			
			Percentage	of ownership	Percentage of	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Indonesia	PT. LG Innotek Indonesia(LGITIN)¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	Taiwan	LG Innotek (Taiwan) Co., Ltd.(LGITTW)¹	40.8%	59.2%	40.8%	59.2%	December	Sales of electrical/electronic materials	De-facto control
	Vietnam	LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	Vietnam	LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Indonesia	PT. LG Electronics Service Indonesia(LGEID)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Philippines	HI-M SOLUTEK PHILIPPINES INC.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Vietnam	HI-M SOLUTEK VIETNAM CO., LTD.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	India	Alphonso Labs Private Limited ⁴	65.7%	34.3%	55.5%	44.5%	March	R&D	More than half of voting rights
	Indonesia	PT LGE INDONESIA RESEARCH AND DEVELOPMENT CENTER (LGERC)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	Japan	Cybellum Technologies Ltd.	80.5%	19.5%	69.1%	30.9%	December	Development and sales of automotive security solutions	More than half of voting rights
	Vietnam	LG Electronics Development Vietnam Company Limited(LGEDV)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	Indonesia	PT HI-M SOLUTEK INDONESIA	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	India	Hi-M.Solutek India Private Limited ⁴	100.0%	-	100.0%	-	March	Services	More than half of voting rights

			·			December 31, 2023			
			Percentage	or ownersnip Non-	Percentage of ownership Non-				
Territory	Location	Subsidiary	Controlling interest	controlling interest	Controlling interest	controlling interest	Closing month	Major business	Basis of control
Europe	Netherlands	LG Electronics Benelux Sales B.V.(LGEBN)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Germany	LG Electronics Deutschland GmbH(LGEDG)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Spain	LG Electronics Espana S.A.(LGEES)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Netherlands	LG Electronics European Holding B.V.(LGEEH)	100.0%	-	100.0%	-	December	European holding company	More than half of voting rights
	Netherlands	LG Electronics European Shared Service Center B.V.(LGESC)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	France	LG Electronics France S.A.S(LGEFS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Greece	LG ELECTRONICS HELLAS SINGLE MEMBER SA (LGEHS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Italy	LG Electronics Italia S.P.A.(LGEIS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Latvia	LG Electronics Latvia LTD(LGELA)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Hungary	LG Electronics Magyar K.F.T.(LGEMK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Mlawa Sp. z.O.O.(LGEMA)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	Sweden	LG Electronics Nordic AB(LGESW)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Polska Sp. Z.O.O(LGEPL)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Portugal	LG Electronics Portugal S.A.(LGEPT)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2024 December 31, 2023 Percentage of ownership Percentage of ownership						
			Controlling	Non- controlling	Controlling	Non- controlling	Closing		
Territory	Location	Subsidiary	interest	interest	interest	interest	month	Major business	Basis of control
	UK	LG Electronics U.K. LTD(LGEUK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Wroclaw Sp. z.O.O.(LGEWR)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	Finland	LG Electronics Finland Lab Oy(LGEFL)	100.0%	-	100.0%	-	December	R&D	More than half of voting rights
	Poland	LG Innotek Poland Sp. z.o. o.(LGITPO)¹	40.8%	59.2%	40.8%	59.2%	December	Production and sales of electrical/electronic materials	De-facto control
	German	LG Electronics Vehicle Components Europe GmbH (LGEVG)	100.0%	-	100.0%	-	December	Sales of vehicle components	More than half of voting rights
	Austria	ZKW Holding GmbH	70.0%	30.0%	70.0%	30.0%	December	Holding company	More than half of voting rights
	Austria	ZKW Group GmbH	70.0%	30.0%	70.0%	30.0%	December	Services	More than half of voting rights
	Austria	ZKW Lichtsysteme GmbH	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
	Austria	ZKW Austria Immobilien Holding GmbH	70.0%	30.0%	70.0%	30.0%	December	Holding company	More than half of voting rights
	Austria	ZKW Austria Immobilien GmbH	70.0%	30.0%	70.0%	30.0%	December	Real estates	More than half of voting rights
	Slovakia	ZKW Slovakia s.r.o.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
	Czech	KES - kabelove a elektricke systemy spol. s.r.o.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights
	Czech	ZKW Automotive Engineering CZ s.r.o.	70.0%	30.0%	70.0%	30.0%	December	R&D	More than half of voting rights
	Poland	KES Poland Sp.z o.o.	70.0%	30.0%	70.0%	30.0%	December	Production and sales of vehicle components	More than half of voting rights

				er 31, 2024 of ownership	December 31, 2023 Percentage of ownership				
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Poland	HI-M SOLUTEK POLAND Sp. z o.o.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Hungary	ACE R&A Hungary Limited Liability Company	100.0%	-	100.0%	-	December	Production and sales of air conditioner	More than half of voting rights
	UK	Alphonso UK Limited	65.7%	34.3%	55.5%	44.5%	December	Advertisement	More than half of voting rights
	Greece	Alphonso Hellas S.A.	65.7%	34.3%	55.5%	44.5%	December	Advertisement	More than half of voting rights
	Hungary	LG Magna e-Powertrain Hungary Ltd.	51.0%	49.0%	51.0%	49.0%	December	Production and sales of vehicle components	More than half of voting rights
	Germany	HI-M SOLUTEK Germany GmbH	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Netherlands	Athom Holding B.V.	80.0%	20.0%	-	-	December	Development and sales of smart home solutions	More than half of voting rights
	Netherlands	Athom B.V.	80.0%	20.0%	-	-	December	Development and sales of smart home solutions	More than half of voting rights
America	USA	LG Electronics Alabama Inc.(LGEAI)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Canada	LG Electronics Canada, Inc.(LGECI)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Mexico	LG Electronics Mexico S.A. DE C.V.(LGEMS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Mexico	LG Electronics Reynosa, S.A. De C.V.(LGERS)	100.0%	-	100.0%	-	December	Production of electronic products	More than half of voting rights
	USA	LG Electronics U.S.A., Inc.(LGEUS)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	USA	Zenith Electronics LLC(Zenith)	100.00%	-	100.00%	-	December	R&D	More than half of voting rights

			Decembe	er 31, 2024	Decembe	r 31, 2023			
			Percentage	of ownership	Percentage of	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	USA	LG Innotek USA, Inc.(LGITUS) ¹	40.80%	59.20%	40.80%	59.20%	December	Sales of electrical/electronic components	De-facto control
	Mexico	LG Innotek Mexico SA DE CV(LGITMX) ¹	40.80%	59.20%	40.80%	59.20%	December	Production and sales of electrical/electronic components	De-facto control
	USA	LG Electronics Vehicle Components U.S.A., LLC.(LGEVU)	100.00%	-	100.00%	-	December	Sales of vehicle components	More than half of voting rights
	USA	LGEUS Power, LLC	100.00%	-	100.00%	-	December	Investment of solar power plant	More than half of voting rights
	USA	LG Electronics Fund I LLC	100.00%	-	100.00%	-	December	Investment in technology start-ups	More than half of voting rights
	USA	LG Technology Ventures LLC	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	USA	LG Electronics New Jersey, LLC	100.00%	-	100.00%	-	December	Real estates	More than half of voting rights
	USA	ZKW Lighting Systems USA, Inc.	70.00%	30.00%	70.00%	30.00%	December	Sales of vehicle components	More than half of voting rights
	Mexico	ZKW Mexico Inmobiliaria, S.A. de C.V.	70.00%	30.00%	70.00%	30.00%	December	Real estates	More than half of voting rights
	Mexico	ZKW Mexico, S.A. de C.V.	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights
	USA	LG Magna e-Powertrain USA Inc.	51.00%	49.00%	51.00%	49.00%	December	Sales of vehicle components	More than half of voting rights
	USA	Alphonso Inc.	65.70%	34.30%	55.50%	44.50%	December	Advertisement	More than half of voting rights
	USA	LG Innotek Fund I LLC ¹	40.8%	59.2%	40.8%	59.2%	December	Investment in technology start-ups	De-facto control
	USA	LG Innotek Fund II LLC ¹	40.8%	59.2%	-	-	December	Investment in technology start-ups	De-facto control

			Decembe	er 31, 2024	Decembe	r 31, 2023			
			Percentage	of ownership	Percentage (of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	USA	Cybellum Technologies USA, Inc.	80.5%	19.5%	69.1%	30.9%	December	Development and sales of automotive security solutions	More than half of voting rights
	USA	LG Electronics Fund ${\rm I\hspace{1em}I}$ LLC.	100.0%	-	100.0%	-	December	Investment in technology start-ups	More than half of voting rights
	Mexico	HI-M SOLUTEK MEXICO S DE RL DE CV.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Mexico	LG Magna e-Powertrain Mexico S.A. DE C.V.	51.0%	49.0%	51.0%	49.0%	December	Production and sales of vehicle components	More than half of voting rights
	USA	ACE R&A US INC.	100.0%	-	100.0%	-	December	Production and sales of air conditioner	More than half of voting rights
	USA	Overdrive Energy, Inc.	75.0%	25.0%	75.0%	25.0%	December	Investment in technology start-ups	More than half of voting rights
	USA	Primefocus Health, Inc.	54.0%	46.0%	75.0%	25.0%	December	Investment in technology start-ups	More than half of voting rights
	USA	Hi-M.SOLUTEK US INC.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	USA	Athom Inc.	80.0%	20.0%	-	-	December	Development and sales of smart home solutions	More than half of voting rights
	Argentina	LG Electronics Argentina S.A.(LGEAR)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Colombia	LG Electronics Colombia Limitada(LGECB)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Brazil	LG Electronics do Brasil Ltda.(LGEBR)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Brazil	Hi-M.Solutek Brazil Ltda.	100.0%	-	-	-	December	Services	More than half of voting rights
	Honduras	LG Electronics Honduras S.de R.L. ²	20.0%	80.0%	20.0%	80.0%	December	Sales of electronic products	De-facto control
	Chile	LG Electronics Inc Chile Limitada(LGECL)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			Decembe	er 31, 2024	Decembe	r 31, 2023			
			Percentage	of ownership	Percentage of	of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Panama	LG Electronics Panama, S.A.(LGEPS)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Peru	LG Electronics Peru S.A.(LGEPR)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Venezuela	LG Electronics Venezuela, S.A.(LGEVZ)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Panama	LG Consulting Corp.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Guatemala	LG Electronics Guatemala, S.A.	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
Middle East and Africa	Angola	LG Electronics Angola Limitada(LGEAO)	100.0%	-	100.0%	-	December	Sales and services of electronic products	More than half of voting rights
	Jordan	LG Electronics Levant - Jordan(LGELF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Africa Logistics FZE(LGEAF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Algeria	LG Electronics Algeria SARL(LGEAS)	70.0%	30.0%	70.0%	30.0%	December	Production and sales of electronic products	More than half of voting rights
	UAE	LG Electronics Dubai FZE(LGEDF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Egypt	LG Electronics Egypt S.A.E(LGEEG)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	UAE	LG Electronics Gulf FZE(LGEGF)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Middle East Company FZCO (LGEME)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Morocco	LG Electronics Morocco S.A.R.L.(LGEMC)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Nigeria	LG Electronics Nigeria Limited(LGENI)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

			Decembe	er 31, 2024	Decembe	er 31, 2023			
			Percentage	of ownership	Percentage (of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
	Tunisia	LGENAF Service Company SARL	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Overseas Trading FZE(LGEOT)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	South Africa	LG Electronics S.A. (Pty) Ltd.(LGESA)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Türkiye	LG Electronics Ticaret A.S.(LGETK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Saudi Arabia	LG-Shaker Co.Ltd.(LGESR)	51.0%	49.0%	51.0%	49.0%	December	Production of electronic products	More than half of voting rights
	Saudi Arabia	LG Electronics Saudi Arabia LLC.	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	UAE	HI M SOLUTEK HVAC SERVICE AND MAINTENANCE LLC.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Egypt	HI-M.SOLUTEK LLC.	100.0%	-	100.0%	-	December	Services	More than half of voting rights
	Israel	Cybellum Technologies Ltd.	80.5%	19.5%	69.1%	30.9%	December	Development and sales of automotive security solutions	More than half of voting rights
	Saudi Arabia	LG Electronics Middle East & Africa Regional Headquarter(LGESQ)	100.0%	-	100.0%	-	December	Services	More than half of voting rights
Other	Kazakhstan	LG Electronics Almaty Kazakhstan Limited Liability Partnership(LGEAK)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights
	Russia	LG Electronics RUS, LLC. (LGERA)	100.0%	-	100.0%	-	December	Production and sales of electronic products	More than half of voting rights
	Ukraine	LG Electronics Ukraine(LGEUR)	100.0%	-	100.0%	-	December	Sales of electronic products	More than half of voting rights

- ¹ Although the Group owns less than half of the voting rights of LG Innotek Co., Ltd., which is an intermediate parent company of its subsidiaries, the Group is deemed to have control over LG Innotek Co., Ltd. due to the size and dispersion of holdings of the other shareholders and their voting patterns at previous shareholders' meetings (See Note 3.2).
- ² Although the Group owns less than a majority of the effective percentage of ownership of the entity, the Group has concluded that the Group controls the entity. This is because the Group has a right to appoint or dismiss the majority of its Board of Directors by virtue of an agreement with the other investors.
- ³ Although the Group owns less than a majority of the effective percentage of ownership of the entity, the Group has concluded that the Group controls the entity. This is because the Group has the substantial power to direct the relevant activities and is exposed to variable returns.
- ⁴ In the preparation of the consolidated financial statements, the financial statements for the 12-month period ended December 31, 2024 were used for those subsidiaries with different fiscal year-ends.
- ⁵ The entity changed its name from LG ELECTRONICS INDIA PRIVATE LIMITED to LG ELECTRONICS INDIA LIMITED for the year ended December 31, 2024.

(b) Financial information of major subsidiaries as of December 31, 2024 and 2023 and for each of the two years in the period ended December 31, 2024 are as follows (before elimination of intercompany transactions):

Subsidiary			2024		
(in millions of Korean won)	Assets	Liabilities	Equity	Sales ¹	Profit (Loss) for the year
LG Innotek Co., Ltd.	9,862,840	5,770,110	4,092,730	20,841,776	290,055
LG Electronics U.S.A., Inc.(LGEUS)	6,306,217	4,129,685	2,176,532	14,741,842	502,347
LG Electronics European Shared Service Center B.V.(LGESC)	1,763,473	1,713,635	49,838	663,667	2,107
LG ELECTRONICS INDIA LIMITED(LGEIL)	1,732,661	833,148	899,513	3,791,013	331,781
LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	2,233,250	1,187,806	1,045,444	5,635,680	173,872
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	1,493,067	691,378	801,689	4,344,440	106,909
Zenith Electronics LLC.(Zenith)	1,760,783	683,433	1,077,350	397,400	(228,002)
LG Electronics do Brasil Ltda.(LGEBR)	1,659,376	433,576	1,225,800	1,804,174	111,572
Hiplaza Co., Ltd.	1,069,375	879,627	189,748	2,165,344	6,448
LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)	2,021,900	798,672	1,223,228	5,419,525	187,974
ZKW Lichtsysteme GmbH	1,080,541	620,067	460,474	824,586	12,749
LG Electronics (China) Co., Ltd.(LGECH)	998,595	916,289	82,306	226,579	8,985
LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	1,328,970	775,085	553,885	2,419,264	109,514
ZKW Group GmbH	1,766,691	1,345,385	421,306	197,303	13,192
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	925,719	681,461	244,258	1,642,245	34,645
LG Electronics Mexico S.A.DE C.V.(LGEMS)	600,602	429,138	171,464	1,604,999	11,062
LG Electronics (Thailand) Company Limited(LGETH)	782,635	515,699	266,936	1,802,888	70,240
P.T. LG Electronics Indonesia(LGEIN)	1,199,402	538,592	660,810	3,302,786	79,357
LG Electronics Nanjing New Technology co.,LTD.(LGENT)	737,649	435,142	302,507	1,978,232	69,722
Nanjing LG Panda Appliances Co., Ltd.(LGEPN)	745,349	516,692	228,657	1,338,589	60,901
LG Magna E-Powertrain Co.,Ltd.	1,463,879	764,695	699,184	443,159	(102,003)
LG Electronics Vehicle Components Europe GmbH(LGEVG)	1,365,980	1,230,211	135,769	3,966,378	2,954
LG Electronics Deutschland GmbH(LGEDG)	674,893	407,288	267,605	1,390,588	29,831

Subsidiary			2023		
(in millions of Korean won)	Assets	Liabilities	Equity	Sales ¹	Profit (Loss) for the year
LG Innotek Co., Ltd.	9,964,207	6,162,549	3,801,658	20,209,273	364,595
LG Electronics U.S.A., Inc.(LGEUS)	5,754,119	3,803,939	1,950,180	14,309,444	190,657
LG Electronics European Shared Service Center B.V.(LGESC)	1,440,444	1,396,400	44,044	720,987	2,049
LG ELECTRONICS INDIA LIMITED(LGEIL)	1,146,627	651,697	494,930	3,300,877	231,335
LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	1,996,002	993,153	1,002,849	5,133,332	150,307
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	1,358,792	658,445	700,347	3,785,198	113,514
Zenith Electronics LLC.(Zenith)	1,734,558	324,269	1,410,289	259,102	20,752
LG Electronics do Brasil Ltda.(LGEBR)	1,665,466	413,251	1,252,215	1,597,355	60,381
Hiplaza Co., Ltd.	1,126,143	923,833	202,310	2,436,989	516
LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)	2,175,605	1,283,941	891,664	5,763,718	228,689
ZKW Lichtsysteme GmbH	934,433	450,478	483,955	844,574	115,018
LG Electronics (China) Co., Ltd.(LGECH)	865,584	800,698	64,886	292,085	39,775
LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	1,061,827	597,903	463,924	2,043,825	111,015
ZKW Group GmbH	1,520,505	1,140,886	379,619	149,774	547
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	707,039	521,057	185,982	1,315,047	38,868
LG Electronics Mexico S.A.DE C.V.(LGEMS)	597,534	422,982	174,552	1,539,749	9,821
LG Electronics (Thailand) Company Limited(LGETH)	576,365	329,419	246,946	1,545,794	37,607
P.T. LG Electronics Indonesia(LGEIN)	988,050	412,359	575,691	2,873,122	91,879
LG Electronics Nanjing New Technology co.,LTD.(LGENT)	716,079	461,106	254,973	2,016,848	33,943
Nanjing LG Panda Appliances Co., Ltd.(LGEPN)	589,208	406,157	183,051	1,111,052	31,183
LG Magna E-Powertrain Co.,Ltd.	1,405,309	603,239	802,070	1,093,457	52,204
LG Electronics Vehicle Components Europe GmbH(LGEVG)	945,480	821,031	124,449	3,205,441	(7,157)
LG Electronics Deutschland GmbH(LGEDG)	573,321	352,506	220,815	1,313,226	55,482

¹ The sales related to the discontinued operations were excluded.

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

(in millions of Korean won)	December 31, 2024	December 31, 2023
Percentage of ownership held by non-controlling interests	59.2%	59.2%
Accumulated non-controlling interests	3,280,298	2,877,933

ii) Profit (Loss) and dividends attributable to non-controlling interests for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Profit(Loss) attributable to non-controlling interests	289,851	353,658
Dividends attributable to non-controlling interests	36,570	58,147

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

(in millions of Korean won)	December 31, 2024	December 31, 2023
Current assets	5,853,122	5,349,009
Non-current assets	5,525,090	5,855,297
Total assets	11,378,212	11,204,306
Current liabilities	3,954,860	4,219,145
Non-current liabilities	2,069,486	2,270,586
Total liabilities	6,024,346	6,489,731
Equity attributable to owners of LG Innotek Co., Ltd.	5,353,866	4,714,575
Non-controlling interests		
Total equity	5,353,866	4,714,575

iv) Summarized consolidated statements of comprehensive income of subsidiaries with material non-controlling interests for each of the two years in the period ended December 31, 2024 are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	2024	2023
Net sales	21,200,755	20,605,290
Profit (Loss) for the year	449,274	565,201
Other comprehensive income (loss), net of tax	251,781	(18,212)
Total comprehensive income (loss), net of tax	701,055	546,989

v) Summarized consolidated statements of cash flows of subsidiaries with material non-controlling interests for each of the two years in the period ended December 31, 2024 are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	2024	2023
Cash flows from operating activities	1,110,059	2,104,064
Cash flows from investing activities	(969,469)	(1,904,419)
Cash flows from financing activities	(219,826)	608,294
Effects of exchange rate changes on cash and cash equivalents	18,976	3,799
Net increase (decrease) in cash and cash equivalents	(60,260)	811,738
Cash and cash equivalents at the beginning of the year	1,389,646	577,908
Cash and cash equivalents at the end of the year	1,329,386	1,389,646

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

Cash and other short-term financial instruments held by subsidiaries in Egypt, Algeria, Russia and Kazakhstan are subject to exchange control regulations effective in each jurisdiction. Accordingly, it is restricted to transfer the cash and other short-term financial instruments held by the subsidiaries from these jurisdictions.

- ii) The protective rights of non-controlling interests which can restrict the Group's use of the assets and settlement of the liabilities exist in certain subsidiaries.
- (e) Changes in the Parent Company's interest in subsidiaries
- i) During the year ended December 31, 2024, non-controlling interests for Cybellum Technologies USA, Inc. decreased by ₩3,183 million due to the effect of changes in the percentage of ownership resulting from the exercise of stock options and tender offer agreements for non-controlling interests.
- ii) During the year ended December 31, 2024, non-controlling interests for Alphonso Inc. decreased by W60,447 million due to the effect of changes in the percentage of ownership resulting from the exercise of stock options and tender offer agreements for non-controlling interests.
- (f) Subsidiaries newly included in the scope of preparation of consolidated financial statements for the year ended December 31, 2024 are as follows:

Subsidiary	Reason	Location	Controlling interest	Closing month	Major business
 Athom Holding B.V.	Acquisition of shares	Netherlands	80.00%	December	Development and sales of smart home solutions
Athom B.V.	Acquisition of shares	Netherlands	80.00%	December	Development and sales of smart home solutions
Athom Inc.	Acquisition of shares	USA	80.00%	December	Development and sales of smart home solutions
Hi-M.Solutek Brazil Ltda	Newly established	Brazil	100.00%	December	Services
LG Innotek Fund Ⅱ LLC	Newly established	USA	40.80%	December	Investment in technology start-ups

(g) Gain or loss resulted from the loss of control

The Group did not recognize any gain or loss from the loss of control for the year ended December 31, 2024.

2. Material accounting policies

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

2.1 Basis of preparation

The Group maintains its accounting records in Korean won (presented as "Korean won," "KRW" or "\") and prepares statutory financial statements in the Korean language (Hangeul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (KIFRS).

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

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

2.1.1 Changes in accounting policies and disclosures

- (a) New and amended standards and interpretations effective for the financial year beginning on or after January 1, 2024
- Classification of Liabilities as Current or Non-current, non-current liabilities with agreements Amendments to KIFRS 1001 Presentation of Financial Statements

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist as of December 31, 2024. Classification is unaffected by the likelihood that an entity will exercise the right to defer settlement of the liability or by management's expectations. The settlement of a liability includes the transfer of the entity's own equity instruments; however, this does not apply when an option to settle a compound financial instrument with the entity's own equity instruments meets the definition of an equity instrument and is separately recognized from the liability component. In addition, covenants that the Group is required to comply with after the reporting period do not affect classification as current or non-current at the reporting date. If an entity classifies a liability as non-current at the reporting date despite being subject to covenants that must be complied with within twelve months after the reporting period, the entity shall disclose information in the notes to enable users to understand the risk that such liabilities could become repayable within that period. The amendments do not have a material impact on the consolidated financial statements.

- Supplier Finance Arrangements - Amendments to KIFRS 1007 Statement of Cash Flows and KIFRS 1107 Financial Instruments: Disclosures

The amendments to KIFRS 1007 and KIFRS 1107 clarify the characteristics of supplier finance arrangements and require additional disclosure of such arrangements. The disclosure requirements in the amendments are intended to assist users of financial statements in understanding the effects of supplier finance arrangements on the Group's liabilities, cash flows and exposure to liquidity risk. The amendments do not have a material impact on the consolidated financial statements.

- Lease Liability in a Sale and Leaseback - Amendments to KIFRS 1116 Leases

The amendments to KIFRS 1116 specify the requirements that a seller-lessee uses in measuring the lease liability arising in a sale and leaseback transaction, to ensure the seller-lessee does not recognize any amount of the gain or loss that relates to the right of use it retains. The amendments do not have a material impact on the consolidated financial statements.

- Disclosure of Virtual Assets - Amendments to KIFRS 1001 Presentation of Financial Statements

These amendments mandate entities to disclose material information for the financial statement users such as the impact of holding and issuing virtual assets on their accounting policies and financial statements. The entities should separately disclose information related to holding virtual assets, holding them on behalf of the customers, and issuing them. The additional disclosure requirements arising from these amendments have been included in the relevant notes.

- (b) Newly enacted and amended standards issued, but not effective as of December 31, 2024 and not early adopted by the Group.
- Lack of Exchangeability Amendments to KIFRS 1021 The Effects of Changes in Foreign Exchange Rates and KIFRS 1101 First-time Adoption of KIFRS

The amendments require entities to assess the exchangeability of a currency and, if the currency is not exchangeable into another currency, to estimate the spot exchange rate and disclose relevant information. The amendments apply to annual reporting periods beginning on or after January 1, 2025. The Group does not expect that these amendments will have a material impact on the consolidated financial statements.

- Financial Instruments – Amendments to KIFRS 1109 Financial Instruments and KIFRS 1107 Financial Instruments: Disclosures

In response to questions raised in practice and to incorporate new requirements, the amendments have been made to KIFRS 1109 *Financial Instruments* and KIFRS 1107 *Financial Instruments: Disclosures*. These amendments apply to annual reporting periods beginning on or after January 1, 2026. The Group does not expect that these amendments will have a material impact on the consolidated financial statements. The amendments:

- allow financial liabilities to be considered as settled (derecognized) before the settlement date if they are settled via an electronic payment system and meet specific criteria;
- clarify and introduce additional guidance for assessing whether a financial asset meets the criteria of having cash flows that are solely payments of principal and interest;
- require the disclosure of the extent to which an entity is exposed to contractual terms that alter the timing or amount of contractual cash flows, categorised by type of financial instrument; and
- introduce additional disclosure requirements for equity instruments designated at fair value through other comprehensive income (FVOCI).
- Annual Improvements to KIFRS Volume 11

Annual Improvements to KIFRS – Volume 11 apply to annual reporting periods beginning on or after January 1, 2026. The Group does not expect that these amendments will have a material impact on the consolidated financial statements.

- KIFRS 1101 First-time Adoption of KIFRS: Application of hedge accounting upon first-time adoption of KIFRS
- KIFRS 1107 *Financial Instruments: Disclosures*: Derecognition gains or losses, application guidance in practice
- KIFRS 1109 Financial Instruments: Derecognition of lease liabilities and definition of transaction price

- KIFRS 1110 Consolidated Financial Statements: Determination of a de facto agent
- KIFRS 1007 Statement of Cash Flows: Cost method

2.2 Consolidation

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

(a) Subsidiaries

Subsidiaries are all entities over which the Parent Company has control. The Parent Company controls an entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

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

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recorded as goodwill. If those amounts are less than the fair value of the net identifiable assets of the business acquired, the difference is recognized directly in the profit or loss as a bargain purchase.

Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

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

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value with the changed in carrying amount recognized in profit or loss.

(b) Associates

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. When the Group currently have the right to substantially access to the returns associated with an ownership interest, investments in associates are accounted for using the equity method of accounting and are initially recognized at cost. In all other cases, investments are accounted for in accordance with KIFRS 1109 Financial Instruments. The Group's investment in associates includes goodwill identified at acquisition, net of any accumulated impairment loss (See Note 14).

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

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

(c) Joint Arrangements

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

(d) Transactions with non-controlling interests

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

(e) Business Combinations

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

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

The excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of the Group's previously held equity interest in the acquire over the net identifiable assets at the date of acquisition is recorded as goodwill (See Note 2.14). If the cost of the acquisition is less than the fair value of the net assets of the subsidiary acquired, the difference is recognized directly in the consolidated statements of profit or loss.

2.3 Segment reporting

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

2.4 Foreign currency translation

(a) Functional and presentation currency

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

(b) Transactions and balances

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

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

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

(c) Translation into presentation currency

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

- i) assets and liabilities are translated at the closing exchange rate as of December 31, 2024 and 2023;
- ii) income and expenses are translated at monthly average exchange rates; and
- iii) all resulting exchange differences from above i) and ii) are recognized in other comprehensive income.

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

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate as of December 31, 2024.

2.5 Cash and cash equivalents

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

2.6 Financial instruments

2.6.1 Classification

(a) Financial assets

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

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

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

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

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

(b) Financial liabilities

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

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

2.6.2 Recognition and measurement

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

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

(a) Debt instruments

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

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

(b) Equity instruments

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

Changes in the fair value of financial assets at fair value through profit or loss are recognized in other non-operating income and expenses in the consolidated income statement as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income is not reported separately from other changes in fair value.

2.6.3 Impairment

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

2.6.4 Offsetting of financial instruments

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

2.6.5 Derecognition

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

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

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

2.7 Derivative financial instruments

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

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

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

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

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if: the economic characteristics and risks are not closely related to the host; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the hybrid contract is not measured at fair value through profit or loss.

2.8 Trade receivables

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

2.9 Inventories

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

2.10 Assets held for sale and discontinued operations

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

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

2.11 Property, plant and equipment

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

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

Depreciation of all property, plant and equipment, except for land, is calculated using the straight-line method to allocate their acquisition cost or revalued amounts, net of their residual values, over their estimated useful lives as follows:

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

Each asset's depreciation method, residual values, and useful lives are reviewed and adjusted, if necessary, at the end of each reporting period. An asset's carrying amount is written down to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the consolidated statements of profit or loss as other non-operating income (expenses).

2.12 Borrowing costs

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

2.13 Government grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions. Government grants related to assets are presented in the statement of financial position by deducting the grant in arriving at the carrying amount of the asset, and government grants related to income are deferred and later deducted from the related expense.

2.14 Intangible assets

(a) Goodwill

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

(b) Industrial property rights

Industrial property rights are shown at historical cost. Industrial property rights have a limited useful life and are carried at cost less accumulated amortization. Amortization is calculated using the straight-line method to allocate the cost of industrial property rights over their estimated useful lives of 10 years.

(c) Development costs

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

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

Amortization of development costs based on the straight-line method over their estimated useful lives of 1 year or 3 years begins at the commencement of sale or use of the related products.

(d) Membership

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

(e) Other intangible assets

Other intangible assets such as licenced assets, customer relationships, values of techniques, software and which meet the definition of an intangible asset are amortized using the straight-line method over their estimated useful lives of 5 or 10 years.

(f) Virtual assets

The Group classifies individually acquired virtual assets as intangible assets and recognizes them at acquisition cost, which includes the purchase price and costs directly related to the acquisition, if any. Virtual assets classified as intangible assets are considered to have an indefinite useful life and are not subject to amortization, accordingly. The cost of virtual assets disposed is determined using the first-in, first-out (FIFO) method.

The Group performs an impairment test on virtual assets classified as intangible assets annually or when there is an indication of impairment, and their carrying amount is measured net of accumulated impairment losses. Impairment losses and gains or losses on disposal of virtual assets are recognized in other non-operating income or expenses.

2.15 Investment property

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

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

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

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

2.16 Impairment of non-financial assets

Goodwill and intangible assets that have indefinite useful lives are not subject to amortization and are tested annually for impairment. as of December 31, 2024 and 2023, assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized as profit or loss for the year for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and its value-in -use.

The value-in-use is measured by determining the estimated pre-tax cash flows based on past performance and its expectations of market development, and applying the pre-tax discount rates that reflect specific risks relating to the relevant operating segments. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets other than goodwill that suffered impairment loss are reviewed for possible reversal of the impairment as of December 31, 2024 and 2023.

2.17 Trade payables

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

2.18 Borrowings

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

2.19 Financial guarantee contracts

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due, in accordance with the original or modified terms of a debt instrument. Financial guarantees contracts provided by the Group are initially measured at fair value on the date the guarantee was given. Subsequent to initial recognition, the Group's liabilities under such guarantees are measured at the higher of the following amounts below and recognized as 'other financial liabilities':

- (a) the amount determined in accordance with the expected credit loss model under KIFRS 1109 *Financial Instruments*; and
- (b) the amount initially recognized less the cumulative amount of income recognized in accordance with KIFRS 1115 *Revenue from Contracts with Customers*

2.20 Provisions

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

A warranty provision is accrued for the estimated costs of future warranty claims based on historical experience. Where the Group, as a tenant, is required to restore its leased assets to their original state at the end of the lease-term, the Group recognizes the present value of the estimated cost of restoration as a provision for restoration. When there is a probability that an outflow of economic benefits will occur from litigation or disputes, and whose amount is reasonably estimable, a corresponding amount of provision is recognized as a provision for litigation in the consolidated financial statements.

A contingent liability is disclosed (See Note 35) when;

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

2.21 Current and deferred income tax

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

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

Deferred income tax is recognized on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. It represents future tax consequences that will arise when recovering or settling the carrying amount of its assets and liabilities. However, the deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor tax profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by December 31, 2024 and 2023 and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

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

Deferred income tax liabilities are provided on taxable temporary differences arising on investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference is controlled by the Group, and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred income tax assets are recognized only to the extent that it is probable that the deductible temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

2.22 Employee benefits

(a) Retirement benefits

The Group operates a defined contribution plan and a defined benefit plan as its retirement benefit plan.

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

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and salary levels. The liability recognized in the consolidated statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation as of December 31, 2024 less the fair value of plan assets. The defined benefit obligation is calculated annually by independent qualified actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds and that have terms to maturity approximating to the terms of the related pension obligation. The remeasurements of the net defined benefit liabilities are recognized in other comprehensive income.

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

(b) Other long-term employee benefits

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

(c) Termination benefits

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

(d) Share-based payment

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

2.23 Share capital

Ordinary shares and preferred shares without any obligation to repay are classified as equity. Where the Parent Company purchases its own ordinary shares, the consideration paid, including any directly attributable incremental costs, is deducted from equity attributable to owners of the Parent Company until the shares are cancelled or reissued. Where such treasury shares are subsequently reissued, any consideration received is included in equity attributable to owners of the Parent Company.

2.24 Revenue recognition

(a) Identify performance obligation

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

According to the rules and guidance on the terms and conditions of international trading (INCOTERMS 2020), the Group recognizes the transportation services as a separate performance obligation apart from the sale of goods, under the transactions with the rules where seller is responsible for paying shipping cost and insurance premium.

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

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

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

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

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

(c) A performance obligation satisfied over time

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

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

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

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

(d) Variable consideration

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

(e) Allocating the transaction price

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

(f) Returns

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

(g) Significant financing component

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

2.25 Leases

Group as a lessee

The Group leases various offices, warehouses, retail stores, equipment and cars. A lease term is normally determined considering non-cancellable period of a lease and its extension options. Lease conditions are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

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

(a) Right-of-use assets

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

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

(b) Lease liabilities

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

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

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

• payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option

However, payments associated with short-term leases and leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. The underlying assets of low-value lease assets are comprised of IT-equipment below US\$ 5,000 and others.

Group as a lessor

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

2.26 Dividend distribution

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

2.27 Earnings per share

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

2.28 Greenhouse gas emissions rights (allowances) and obligations

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

3. Material accounting estimates and judgments

3.1 Material accounting estimates and assumptions

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

The Russia - Ukraine armed conflict has a material impact on the global economy. It may have a negative impact to the Group such as decrease in productivity, decrease or delay in sales, collection of existing receivables and others. Accordingly, it may have a negative impact on the financial position and financial performance of the Group.

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

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

(a) Revenue recognition

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

(b) Impairment of goodwill and others

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

(c) Income taxes

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

(d) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and makes assumptions that are mainly based on market conditions existing as of December 31, 2024.

(e) Provisions

The Group recognizes provisions for product warranties and others based on their historical data as of December 31, 2024.

(f) Net defined benefit liabilities

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

(g) Development costs

The Group capitalizes development costs when there is reasonable assurance that projects have technical feasibility and the possibility of generating future economic benefits, and it performs periodic impairment tests. The recoverable amount of each project has been calculated on a basis of the value-in-use reflecting expected sales quantity and unit price and estimated operating profit.

(h) Leases

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

The reassessment of the lease term based on a judgment of whether the extension option is reasonably certain to be exercised (or not exercised) is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

When the Group is a lessor, management estimates the lease period by considering non-cancellable lease period in the contract. And management compares a major part of the economic life of the underlying asset with the lease period and classifies it as a finance lease if the lease period exceeds for a major part of the economic life of the underlying asset. When classified as a financial lease, the Group recognizes income at the lower of the lease net investment discounted at the market interest rate and the sale price of the underlying asset.

3.2 Material judgment on accounting policies adopted by the group

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

4. Segment information

The segments of the Group are strategic business divisions providing different products and services. They are reported separately because each business division requires different technologies and marketing strategies. As of December 31, 2024, the main products of each business division are as follows and the comparative information is presented in conformity with the same classification in the current period.

Operating segment	Type of products				
Home Appliance & Air Solution (H&A)	Refrigerators, washing machines, air conditioners, vacuum cleaners and others				
Home Entertainment (HE)	TVs, audio and others				
Vehicle component Solutions (VS)	Vehicle components and others				
Business Solutions (BS)	Monitors, PCs, information displays and others				
LG Innotek Co., Ltd. and its subsidiaries (Innotek)	Camera modules, substrate & material, motor/sensor and others				
Other	Equipment production and others				

(a) Details of sales and operating profit (loss) by segment for each of the two years in the period ended December 31, 2024 is as follows:

	2024						
(in millions of Korean won)	H&A	HE	VS	BS	Innotek	Other ¹	Total
Sales	33,203,291	15,229,059	10,620,549	5,687,060	21,200,755	1,787,468	87,728,182
External sales	33,149,509	15,220,293	10,620,549	5,674,375	20,628,785	2,434,671	87,728,182
Internal sales	53,782	8,766	-	12,685	571,970	(647,203)	-
Operating income (loss) ²	2,044,649	315,924	115,747	(193,143)	706,043	430,455	3,419,675
Depreciation and amortization	1,019,030	304,935	602,488	136,808	1,280,018	192,153	3,535,432

	2023						
(in millions of Korean won)	H&A	HE	VS	BS	Innotek	Other ¹	Total
Sales	30,168,312	14,204,001	10,147,643	5,412,002	20,605,290	1,725,416	82,262,664
External sales	30,120,977	14,199,015	10,147,643	5,404,099	20,058,791	2,332,139	82,262,664
Internal sales	47,335	4,986	-	7,903	546,499	(606,723)	-
Operating income (loss) ²	1,994,338	375,857	243,942	(41,730)	830,824	250,063	3,653,294
Depreciation	940,898	341,560	545,854	128,396	1,045,699	200,421	3,202,828
and amortization							

¹ Other includes operating segments that are not qualified as reportable segments and departments that support the operating segments and R&D, and inter-segment transactions. Sales between segments are accounted on terms equivalent to those that prevail in arm's length transactions.

² Other income or expenses items not included in the operating profit (loss) are not separately disclosed because the Chief Operating Decision Maker does not review them by segment.

(b) Segment assets and liabilities as of December 31, 2024 and 2023 are as follows:

	December	31, 2024	December	December 31, 2023	
(in millions of Korean won)	Assets	Liabilities	Assets	Liabilities	
H&A	32,127,501	16,399,366	27,581,665	13,509,146	
HE	15,842,958	10,901,162	14,206,186	9,767,084	
VS	10,488,626	11,423,771	9,321,514	9,912,497	
BS	6,090,299	4,753,545	5,339,239	4,009,534	
Innotek	11,378,212	6,024,346	11,204,306	6,489,731	
Subtotal ¹	75,927,596	49,502,190	67,652,910	43,687,992	
Other segments and inter-segment transactions	(10,298,007)	(9,084,265)	(7,412,117)	(6,945,735)	
Total	65,629,589	40,417,925	60,240,793	36,742,257	

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

(c) Non-current assets by geographic area as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	Non-curre	Non-current assets ¹		
Geographic areas	December 31, 2024	December 31, 2023		
Korea	13,635,249	13,361,340		
America	2,556,397	2,192,785		
Europe	1,095,889	1,060,434		
Asia, Africa and others	3,399,051	3,166,218		
Total	20,686,586	19,780,777		

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

⁽d) Sales from a single external customer who contribute more than 10% of the Group's total sales for the year ended December 31, 2024 are sales from LG Innotek segment and others amounting to \pm 17,209,358 million (2023: \pm 16,627,214 million).

5. Financial instruments by category and offsetting financial assets and financial liabilities

(a) Categorizations of financial instruments as of December 31, 2024 and 2023 are as follows:

	December 31, 2024					
		Financial assets				
(in millions of Korean won)	Financial assets at amortized cost	at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total	
Cash and cash equivalents	7,573,036	-	-	-	7,573,036	
Deposits held by financial institutions	240,318	-	-	-	240,318	
Trade receivables	7,728,143	2,652,562	-	1,800,625	12,181,330	
Other receivables	2,605,646	-	-	-	2,605,646	
Other financial assets and others	-	140,904	181,040	413,309	735,253	
Total	18,147,143	2,793,466	181,040	2,213,934	23,335,583	

	December 31, 2024					
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total		
Trade payables	9,884,770	-	-	9,884,770		
Borrowings	13,982,542	-	-	13,982,542		
Lease liabilities	-	-	1,259,860	1,259,860		
Other payables	6,049,413	-	-	6,049,413		
Other financial liabilities	-	27,886	32,120	60,006		
Total	29,916,725	27,886	1,291,980	31,236,591		

	December 31, 2023						
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total		
Cash and cash equivalents	8,487,563	-	-	-	8,487,563		
Deposits held by financial institutions	221,575	-	-	-	221,575		
Trade receivables	7,012,256	2,265,310	-	626,895	9,904,461		
Other receivables	2,375,430	-	-	-	2,375,430		
Other financial assets and others		117,872	206,014	178,240	502,126		
Total	18,096,824	2,383,182	206,014	805,135	21,491,155		

	December 31, 2023						
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total			
Trade payables	9,427,288	-	-	9,427,288			
Borrowings	13,320,811	-	-	13,320,811			
Lease liabilities	-	-	1,193,023	1,193,023			
Other payables	4,836,694	-	-	4,836,694			
Other financial liabilities	-	18,162	43,884	62,046			
Total	27,584,793	18,162	1,236,907	28,839,862			

(b) Net gains or losses on each category of financial instruments for each of the two years in the period ended December 31, 2024 are as follows:

	2024				
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total
Interest income	500,454	-	-	-	500,454
Exchange differences	1,180,165	251,268	-	-	1,431,433
Bad debt expenses	(38,199)	-	-	(5,979)	(44,178)
Loss on disposal of trade receivables	(1,949)	(51,550)	-	-	(53,499)
Dividend income	-	391	347	-	738
Gain (Loss) on valuation of financial assets at fair value through profit or loss	-	-	4,589	-	4,589
Gain (Loss) on derivatives (through profit or loss)	-	-	70,417	-	70,417
Profit (Loss) for the year from discontinued operations	7,455	-	-	-	7,455
Fair value gain (loss), net of tax (through other comprehensive income)	-	1,165	-	-	1,165
Gain (Loss) on derivatives, net of tax (through other comprehensive income)	-	-	-	(11,710)	(11,710)

	2024							
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total				
Interest expense	(591,157)	-	19,817	(571,340)				
Exchange differences	(1,829,228)	-	256,573	(1,572,655)				
Gain (Loss) on derivatives (through profit or loss)	-	(61,535)	-	(61,535)				
Profit and Loss on remeasurement of financial liabilities	(423,382)	-	-	(423,382)				
Profit (Loss) for the year from discontinued operations	(45,266)	-	-	(45,266)				
Gain (Loss) on derivatives, net of tax (through other comprehensive income)	-	-	(5,589)	(5,589)				
Others	(559)	-	-	(559)				

	2023				
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total
Interest income	438,300	-	-	-	438,300
Exchange differences	124,578	(71,069)	-	-	53,509
Bad debt expenses	(12,570)	-	-	(1,374)	(13,944)
Loss on disposal of trade receivables	(1,412)	(54,556)	-	-	(55,968)
Dividend income	-	189	1,415	-	1,604
Gain (Loss) on valuation of financial assets at fair value through profit or loss	-	-	(7,560)	-	(7,560)
Gain (Loss) on derivatives (through profit or loss)	-	-	25,098	-	25,098
Profit (Loss) for the year from discontinued operations	904	-	-	-	904
Fair value gain (loss), net of tax (through other comprehensive income)	-	(2,267)	-	-	(2,267)
Gain (Loss) on derivatives, net of tax (through other comprehensive income)	-	-	-	(34,237)	(34,237)

		2023		
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total
Interest expense	(550,910)	-	15,656	(535,254)
Exchange differences	(53,067)	-	28,948	(24,119)
Gain (Loss) on derivatives (through profit or loss)	-	(57,147)	-	(57,147)
Profit and Loss on remeasurement of financial liabilities	(141,655)	-	-	(141,655)
Profit (Loss) for the year from discontinued operations	(46,126)	-	-	(46,126)
Gain (Loss) on derivatives, net of tax (through other comprehensive income)	-	-	(23,873)	(23,873)
Others	(2,883)	-	-	(2,883)

(c) Details of financial instruments that are subject to an enforceable master netting arrangements or similar arrangements as of December 31, 2024 and 2023 are as follows:

			December	r 31, 2024		
		December	Net amounts	Amounts i	not offset	
(in millions of Korean won)	Recognized financial instrument	Recognized financial instrument offset	presented in the statement of financial position	Financial instruments	Cash collateral	Net amount
Financial assets						
Trade receivables	524,327	(498,035)	26,292	-	-	26,292
Financial liabilities						
Trade payables	837,325	(498,035)	339,290	-	-	339,290
			December	r 31, 2023		
		Decemined	Net amounts	r 31, 2023 Amounts r	not offset	
(in millions of Korean won)	Recognized financial instrument	Recognized financial instrument offset		•	not offset Cash collateral	Net amount
(in millions of Korean won) Financial assets	financial	financial instrument	Net amounts presented in the statement of financial	Amounts r	Cash	. Net amount
	financial	financial instrument	Net amounts presented in the statement of financial	Amounts r	Cash	Net amount 12,413
Financial assets	financial instrument	financial instrument offset	Net amounts presented in the statement of financial position	Amounts r	Cash	

6. Cash and cash equivalents and deposits held by financial institutions

(a) Cash and cash equivalents

Cash and cash equivalents in the consolidated statements of financial position are equal to the cash and cash equivalents in the consolidated statements of cash flows. Details of cash and cash equivalents as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023	
Cash on hand	412	533	
Bank deposits ¹	7,572,624	8,487,030	
Total	7,573,036	8,487,563	

¹ As of December 31, 2024, bank deposits include ₩15,830 million (2023: ₩12,142 million) of deposits restricted in use in relation to value-added tax.

(b) Deposits held by financial institutions

The deposits held by financial institutions restricted in use as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023	
Current			
Deposits related to transfer of business	-	20,863	
Others	46,681	5,523	
Subtotal	46,681	26,386	
Non-current			
Deposit for mutually beneficial cooperation	191,406	190,000	
Deposit for checking account	76	62	
National project	600	621	
Others	1,555	4,506	
Subtotal	193,637	195,189	
Total	240,318	221,575	

7. Trade receivables and other receivables

(a) Trade receivables and other receivables, net of allowance for doubtful accounts, as of December 31, 2024 and 2023 are as follows:

	December 31, 2024			December 31, 2023			
(in millions of Korean won)	Original amount	Allowance for doubtful accounts	Carrying amount	Original amount	Allowance for doubtful accounts	Carrying amount	
Trade receivables	_			_			
Current	10,657,726	(122,112)	10,535,614	9,366,948	(101,926)	9,265,022	
Non-current	1,648,842	(3,126)	1,645,716	640,936	(1,497)	639,439	
Other receivables							
Current	1,591,047	(7,570)	1,583,477	602,781	(6,988)	595,793	
Non-current	1,022,244	(75)	1,022,169	1,779,720	(83)	1,779,637	

(b) Details of other receivables as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023	
Current			
Loans	773,769	16,745	
Non-trade receivables	432,409	334,243	
Accrued revenues	286,845	139,208	
Deposits	90,454	105,597	
Subtotal	1,583,477	595,793	
Non-current			
Loans	429,687	1,177,276	
Non-trade receivables	155,253	180,331	
Deposits	437,229	422,030	
Subtotal	1,022,169	1,779,637	
Total	2,605,646	2,375,430	

(c) The aging analysis of trade receivables and other receivables as of December 31, 2024 and 2023 is as follows:

Trade rec	eivables	Other red	eivables	
Current	Non-current	Current	Non-current	Total
9,158,510	1,648,842	1,501,963	1,022,244	13,331,559
1,171,502	-	44,981	-	1,216,483
42,208	-	15,272	-	57,480
94,906		22,515	<u> </u>	117,421
1,308,616		82,768	<u> </u>	1,391,384
190,600		6,316	<u> </u>	196,916
10,657,726	1,648,842	1,591,047	1,022,244	14,919,859
	9,158,510 1,171,502 42,208 94,906 1,308,616 190,600	Trade receivables Current Non-current 9,158,510 1,648,842 1,171,502 - 42,208 - 94,906 - 1,308,616 - 190,600 -	Trade receivables Other receivables Current Non-current Current 9,158,510 1,648,842 1,501,963 1,171,502 - 44,981 42,208 - 15,272 94,906 - 22,515 1,308,616 - 82,768 190,600 - 6,316	Current Non-current Current Non-current 9,158,510 1,648,842 1,501,963 1,022,244 1,171,502 - 44,981 - 42,208 - 15,272 - 94,906 - 22,515 - 1,308,616 - 82,768 - 190,600 - 6,316 -

_					
	Trade reco	eivables	Other red	ceivables	
(in millions of Korean won)	Current	Non-current	Current	Non-current	Total
Receivables not past due	7,871,059	640,936	504,987	1,779,720	10,796,702
Past due but not individually impaired					
Up to 6 months	1,088,174	-	65,314	-	1,153,488
7 to 12 months	65,336	-	14,494	-	79,830
Over 1 year	98,544	<u>-</u>	9,435	<u> </u>	107,979
Subtotal	1,252,054	<u>-</u>	89,243	<u> </u>	1,341,297
Individually impaired	243,835	<u>-</u>	8,551		252,386
Total	9,366,948	640,936	602,781	1,779,720	12,390,385

- (d) The Group recognizes the estimated amount for the allowance for doubtful accounts based on the aging analysis of the trade receivables and historical loss experience.
- (e) The Group classifies individually impaired receivables as defaulted receivables if the receivables are impaired due to reasons including bankruptcy and insolvency of the debtors. Defaulted receivables are classified into two categories of rehabilitation related receivables and other defaulted receivables. The Group performs impairment test on rehabilitation related receivables based on expected repayment amount and recognizes impairment loss on other defaulted receivables based on types and values of collaterals.

(f) Changes in allowance for doubtful accounts for each of the two years in the period ended December 31, 2024 are as follows:

			2024		
(in millions of Korean won)	January 1	Addition (Reversal)	Write-off	Other	December 31
Trade receivables					
Current	101,926	43,429	(31,897)	8,654	122,112
Non-current	1,497	1,647	(18)	-	3,126
Other receivables					
Current	6,988	(1,048)	11	1,619	7,570
Non-current	83	(8)	-	-	75
			2023		
		Addition			
(in millions of Korean won)	January 1	(Reversal)	Write-off	Other	December 31
Trade receivables					
Current	87,922	13,742	(11,018)	11,280	101,926
Non-current	-	1,070	-	427	1,497
Other receivables					
Current	10,287	(644)	(2,240)	(415)	6,988
Non-current	83	(4)	-	4	83

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

(g) Some of trade receivables have been discounted through collateralized borrowing agreements with banks for the year ended December 31, 2024. In case the customers default, the Group has an obligation to pay the amounts related thereto to banks which hold the right of indemnity. As a result, this transaction has been accounted for as a collateralized borrowing (See Note 16).

Discounted trade receivables as of December 31, 2024 amount to 43,462 million (2023: 60,269 million).

8. Other financial assets and liabilities

(a) Details of other financial assets and liabilities as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Other financial assets		
Derivatives	432,330	185,437
Financial assets at fair value through other comprehensive income	140,904	117,872
Financial assets at fair value through profit or loss	147,317	184,115
Total	720,551	487,424
Current	76,226	102,054
Non-current	644,325	385,370
(in millions of Korean won)	December 31, 2024	December 31, 2023
Other financial liabilities		
Derivatives	59,891	61,931
Financial guarantee liability	115	115
Total	60,006	62,046
Current	2,967	9,292
Non-current	57,039	52,754

(b) Details of derivatives as of December 31, 2024 and 2023 are as follows:

December	31, 2024	December 31, 2023		
Assets	Liabilities	Assets	Liabilities	
8,539	2,852	2,070	2,567	
62,776	-	23,118	6,610	
-	-	2,116	-	
4,359	-	-	-	
75,674	2,852	27,304	9,177	
		·		
336,555	13,167	133,597	30,515	
13,978	18,671	21,451	13,254	
6,123	3,489	3,085	2,457	
-	21,712	-	6,528	
356,656	57,039	158,133	52,754	
432,330	59,891	185,437	61,931	
	8,539 62,776 - 4,359 75,674 336,555 13,978 6,123 - 356,656	8,539 2,852 62,776 - - - 4,359 - 75,674 2,852 336,555 13,167 13,978 18,671 6,123 3,489 - 21,712 356,656 57,039	Assets Liabilities Assets 8,539 2,852 2,070 62,776 - 23,118 - - 2,116 4,359 - - 75,674 2,852 27,304 336,555 13,167 133,597 13,978 18,671 21,451 6,123 3,489 3,085 - 21,712 - 356,656 57,039 158,133	

Details of major derivative contracts as of December 31, 2024 and 2023 are presented in Note 37.

(c) Changes in financial assets at fair value through other comprehensive income for each of the two years in the period ended December 31, 2024 are as follows:

	2024						
(in millions of Korean won)	January 1	Acquisition	Disposal	Transfer	Valuation	Other ¹	December 31
Marketable equity securities	30,668	-	(307)	30	15,289	718	46,398
Unmarketable equity securities	87,204	14,384		(30)	(13,863)	6,811	94,506
Total	117,872	14,384	(307)	-	1,426	7,529	140,904

	2023						
(in millions of Korean won)	January 1	Acquisition	Disposal	Transfer	Valuation	Other ¹	December 31
Marketable equity securities	29,425	-	(4,582)	559	5,147	119	30,668
Unmarketable equity securities	89,501	18,013	(1,667)	(559)	(6,210)	(11,874)	87,204
Total	118,926	18,013	(6,249)	-	(1,063)	(11,755)	117,872

¹ Other increases and decreases include increases and decreases due to changes in the scope of consolidation and exchange rate fluctuations.

(d) Changes in financial assets at fair value through profit or loss for each of the two years in the period ended December 31, 2024 are as follows:

		2024					
(in millions of Korean won)	January 1	Acquisition	Disposals	Transfer	Valuation	Others	December 31
Marketable debt securities	74,750	49,487	(136,926)	-	6,694	6,547	552
Unmarketable equity securities	108,232	32,672	(3,021)	500	(2,105)	5,122	141,400
Unmarketable debt securities	1,133	4,732		(500)		-	5,365
Total	184,115	86,891	(139,947)	-	4,589	11,669	147,317

	2023						
(in millions of Korean won)	January 1	Acquisition	Disposals	Transfer	Valuation	Others	December 31
Marketable debt securities	362	157,356	(84,141)	119	828	226	74,750
Unmarketable equity securities	105,011	16,710	(3,851)	(2,119)	(8,388)	869	108,232
Unmarketable debt securities	633	500		-		-	1,133
Total	106,006	174,566	(87,992)	(2,000)	(7,560)	1,095	184,115

9. Inventories

(a) Inventories as of December 31, 2024 and 2023 are as follows:

	December 31, 2024			December 31, 2023		
(in millions of Korean won)	Cost	Valuation allowance	Carrying amount	Cost	Valuation allowance	Carrying amount
Finished products and merchandise	6,666,592	(175,410)	6,491,182	5,381,164	(173,428)	5,207,736
Work-in-process	744,781	(39,926)	704,855	682,107	(27,316)	654,791
Raw materials and supplies	3,404,458	(202,250)	3,202,208	3,167,187	(179,490)	2,987,697
Other	367,595	(36,480)	331,115	342,469	(67,289)	275,180
Total	11,183,426	(454,066)	10,729,360	9,572,927	(447,523)	9,125,404

- (b) The cost of inventories recognized as an expense during the year ended December 31, 2024 amounted to \$64,027,604 million (2023: \$60,454,586 million). This was included in 'cost of sales'. Loss on valuation of inventories during the year ended December 31, 2024 amounted to \$241,672 million (2023: \$128,286 million).
- (c) There is no inventory provided as collateral for borrowings as of December 31, 2024

10. Contract assets and contract liabilities

(a) Contract assets as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023	
Due from customers for contract work	1,142,509	842,113	
(Less: allowance for doubtful accounts)	(2,747)	(3,786)	
Right to recover returned products	95,415	98,111	
Costs to fulfil contracts with customers and others	527,519	619,239	
Total	1,762,696	1,555,677	
Current	1,352,092	1,129,399	
Non-current	410,604	426,278	

(b) Contract liabilities as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023	
Expected promotional incentives for customers	723,858	870,426	
Expected returns from customers	285,779	213,712	
Customer loyalty program	136,354	100,951	
Rendering of warranty services	210,456	150,670	
Due to customers for contract work and others	889,759	625,743	
Total	2,246,206	1,961,502	
Current	2,146,029	1,898,005	
Non-current	100,177	63,497	

(c) Revenue recognized in relation to contract liabilities for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)	2024	2023
Revenue recognized that was included in the contract liability amount at the beginning of the year:		
Due to customers for contract work and others	336,468	216,923
Customer loyalty program	83,741	88,146
Rendering of warranty services	66,733	58,668
Total	486,942	363,737
Revenue recognized from performance obligations satisfied in previous year	56,073	23,574

(d) Unsatisfied long-term contracts

As of December 31, 2024, the total amount of transaction price allocated to the unsatisfied or partially unsatisfied performance obligations is \W1,258,551 million (2023: \W1,297,935 million), expected to be satisfied by 2031, at the latest. Also, as a practical expedient, the Group excluded a contract of which performance obligation had an original expected duration of one year or less.

(e) For the year ended December 31, 2024, the Group recognized a reversal of impairment loss amounting to \forall 443 million (2023: reversal of impairment loss of \forall 355 million) in relation to due from customers for contract work, and amortization and others of \forall 243,214 million (2023: \forall 178,650 million) in relation to costs to fulfil contracts.

11. Other assets

Details of other assets as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023	
Current			
Prepayments	124,442	51,557	
Prepaid expenses	422,389	365,513	
Value added tax receivables	1,014,310	854,528	
Others ¹	203,666	107,582	
Subtotal	1,764,807	1,379,180	
Non-current			
Long-term prepaid expenses	298,445	299,273	
Long-term advances	12,128	9,632	
Other investment assets	164	146	
Subtotal	310,737	309,051	
Total	2,075,544	1,688,231	

¹ The amount agreed to be reimbursed by the related party for provisions to be paid by the Group to a third party is included.

12. Property, plant and equipment

(a) Details of property, plant and equipment as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
December 31, 2024									
Acquisition cost	3,302,508	12,391,632	590,390	12,764,177	4,268,592	1,690,419	1,118,065	886,635	37,012,418
Accumulated depreciation	(264,662)	(4,706,022)	(271,387)	(8,796,708)	(3,479,089)	(1,140,957)	(691,779)	-	(19,350,604)
Accumulated impairment losses	-	(91,943)	(11,434)	(365,956)	(30,242)	(47,848)	(4,694)	-	(552,117)
Government grants	(10,187)	(1,269)	(1,862)	(17,544)	(3,123)	(481)	-	-	(34,466)
Net carrying amount	3,027,659	7,592,398	305,707	3,583,969	756,138	501,133	421,592	886,635	17,075,231

(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
December 31, 2023									
Acquisition cost	3,238,681	11,209,516	554,189	11,824,854	3,894,451	1,481,350	1,291,767	573,725	34,068,533
Accumulated depreciation	(219,405)	(4,044,689)	(242,488)	(7,361,033)	(3,195,917)	(981,926)	(763,788)	-	(16,809,246)
Accumulated impairment losses	-	(83,468)	(10,536)	(270,138)	(42,260)	(6,643)	(5,203)	-	(418,248)
Government grants	(9,349)	(571)	(1,773)	(10,240)	(122)	(355)	-	-	(22,410)
Net carrying amount	3,009,927	7,080,788	299,392	4,183,443	656,152	492,426	522,776	573,725	16,818,629

(b) Changes in property, plant and equipment for each of the two years in the period ended December 31, 2024 are as follows:

					2024				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
January 1	3,009,927	7,080,788	299,392	4,183,443	656,152	492,426	522,776	573,725	16,818,629
Acquisitions	38,016	453,833	7,649	136,961	222,284	163,855	93,524	1,849,760	2,965,882
Acquisition from business combination	-	-	-	133	17	-	36	-	186
Reclassification from assets held for sale	-	-	-	209	-	-	-	-	209
Transfer ¹	-	563,924	9,988	716,868	210,051	32,841	37,827	(1,558,552)	12,947
Disposals and others	(25)	(36,628)	(435)	(21,815)	(2,827)	(2,816)	(4,049)	(14,270)	(82,865)
Depreciation	(46,500)	(689,267)	(24,038)	(1,480,174)	(353,786)	(167,317)	(230,729)	-	(2,991,811)
Impairment losses ^{2,3}	-	(10,761)	(482)	(162,322)	(4,020)	(43,432)	(9,058)	-	(230,075)
Exchange differences and others	26,241	230,509	13,633	210,666	28,267	25,576	11,265	35,972	582,129
December 31	3,027,659	7,592,398	305,707	3,583,969	756,138	501,133	421,592	886,635	17,075,231

					2023				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
January 1	2,965,526	6,841,961	243,073	3,456,917	576,182	429,547	581,608	737,024	15,831,838
Acquisitions	84,590	366,601	3,881	108,631	227,071	141,044	164,029	2,563,351	3,659,198
Transfer ¹	301	473,825	71,677	1,860,841	231,928	65,509	63,681	(2,714,980)	52,782
Disposals and others	(1,590)	(11,889)	(312)	(27,116)	(4,589)	(4,559)	(8,856)	(18,310)	(77,221)
Depreciation	(47,178)	(635,005)	(21,037)	(1,225,430)	(364,664)	(145,117)	(265,394)	-	(2,703,825)
Impairment losses ²	-	(4,058)	(43)	(27,430)	(13,812)	(1,647)	(15,647)	-	(62,637)
Reclassification to assets held for sale	(3)	(6)	-	(98)	-	-	-	-	(107)
Exchange differences and others ⁴	8,281	49,359	2,153	37,128	4,036	7,649	3,355	6,640	118,601
December 31	3,009,927	7,080,788	299,392	4,183,443	656,152	492,426	522,776	573,725	16,818,629

¹ The transfer of other property, plant and equipment includes ₩12,947 million (2023: ₩52,782 million) of transfer from inventories to rental assets.

² The Group conducted a periodic impairment test and recognized impairment loss of ₩160,505 million (BS: ₩226 million, VS: ₩160,279 million) (2023: ₩3,334 million) for businesses under BS and VS segment as other non-operating expenses due to expected sales decline. The impairment loss was allocated to machinery, equipment and others of the cash-generating units. The recoverable amount was measured at the higher of fair value less costs of disposal or value-in-use, and the fair value amount is categorized within Level 3 of fair value hierarchy (See Note 13).

³ For the year ended December 31, 2024, impairment loss on property, plant and equipment from discontinued operations of the battery pack business amounting to W817 million is included.

⁴ For the year ended December 31, 2023, the effect of restatement of financial statements in hyperinflationary economies amounting to ₩888 million is included.

(c) Line items including depreciation in the consolidated statements of profit or loss for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Cost of sales	2,321,892	2,055,423
Selling expenses	280,194	282,964
Administrative expenses	215,036	189,145
Research and development expenses	128,054	120,268
Service costs	44,213	36,660
Other non-operating expenses	3,545	19,287
Subtotal	2,992,934	2,703,747
Discontinued operations	(1,123)	78
Total	2,991,811	2,703,825

(d) Changes of right-of-use assets for each of the two years in the period ended December 31, 2024 are as follows:

					2024				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
January 1	324,214	785,089	416	466	56	16,563	164,177	314	1,291,295
Acquisitions	28,385	327,000	3,511	1,102	257	12,415	63,895	-	436,565
Transfer	-	291	-	-	-	-	-	(291)	-
Disposals and others	(25)	(27,933)	(46)	-	-	(207)	(3,913)	-	(32,124)
Depreciation	(46,820)	(299,040)	(2,029)	(464)	(75)	(10,016)	(71,819)	-	(430,263)
Exchange differences	7,054	50,183	113	107	8	729	5,616	3	63,813
December 31	312,808	835,590	1,965	1,211	246	19,484	157,956	26	1,329,286

					2023				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
January 1	287,644	813,093	842	1,096	797	14,536	88,954	90	1,207,052
Acquisitions	84,363	248,231	430	749	42	10,217	137,727	453	482,212
Transfer	-	226	-	-	-	-	-	(226)	-
Disposals and others	(750)	(9,729)	(68)	(851)	(1)	(139)	(6,576)	-	(18,114)
Depreciation	(47,178)	(282,910)	(813)	(531)	(784)	(8,229)	(58,141)	-	(398,586)
Exchange differences	135	16,178	25	3	2	178	2,213	(3)	18,731
December 31	324,214	785,089	416	466	56	16,563	164,177	314	1,291,295

The amount of lease income recognized in relation to sublease of the above right-of-use assets for the year ended December 31, 2024 is 44,324 million (2023: 5,863 million).

(e) Capitalized borrowing costs and capitalization rates for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Capitalized borrowing costs	25,760	18,360
Capitalization rate (%)	4.77	4.50

- (f) Details of property, plant and equipment provided as collateral as of December 31, 2024 and 2023 are as follows:
- i) Details of collateral provided for the Group

		December 31, 2024								
(in millions of Korean won)	Carrying amount	Secured amount	Related line item	Related amount	Secured party					
Land and buildings	156,615	89,459	Borrowings and others	50,780	KT Corporation and others					
			Decembe	r 31, 2023						
(in millions of Korean won)	Carrying amount	Secured amount	Related line item	Related amount	Secured party					
Land and buildings	120,253	80,481	Borrowings and others	53,212	KT Corporation and others					

ii) Details of collateral provided for external parties

As of December 31, 2024, buildings were pledged as a collateral to guarantee the land lessor's obligation to Shinhan Bank and others, the mortgagee, within the secured amount of up to \pm 15,600 million (2023: \pm 14,400 million). The carrying amount of the pledged asset was \pm 4,076 million as of December 31, 2024 (2023: \pm 4,649 million).

13. Intangible assets

(a) Details of intangible assets as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	Goodwill	Industrial property rights	Development costs ¹	Membership rights	Other	Construction- in-progress ¹	Total
December 31, 2024							
Acquisition cost	1,032,468	1,027,189	4,081,159	40,126	1,492,036	1,381,042	9,054,020
Accumulated amortization and impairment losses	(727,299)	(547,776)	(3,180,347)	(633)	(1,068,076)	(11,161)	(5,535,292)
Net carrying amount	305,169	479,413	900,812	39,493	423,960	1,369,881	3,518,728
December 31, 2023							
Acquisition cost	934,772	972,174	3,633,146	35,128	1,472,412	1,012,106	8,059,738
Accumulated amortization and impairment losses	(653,238)	(517,922)	(2,933,668)	(634)	(1,045,730)	(40,859)	(5,192,051)
Net carrying amount	281,534	454,252	699,478	34,494	426,682	971,247	2,867,687

¹ As of December 31, 2024, internally generated development costs are included in development costs and construction-in-progress amounting to W611,481 million and W714,144 million (2023: W402,572 million and W630,708 million), respectively.

(b) Changes in intangible assets for each of the two years in the period ended December 31, 2024 are as follows:

				2024			
(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction- in-progress	Total
January 1	281,534	454,252	699,478	34,494	426,682	971,247	2,867,687
Acquisitions	-	10,890	78,474	7,719	135,746	503,505	736,334
Acquisitions by internal development	-	-	-	-	-	547,006	547,006
Acquisition from business combination	72,111	-	-	-	10,338	-	82,449
Transfer	-	120,786	464,011	(194)	29,878	(629,235)	(14,754)
Disposals and others	(774)	(21,648)	(15,540)	(2,646)	451	(18,985)	(59,142)
Amortization	-	(84,803)	(272,345)	(20)	(183,779)	-	(540,947)
Impairment losses ^{1,2}	(74,061)	(658)	(57,689)	-	(4,730)	(6,447)	(143,585)
Exchange differences	26,359	594	4,423	140	9,374	2,790	43,680
December 31	305,169	479,413	900,812	39,493	423,960	1,369,881	3,518,728

	-			2023			
(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction- in-progress	Total
January 1	288,918	458,558	524,120	34,558	426,254	722,422	2,454,830
Acquisitions	-	120	140,417	68	162,919	263,416	566,940
Acquisitions by internal development	-	-	-	-	-	467,652	467,652
Transfer	-	109,053	279,748	-	64,627	(453,539)	(111)
Disposals and others	-	(30,822)	(167)	(137)	(7,859)	(31,449)	(70,434)
Amortization	-	(82,359)	(217,804)	-	(214,407)	-	(514,570)
Impairment losses ^{1,2}	(15,253)	(1,148)	(27,534)	-	(5,075)	(239)	(49,249)
Exchange differences	7,869	850	698	5	223	2,984	12,629
December 31	281,534	454,252	699,478	34,494	426,682	971,247	2,867,687

¹ The Group conducted a periodic impairment test and recognized impairment loss of ₩97,630 million (2023: ₩21,978 million) in VS segment as other non-operating expenses due to expected sales decline. The impairment loss was allocated to industrial property rights and others. The recoverable amount was measured at the higher of fair value less costs of disposal or value-in-use, and the fair value amount is categorized within Level 3 of fair value hierarchy.

² As a result of an impairment test for all projects related to internally generated development costs and others, impairment loss for projects determined to have low profitability amounting to ₩30,836 million (2023: ₩9,665 million), was recognized as other non-operating expenses.

(c) Line items including amortization of intangible assets for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023	
Continuing operations			
Cost of sales	372,969	360,545	
Selling expenses	24,415	20,478	
Administrative expenses	61,494	59,476	
Research and development expenses	73,633	68,080	
Service costs	8,392	4,621	
Other non-operating expenses	27	52	
Subtotal	540,930	513,252	
Discontinued operations		1,318	
Total	540,947	514,570	

(d) Capitalized borrowing costs and capitalization rates for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Capitalized borrowing costs	5,542	907
Capitalization rate (%)	3.62	3.51

(e) There are no intangible assets pledged as a collateral for borrowings as of December 31, 2024 and 2023.

(f) Impairment tests for goodwill

i) Goodwill is allocated among the Group's cash generating units (CGUs) under each operating segment. as of December 31, 2024, an operating segment-level summary of goodwill allocation is presented below:

(in millions of Korean won)	H&A	HE	VS	BS	Others	Total
Goodwill	3,110	154,663	50,231	23,039	74,126	305,169

ii) The recoverable amount of CGUs has been determined based on value-in-use or fair value less costs of disposal. These calculations use pre-tax cash flow projections based on the financial budget approved by management. When approving this financial budget, management reviewed the estimation method, assumptions, and estimation period in consideration of the uniqueness of the industry and business. Cash flows beyond the financial budget are extrapolated using the estimated growth rate which does not exceed the long-term average growth rate for the industry in which the identified CGUs operate.

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

	H&A	HE	VS ¹	BS ²
Discount rates	7.48%	10.09%	9.23%	11.95%
Nominal permanent growth rates	1%	1%	2%	1%

¹These include the discount rate and nominal perpetual growth rate of ZKW Holding GmbH and its subsidiaries of the VS business unit, which are managed as independent cash-generating units. The discount rate of Cybellum Technologies Ltd. and its subsidiaries is 14.9% and nominal perpetual growth rate is 2%.

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

(in millions of Korean won)

Cybellum Technologies Ltd. and its

(III IIIIIIIOIIS OI NOICEII WOII)	subsidiaries		
	1%p increase	1%p decrease	
Discount rates	9,118	(10,798)	
Nominal permanent growth rates	(6,545)	5,604	

The above sensitivity analysis indicates the amount of impairment loss that would be impacted.

(g) Research and development expenses

Research and development expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		_
Uncapitalized research and development expenditures	3,996,713	3,869,543
Amortization from internally generated development costs	187,444	197,722
Subtotal	4,184,157	4,067,265
Discontinued operations	-	754
Total	4,184,157	4,068,019

² Discount rate and nominal perpetual growth rate of the electric vehicle charging division of the BS division, which is managed as an independent cash-generating unit.

(h) Acquisition, holding and disposal of virtual assets

i) Purpose of acquisition

The Group holds virtual assets for various business purposes.

ii) The acquisition and holding of virtual assets for each of the two years in the period ended December 31, 2024 are as follows:

							Fair value pei	r unit (KRW)
				Number	of units		4	
Name of virtual asset	Listed/unlisted ¹	Source of acquisition ²	December 31, 2023	Acquisitions	Disposal and usage	December 31, 2024 ³	December 31, 2023	December 31, 2024
HEDERA	Listed	Gratuitous acquisition	1,989,127	-	500	1,988,627	120	414
KAIA	Listed	Gratuitous acquisition	8,076,609	-	-	8,076,609	313	309
USDC	Listed	Gratuitous acquisition / NFT transaction fee	2,295	8,000	8,008	2,287	1,338	1,490
ETH	Listed	Gratuitous acquisition / NFT transaction fee	-	1.3	1.3	-	3,080,000	5,087,000

¹ Listed on domestic exchanges such as KORBIT.

iii) Disposal

The gain (loss) on disposal of virtual assets recognized as gain (loss) on disposal of intangible assets for the year ended December 31, 2024 amounts to \text{\$\psi\$1 million (2023: \$\psi\$0.1 million).

iv) Risk of holding virtual assets

The fair value of virtual assets held by the Group as of December 31, 2024 has fluctuated after the reporting date. However, as of the date of the independent auditor's report, the potential impact of these changes on the financial statements cannot be estimated, and the Group's financial statements are not adjusted to reflect any potential effects arising from the fair value fluctuation considering the uncertain estimate.

² The virtual assets acquired for free of charge do not incur a significant acquisition cost, and therefore, are recognized as memorandum assets. Virtual assets acquired through NFT transaction fees are recognized at their fair value on the transaction date.

³ As of December 31, 2024, the Group does not recognize any virtual assets.

⁴ The valuation was based on the monthly average quoted price in KORBIT exchange as of December 31, 2024.

14. Investments in associates and joint ventures

- (a) Investments in associates and joint ventures
- i) Carrying amounts of investments in associates and joint ventures, as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Associates	2,715,655	2,946,619
Joint ventures	60,000	57,845
Total	2,775,655	3,004,464

ii) Investments in associates as of December 31, 2024 and 2023 are as follows:

	December 31, 2024				December 31, 2023			
(in millions of Korean won)	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount
LG Display Co., Ltd. ³	1,115,249	2,402,229	(82,696)	2,319,533	679,218	2,741,257	(91,846)	2,649,411
Ericsson-LG Co., Ltd.	12,649	58,064	-	58,064	12,649	67,327	-	67,327
Hitachi-LG Data Storage Inc.(HLDS)	101,961	69,922	(930)	68,992	101,961	65,570	(900)	64,670
CCP-LGE OWNER, LLC ¹	11,652	10,142	-	10,142	11,652	9,476	-	9,476
ROBOTIS Co., Ltd. ¹	9,000	7,862	-	7,862	9,000	8,604	-	8,604
Acryl Inc. ¹	2,000	1,446	-	1,446	2,000	873	-	873
Robostar Co., Ltd.	88,112	79,999	(1,592)	78,407	88,112	79,136	(2,148)	76,988
AiM Future, Inc.1	800	456	-	456	800	1,106	-	1,106
Mirae Asset-LG Electronics New Growth Fund I ³	38,023	28,099	-	28,099	28,023	27,207	-	27,207
Rinse, Inc. ³	55,037	49,995	-	49,995	18,184	14,950	-	14,950
SideChef Group Limited	7,702	-	-	7,702	7,702	-	-	7,702
THE WAVE TALK, INC.	2,000	-	-	2,000	2,000	-	-	2,000
GOQUAL INC.	5,000	-	-	5,000	5,000	-	-	5,000
NOVA Prime Fund I, LP ^{1,3}	16,889	16,261	-	16,261	11,305	11,305	-	11,305
BEAR ROBOTICS, INC. ^{1,2}	56,076	51,267	-	51,267	-	-	-	-
Mo-Sys Holding Ltd ^{1,2}	11,458	10,429	-	10,429	-	-	-	-
Total	1,533,608	2,786,171	(85,218)	2,715,655	977,606	3,026,811	(94,894)	2,946,619

¹ The financial statements as of November 30, 2024 were used due to a different closing date.

² The entity was newly acquired during the year ended December 31, 2024.

³ The entity was additionally acquired during the year ended December 31, 2024.

iii) Investments in joint ventures as of December 31, 2024 and 2023 are as follows:

	December 31, 2024			December 31, 2023				
(in millions of Korean won)	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount
Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	14,718	35,677	(163)	35,514	14,718	26,989	(162)	26,827
EIC PROPERTIES PTE LTD.	9,636	21,587	-	21,587	9,636	19,313	-	19,313
LG-MRI LLC ³	-	-	-	-	516	1,222	-	1,222
Neolite ZKW Lightings PVT Ltd.	-	-	-	-	-	-	-	-
LG-LHT Aircraft Solutions GmbH ^{2,4}	-	-	-	-	46,790	5,080	-	5,080
LG-LHT Passenger Solutions GmbH ^{2,4}	-	-	-	-	46,656	2,895	-	2,895
GUANGDONG SMART LIFE TECHNOLOGY CO., LTD ¹	1,855	2,609	-	2,609	1,855	2,207	-	2,207
Alluto LLC	2,095	290	-	290	2,095	301	-	301
FITNESSCANDY Co., Ltd.3	-	-	-	-	5,610	-	-	-
Total	28,304	60,163	(163)	60,000	127,876	58,007	(162)	57,845

¹ The financial statements as of November 30, 2024 were used due to a different closing date.

² The entity was additionally acquired during the year ended December 31, 2024.

³ The entity was liquidated during the year ended December 31, 2024.

⁴ The entity was disposed of during the year ended December 31, 2024.

- (b) Associates and joint ventures
- i) Associates as of December 31, 2024 are as follows:

Name of associate	Location	Closing month	Percentage of ownership (%)	Nature of relationships with the Group
LG Display Co., Ltd.	Korea	December	36.7	Production and supply of display products
Ericsson-LG Co., Ltd.	Korea	December	25.0	Supply of communication devices and network solution products
Hitachi-LG Data Storage Inc.(HLDS)	Japan	December	49.0	Production and supply of Data Storages
CCP-LGE OWNER, LLC ¹	USA	December	71.0	Solar power plant
ROBOTIS Co., Ltd. ²	Korea	December	7.3	Production and sales of personal robot
Acryl Inc. ²	Korea	December	11.4	Development and sales of software
Robostar Co., Ltd.	Korea	December	33.4	Production and sales of industrial robot
AiM Future, Inc. ²	Korea	December	11.7	A.I. solution
Mirae Asset-LG Electronics New Growth Fund I	Korea	December	50.0	Investment in technology start ups
Rinse, Inc.	USA	December	43.1	Laundry service
SideChef Group Limited ²	Hong Kong	December	17.0	Provision of smart kitchen contents service
THE WAVE TALK, INC. ²	Korea	December	3.7	Provision of joint development of microbial sensors
GOQUAL INC. ²	Korea	December	7.2	Supply of communication devices and network solution products
NOVA Prime Fund I, LP ¹	USA	December	79.3	Investment in new technology business
BEAR ROBOTICS, INC.	USA	December	24.9	Production and sales of commercial robot
Mo-Sys Holding Ltd ²	UK	December	11.9	Virtual Production (VP) product sales and solution

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

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

ii) Joint ventures as of December 31, 2024 are as follows:

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

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

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

- (c) Changes in investments in associates and joint ventures
- i) Changes in the carrying amounts of investments in associates for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)					2024				
Notean wony	January 1	Acquisition /Transfer	Share of profit (loss)	Other comprehen -sive income (excluding remeasure -ment)	Remeasure -ment component	Withdrawal of investments by dividend /capital reduction /liquidation and others	Changes in share of associates	Exchange differences	December 31
LG Display Co., Ltd.	2,649,411	436,031	(976,350)	258,880	(48,439)	-	-	-	2,319,533
Ericsson-LG Co., Ltd.	67,327	-	8,598	742	(1,103)	(17,500)	-	-	58,064
Hitachi-LG Data Storage Inc.(HLDS)	64,670	-	(1,198)	5,520	-	-	-	-	68,992
CCP-LGE OWNER, LLC	9,476	-	(619)	-	-	-	-	1,285	10,142
ROBOTIS Co.,Ltd.	8,604	-	(533)	(209)	-	-	-	-	7,862
Acryl Inc.	873	-	573	-	-	-	-	-	1,446
Robostar Co.,Ltd.	76,988	-	1,218	20	181	-	-	-	78,407
AiM Future, Inc. Mirae Asset-LG	1,106	-	(655)	6	(1)	-	-	-	456
Electronics New Growth Fund I	27,207	10,000	(4,183)	(18)	-	(4,907)	-	-	28,099
Rinse, Inc.	14,950	36,852	(1,692)	(115)	-	-	-	-	49,995
SideChef Group Limited	7,702	-	-	-	-	-	-	-	7,702
THE WAVE TALK, INC.	2,000	-	-	-	-	-	-	-	2,000
GOQUAL INC.	5,000	-	-	-	-	-	-	-	5,000
NOVA Prime Fund I, LP	11,305	5,584	(2,439)	1,811	-	-	-	-	16,261
BEAR ROBOTICS, INC.	-	56,076	(6,379)	1,570	-	-	-	-	51,267
Mo-Sys Holding Ltd		11,459	(1,054)	24					10,429
Total	2,946,619	556,002	(984,713)	268,231	(49,362)	(22,407)	-	1,285	2,715,655

LG Display Co. Ltd. 3,646,514 - (1,029,827) 13,777 18,947 2,649,41 Ericsson-LG Co. Ltd. 65,982 12,804 (8) (200) (11,251) 67,32 Ltd. Hitachi-LG Data Storage 55,439 8,560 671 64,67 Inc. (HLDS) CCP-LGE OWNER, LLC 9,977	(in millions of Korean won)					2023				
Ltd. 3,646,514 - (1,029,827) 13,777 18,947 2,649,41 Ericsson-LG Co., Ltd. 65,982 - 12,804 (8) (200) (11,251) 67,32 Ltd. Hitachi-LG Data Storage 55,439 - 8,560 671 64,67 Inc.(HLDS) CCP-LGE OWNER, LLC 9,977 - (685) (1) - 185 9,47 ROBOTIS Co., Ltd. 8,668 - (369) (245) 550 - 8,60 Acryl Inc. 751 - 122 550 - 8,70 Robostar Co., Ltd. 76,890 - 614 3 (519) 76,98 AiM Future, Inc. 959 - (264) 411 - 1,10 Mirae Asset-LG Electronics New 26,880 - 327 411 - 1,40 Rinse, Inc. 17,140 - (2,400) 210 14,95 SideChef Group Limited THE WAVE TALK, INC. GOQUAL INC 5,000 5,000 NOVA Prime Fund I, LP 11,305 11,305 Tin, 10, 11,305 Tin, 10, 11,305 Tin, 10, 11,251) 5,000 NOVA Prime Fund I, LP Tin, 10, 11,305 Tin, 10, 11,251) Tin, 10, 11,251 Tin, 10, 11,251 Tin, 10, 11,251 Tin, 10, 11,251 Tin, 11,251 T					comprehend -sive income (excluding remeasure	-ment	investments by dividend /capital reduction /liquidation	in share of		
Ltd. 65,982 - 12,804 (8) (200) (11,251) 67,32 Hitachi-LG Data Storage		3,646,514	-	(1,029,827)	13,777	18,947	-	-	-	2,649,411
Storage 155,439 - 8,560 671 64,67 100,000	Ltd.	65,982	-	12,804	(8)	(200)	(11,251)	-	-	67,327
OWNER, LLC 9,977 - (685) (1) - 185 9,47 ROBOTIS Co.,Ltd. 8,668 - (369) (245) 550 - 8,60 Acryl Inc. 751 - 122 550 - 8,60 Robostar Co.,Ltd. 76,890 - 614 3 (519) 76,98 AiM Future, Inc. 959 - (264) 411 - 1,10 Mirae Asset-LG Electronics New Growth Fund I Rinse, Inc. 17,140 - (2,400) 210 27,20 SideChef Group Limited THE WAVE TALK, INC 2,000 5,00 GOQUAL INC 5,000 5,00 NOVA Prime Fund I, LP 11,305 11,305	Storage Inc.(HLDS)	55,439	-	8,560	671	-	-	-	-	64,670
Acryl Inc. 751 - 122 87 Robostar Co.,Ltd. 76,890 - 614 3 (519) 76,98 AiM Future, Inc. 959 - (264) 411 - 1,10 Mirae Asset-LG Electronics New Growth Fund I Rinse, Inc. 17,140 - (2,400) 210 14,95 SideChef Group Limited THE WAVE TALK, INC 2,000 5,000 GOQUAL INC 5,000		9,977	-	(685)	-	-	(1)	-	185	9,476
Robostar Co.,Ltd. 76,890 - 614 3 (519) 76,98 AiM Future, Inc. 959 - (264) 411 - 1,10 Mirae Asset-LG Electronics New Growth Fund I Rinse, Inc. 17,140 - (2,400) 210 144,95 SideChef Group Limited THE WAVE TALK, INC. 2,000 2,000 GOQUAL INC 5,000 5,000 NOVA Prime Fund I, LP	ROBOTIS Co.,Ltd.	8,668	-	(369)	(245)	-	-	550	-	8,604
AiM Future, Inc. 959 - (264) 411 - 1,10 Mirae Asset-LG Electronics New 26,880 - 327 27,20 Growth Fund I Rinse, Inc. 17,140 - (2,400) 210 14,95 SideChef Group Limited THE WAVE TALK, INC 2,000 2,000 GOQUAL INC 5,000 5,000 NOVA Prime Fund I, LP	Acryl Inc.	751	-	122	-	-	-	-	-	873
Mirae Asset-LG Electronics New Growth Fund I Rinse, Inc. 17,140 - (2,400) 210 14,95 SideChef Group Limited THE WAVE TALK, INC. 2,000 2,000 GOQUAL INC 5,000 5,000 NOVA Prime Fund I, LP THE WAVE TALK, INC 11,305 11,305	Robostar Co.,Ltd.	76,890	-	614	3	(519)	-	-	-	76,988
Growth Fund I Rinse, Inc. 17,140 - (2,400) 210 14,95 SideChef Group Limited THE WAVE TALK, INC. GOQUAL INC 5,000 5,000 NOVA Prime Fund I, LP 11,305 11,305	Mirae Asset-LG	959	-	(264)	-	-	-	411	-	1,106
SideChef Group - 7,702 - - - 7,702 Limited THE WAVE TALK, - 2,000 - - - - - 2,000 INC. GOQUAL INC. - 5,000 - - - - - - 5,000 NOVA Prime Fund I, - 11,305 - - - - - - - - 11,305		26,880	-	327	-	-	-	-	-	27,207
Limited 7,702 7,702 THE WAVE TALK, INC 2,000 2,000 GOQUAL INC 5,000 5,000 NOVA Prime Fund I, LP - 11,305 11,305	Rinse, Inc.	17,140	-	(2,400)	210	-	-	-	-	14,950
INC 2,000 2,000 2,000 2,000 2,000 2,000 2,000 3,000	Limited	-	7,702	-	-	-	-	-	-	7,702
NOVA Prime Fund I, LP - 11,305 11,305		-	2,000	-	-	-	-	-	-	2,000
<u>LP</u> - 11,305 11,305	GOQUAL INC.	-	5,000	-	-	-	-	-	-	5,000
Total 3,909,200 26,007 (1,011,118) 14,408 18,228 (11,252) 961 185 2,946,61		-	11,305	-	<u>-</u>	-	-		-	11,305
	Total	3,909,200	26,007	(1,011,118)	14,408	18,228	(11,252)	961	185	2,946,619

Total

57,845

10,660

(7,674)

ii) Changes in the carrying amounts of investments in joint ventures for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of 2024 Korean won) Withdrawal of Other investments comprehenby dividend sive income /capital (excluding reduction Remeasure Exchange December Share of remeasure -ment /liquidation January 1 Acquisition profit (loss) -ment) component and others Impairment differences Arcelik-LG Klima Sanayi ve Ticaret 26,827 9,975 (1,288)35,514 A.S.(LGEAT) EIC PROPERTIES 19,313 204 2,070 21,587 PTE LTD. LG-MRI LLC (925)(38)1,222 (259)Neolite ZKW Lightings PVT Ltd. LG-LHT Aircraft 5,080 5,330 (9,864)(546)Solutions GmbH LG-LHT Passenger 2,895 5,330 (7,830)(395)Solutions GmbH GUANGDONG SMART LIFE 2,207 142 260 2,609 **TECHNOLOGY** CO., LTD. Alluto LLC 301 (49)(1) 39 290 **FITNESSCANDY** 7 (7) Co., Ltd.

93

(925)

1

60,000

(in millions of Korean won)					2023				
Notean worty	January 1	Acquisition	Share of profit (loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure -ment component	Withdrawal of investments by dividend /capital reduction /liquidation and others	Impairment	Exchange differences	December 31
Arcelik-LG Klima									
Sanayi ve Ticaret	18,104	-	(736)	9,459	-	-	-	-	26,827
A.S.(LGEAT) EIC PROPERTIES PTE LTD.	18,518	-	132	663	-	-	-	-	19,313
LG-MRI LLC	1,289	-	237	-	-	(317)	-	13	1,222
Neolite ZKW Lightings PVT Ltd.	-	-	-	-	-	-	-	-	-
LG-LHT Aircraft Solutions GmbH	7,117	12,448	(14,805)	320	-	-	-	-	5,080
LG-LHT Passenger Solutions GmbH	4,468	13,839	(15,575)	163	-	-	-	-	2,895
GUANGDONG SMART LIFE	1,797	321	105	(16)	-	-	-	-	2,207
Alluto LLC	401	-	(108)	-	-	-	-	8	301
FITNESSCANDY Co., Ltd.	2,656	1,377	(2,860)	7	-	-	(1,180)		-
Total	54,350	27,985	(33,610)	10,596	-	(317)	(1,180)	21	57,845

(d) Summarized financial information of the associates that is material to the reporting entity as of December 31, 2024 and 2023 and for each of the two years in the period ended December 31, 2024 is as follows:

- LG Display Co., Ltd. and its subsidiaries

(in millions of Korean won)	December 31, 2024	December 31, 2023
Current assets	10,123,037	9,503,186
Non-current assets	22,736,529	26,256,112
Total assets	32,859,566	35,759,298
Current liabilities	15,859,084	13,885,028
Non-current liabilities	8,927,675	13,103,726
Total liabilities	24,786,759	26,988,754
Equity attributable to owners of LG Display Co., Ltd.	6,542,261	7,232,182
Non-controlling interests	1,530,546	1,538,362
Total equity	8,072,807	8,770,544

(in millions of Korean won)	2024	2023
Net sales	26,615,347	21,330,819
Profit (Loss) for the year	(2,409,300)	(2,576,729)
Equity attributable to owners of LG Display Co., Ltd.		
Profit (Loss) for the year	(2,562,606)	(2,733,742)
Other comprehensive income (loss), net of tax	639,290	86,335
Total comprehensive income (loss), net of tax	(1,923,316)	(2,647,407)

Dividends received from LG Display Co., Ltd. for the year ended December 31, 2024 are nil (2023: nil).

(e) Reconciliations of the summarized financial information of associates that are material to the Group to the carrying amount of the Group's interest for each of the two years in the period ended December 31, 2024 are as follows:

- LG Display Co., Ltd. and its subsidiaries

(in millions of Korean won)	2024	2023
Opening equity attributable to owners of LG Display Co., Ltd.	7,232,182	9,879,589
Paid-in capital increase	1,280,814	-
Profit (Loss) for the year	(2,562,606)	(2,733,742)
Other comprehensive income, net of tax	639,290	86,335
Other capital changes	(47,419)	
Closing equity attributable to owners of LG Display Co., Ltd.	6,542,261	7,232,182
Group ownership (%) ¹	36.7%	37.9%
The Group's share as of December 31, 2024	2,402,229	2,741,257
Unrealized gain	(82,696)	(91,846)
Carrying amount as of December 31, 2024	2,319,533	2,649,411

¹ The share ratio has changed due to participation in the paid-in capital increase for the year ended December 31, 2024.

(f) The Group's share in the operating results of the individually insignificant associates and joint ventures for each of the two years in the period ended December 31, 2024 is as follows:

	20	24	2023		
(in millions of Korean won)	Associates	Joint ventures	Associates	Joint ventures	
Profit (loss) for the period	(10,687)	(6,790)	17,752	(33,716)	
Other comprehensive income (loss), net of tax	8,465	1,586	(87)	10,600	
Total comprehensive income (loss), net of tax	(2,222)	(5,204)	17,665	(23,116)	

(g) There is no accumulated unrecognized change in equity due to discontinued use of the equity method for each of the two years in the period ended December 31, 2024.

(h) Details of marketable investments in associates as of December 31, 2024 and 2023 are as follows:

			December 31, 2024		
	Туре	Shares held (Unit: shares)	Price per share (Unit: Korean won)	Fair value (in millions o	Carrying amount of Korean won)
LG Display Co., Ltd.	Associate	183,593,206	9,130	1,676,206	2,319,533
Robostar Co.,Ltd.	Associate	3,256,500	21,900	71,317	78,407
ROBOTIS Co.,Ltd.	Associate	961,550	23,250	22,356	7,862
			December 31, 2023		
	Туре	Shares held (Unit: shares)	Price per share (Unit: Korean won)	Fair value (in millions o	Carrying amount of Korean won)
LG Display Co., Ltd.	Associate	135,625,000	12,740	1,727,863	2,649,411
Robostar Co.,Ltd.	Associate	3,256,500	29,800	97,044	76,988
ROBOTIS Co.,Ltd.	Associate	961,550	30,600	29,423	8,604

15. Investment properties

(a) Details of investment properties as of December 31, 2024 and 2023 are as follows:

	December 31, 2024				
(in millions of Korean won)	Land	Buildings	Total		
December 31, 2024					
Acquisition cost	4,169	160,273	164,442		
Accumulated depreciation	(303)	(15,949)	(16,252)		
Accumulated impairment losses	<u> </u>	(55,563)	(55,563)		
Net carrying amount	3,866	88,761	92,627		

	December 31, 2023			
(in millions of Korean won)	Land	Buildings	Total	
December 31, 2023				
Acquisition cost	1,959	158,249	160,208	
Accumulated depreciation	(219)	(9,965)	(10,184)	
Accumulated impairment losses	<u>-</u>	(55,563)	(55,563)	
Net carrying amount	1,740	92,721	94,461	

(b) Changes in investment properties for each of the two years in the period ended December 31, 2024 are as follows:

	2024				
(in millions of Korean won)	Land	Buildings	Total		
January 1	1,740	92,721	94,461		
Transfer	2,210	1,096	3,306		
Depreciation	(84)	(5,056)	(5,140)		
December 31	3,866	88,761	92,627		

	2023				
(in millions of Korean won)	Land	Buildings	Total		
January 1	4,121	97,756	101,877		
Disposal and Others	(2,248)	-	(2,248)		
Depreciation	(133)	(5,035)	(5,168)		
December 31	1,740	92,721	94,461		

- (c) The fair value of investment property is determined based on the assumptions and data used in the valuation of the independent professional appraiser with certified qualification. The fair value of investment property as of December 31, 2024 is \text{\$\psi\$}107,693 \text{ million} (2023: \text{\$\psi\$}101,858 \text{ million}).
- (d) Rental income amounting to \forall 6,425 million (2023: \forall 6,312 million) and rental expenses amounting to \forall 5,230 million (2023: \forall 5,500 million) are recognized in the consolidated statements of profit or loss relating to the investment properties for the year ended December 31, 2024.
- (e) There are no gains on disposal recognized relating to investment properties for the year ended December 31, 2024 (2023: nil).

16. Borrowings

(a) Carrying amounts of borrowings as of December 31, 2024 and 2023 are as follows:

December 31, 2024	December 31, 2023	
564,410	707,605	
1,834,943	1,247,341	
489,907	646,690	
2,889,260	2,601,636	
4,713,325	5,536,626	
6,379,957	5,182,549	
11,093,282	10,719,175	
13,982,542	13,320,811	
	564,410 1,834,943 489,907 2,889,260 4,713,325 6,379,957 11,093,282	

(b) Details of borrowings as of December 31, 2024 and 2023 are as follows:

	Annual interest		Carrying amount		
	Latest maturity	rate at December	December	December	
(in millions of Korean won)	date	31, 2024 (%)	31, 2024	31, 2023	
Short-term borrowings in local currency Korea Development Bank and		3.98 ~ 5.84	66,970	118,168	
others ¹	-	3.90 ~ 3.0 4	00,970	110,100	
Short-term borrowings in foreign currency					
Citibank and others ¹	-	2.70 ~ 10.58	497,440	589,437	
Long-term borrowings in local currency The Export-Import Bank of Korea and others	2035.01.09	2.21 ~ 5.13	3,721,536	4,014,970	
Currency The Export-Import Bank of Korea and others	2034.05.30	0.67 ~ 7.18	2,826,732	2,768,997	
Local currency debentures					
Public, non-guaranteed bonds	2036.05.04	1.59 ~ 4.84	3,750,000	3,960,000	
Private, non-guaranteed bonds	2041.02.09	1.99 ~ 5.15	1,130,000	1,130,000	
Foreign currency debentures					
Public, non-guaranteed bonds	2029.04.24	5.63	1,176,000	-	
Private, non-guaranteed bonds	2031.01.08	1.12 ~ 6.56	764,512	688,442	
Private, guaranteed bonds	2026.10.26	6.58	73,500	64,470	
Less: discount on debentures			(24,148)	(13,673)	
Total	· I		13,982,542	13,320,811	

¹ The above short-term borrowings in foreign currency include the short-term borrowings collateralized by trade receivables amounting to ₩43,462 million (2023: ₩60,269 million) as of December 31, 2024.

The Group entered into currency forward, cross-currency swap and interest rate swap contracts to hedge cash flow risk related to floating interest rates and foreign exchange rates of certain portion of borrowings (See Note 37).

The principal and interests of certain private guaranteed bonds are guaranteed by Shinhan Bank (See Note 35).

17. Lease liabilities

(a) Details of lease liabilities as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Lease liabilities		
Current	385,675	336,772
Non-current	874,185	856,251
Total	1,259,860	1,193,023

(b) The amounts, relating to leases, recognized in the consolidated statements of profit or loss for years ended December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Continuing operations		
Interest expense relating on lease liabilities	53,881	44,564
Short-term lease payments (included in cost of sales, selling and administrative expenses, and others)	61,099	50,577
Payments for leases of low-value assets that are not short-term leases (included in cost of sales, selling and administrative expenses, and others)	31,755	28,090
Expense relating to variable lease payments not included in the measurement of lease liabilities (included in selling and administrative expenses, and others)	102,405	101,073
Subtotal	249,140	224,304
Discontinued operations	2,651	2,499
Total	251,791	226,803

Depreciation of right-of-use assets is stated in Note 12.

(c) Total expenses for leases including short-term leases and leases of low-value assets for the year ended December 31, 2024 are \pm 627,392 million (2023: \pm 583,447 million).

18. Other payables

Details of other payables as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Current		
Non-trade payables	4,469,600	3,723,808
Accrued expenses	1,250,058	894,091
Dividends payable	107	154
Leasehold deposits received	9,699	5,993
Subtotal	5,729,464	4,624,046
Non-current		
Non-trade payables	306,017	198,851
Leasehold deposits received	13,932	13,797
Subtotal	319,949	212,648
Total	6,049,413	4,836,694

19. Current and deferred income tax

19.1 Income tax expense

(a) Details of income tax expense for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Current income taxes		
Current tax on profits for the year	980,077	967,488
Adjustments in respect of prior years	47,544	33,335
Deferred income taxes		_
Changes in temporary differences	(254,357)	(7,327)
Changes in tax credit carry forwards	(444,939)	(229,008)
Changes in tax loss carry forwards	35,391	(43,945)
Income tax expense (benefit)	363,716	720,543
Continuing operations	462,520	756,971
Discontinued operations	(98,804)	(36,428)

(b) The reconciliation between profit(loss) before income tax and income tax expense for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)	2024	2023
Continuing operations	1,335,795	2,014,897
Discontinued operations	(380,714)	(143,743)
Profit (Loss) before income tax	955,081	1,871,154
Tax expense based on applicable tax rate ¹	617,900	906,739
Income not subject to tax	(38,994)	(76,037)
Expenses not deductible for tax purposes	172,982	22,437
Tax credits/exemptions	(442,008)	(204,769)
Adjustments in respect of prior years	47,544	33,335
Others	6,292	38,838
Income tax expense (benefit) ²	363,716	720,543
Continuing operations	462,520	756,971
Discontinued operations	(98,804)	(36,428)
Effective tax rate	38.10%	38.50%

¹ The applicable tax rate, calculated using the weighted average statutory tax rates applicable to each entity within the Group to the profit before tax of the Group is 64.7% (2023: 48.5%) for the year ended December 31, 2024. The applicable tax rate has increased compared to the previous year due to changes in the proportions of each entity's profit (loss) before income tax.

19.2 Deferred income tax

(a) Deferred tax assets and deferred tax liabilities after offsetting as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023		
Deferred tax assets				
Deferred tax asset to be recovered within 12 months	1,202,390	1,081,795		
Deferred tax asset to be recovered after more than 12 months	4,141,615	3,476,752		
Deferred tax assets before offsetting	5,344,005	4,558,547		
Deferred tax liabilities				
Deferred tax liability to be settled within 12 months	118,346	179,965		
Deferred tax liability to be settled after more than 12 months	1,751,180	1,592,050		
Deferred tax liabilities before offsetting	1,869,526	1,772,015		
Deferred tax assets after offsetting	3,509,556	2,821,557		
Deferred tax liabilities after offsetting	35,077	35,025		

 $^{^2}$ The income tax expense recognized in the statement of profit or loss for the year ended December 31, 2024 includes 449,823 million of Pillar Two income taxes.

(b) Changes in deferred tax assets and liabilities for each of the two years in the period ended December

31, 2024 are as follows:						
			2	2024		
		Business	Charged (credited) to	Charged (credited) to other comprehensive	Exchange	
(in millions of Korean won)	January 1		of profit or loss		differences	December 31
Changes in temporary differences Investments in subsidiaries, associates and joint ventures	(133,321)		(3,403)	(7,697)	(12,338)	(156,759)
Property, plant and equipment	191,574	(2,667)	65,644	-	6,374	260,925
Accrued expenses	612,025	-	16,883	-	(1,393)	627,515
Provisions	239,195	-	150,585	-	(75)	389,705
Others	437,646	-	24,648	(17,468)	59,150	503,976
Subtotal	1,347,119	(2,667)	254,357	(25,165)	51,718	1,625,362
Tax credit carry forwards	1,247,504		444,939		(252)	1,692,191
Tax loss carry forwards	191,909	-	(35,391)	-	408	156,926
Deferred tax assets (liabilities)	2,786,532	(2,667)	663,905	(25,165)	51,874	3,474,479
			2	2023		
(in millions of Korean won)	lanuary 1	Business	Charged (credited) to the statements	Charged (credited) to other comprehensive	Exchange	December 31

				023		
(in millions of Korean won)	January 1	Business combination		Charged (credited) to other comprehensive income	Exchange differences	December 31
Changes in temporary differences Investments in subsidiaries, associates and joint ventures	(146,124)	-	31,835	(19,067)	35	(133,321)
Property, plant and equipment	312,358	-	(101,804)	-	(18,980)	191,574
Accrued expenses	552,188	-	62,940	-	(3,103)	612,025
Provisions	372,436	-	(132,770)	-	(471)	239,195
Others	147,939	-	147,126	90,147	52,434	437,646
Subtotal	1,238,797		7,327	71,080	29,915	1,347,119
Tax credit carry forwards	1,018,390	_	229,008		106	1,247,504
Tax loss carry forwards	148,103	-	43,945	-	(139)	191,909
Deferred tax assets (liabilities)	2,405,290		280,280	71,080	29,882	2,786,532

(c) Tax effects recognized in other comprehensive income directly for each of the two years in the period ended December 31, 2024 are as follows:

	2024				2023	
	Before	Tax	After	Before	Tax	After
(in millions of Korean won)	tax	effects	tax	tax	effects	tax
Remeasurements of the net defined benefit liability	137,262	(22,971)	114,291	(328,469)	71,518	(256,951)
Cash flow hedges	(23,063)	5,764	(17,299)	(77,943)	19,833	(58,110)
Financial assets at fair value through other comprehensive income	1,426	(261)	1,165	(1,063)	(1,204)	(2,267)
Exchange differences on translation of foreign operations	1,166,892	(7,697)	1,159,195	387,665	(19,067)	368,598
Total	1,282,517	(25,165)	1,257,352	(19,810)	71,080	51,270

(d) Details of deductible (taxable) temporary differences, tax credit carry forwards and loss carry forwards unrecognized as deferred tax assets (liabilities) as of December 31, 2024 are as follows:

(in millions of Korean won)	Amount	Remark
Taxable temporary difference (investment in subsidiaries)	(10,838,842)	Planned permanent reinvestment of undistributed profit
Deductible temporary difference (investment in subsidiaries)	5,447,839	Unlikely to reverse (disposed of) in the foreseeable future
Tax credit carryforwards ¹	209,194	Uncertainty of future taxable profit
Loss carryforwards ²	53,696	Uncertainty of future taxable profit

¹ Unrecognized tax credit carry forwards as of December 31, 2024 will expire from 2026.

² Unrecognized loss carry forwards as of December 31, 2024 will expire from 2025.

20. Retirement benefits

20.1 Defined benefit plan

(a) The amounts of net defined benefit liabilities (assets) as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Present value of funded obligations	4,752,436	4,558,536
Present value of unfunded obligations	82,327	64,553
Subtotal	4,834,763	4,623,089
Fair value of plan assets	(5,194,865)	(5,075,633)
Net defined benefit liabilities (assets)	(360,102)	(452,544)

(b) The amounts recognized in the consolidated statements of profit or loss for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Current service cost	457,375	411,241
Past service cost	9,760	(2,053)
Net interest cost	(19,855)	(36,718)
Operating management cost	4,087	3,486
Total	451,367	375,956

(c) Line items in which expenses are included for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Cost of sales	204,445	175,895
Selling expenses	79,574	65,525
Administrative expenses	49,098	34,890
Research and development expenses	83,012	66,686
Service costs	35,037	30,293
Other non-operating expenses	155	2,588
Subtotal	451,321	375,877
Discontinued operations	46	79
Total	451,367	375,956

(d) Changes in the present value of defined benefit obligations for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
January 1	4,623,089	3,939,596
Current service cost	457,375	411,241
Past service cost	9,760	(2,053)
Interest cost	204,090	203,732
Remeasurements for:		
 Actuarial loss (gain) arising from changes in demographic assumptions 	2,303	356
 Actuarial loss (gain) arising from changes in financial assumptions 	(129,055)	304,773
 Actuarial loss (gain) arising from experience adjustments 	(31,806)	28,600
Benefits paid	(308,596)	(266,860)
Others ¹	7,603	3,704
December 31	4,834,763	4,623,089

¹ Others include effects of exchange rate changes.

(e) Changes in the fair value of plan assets for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
January 1	5,075,633	4,624,609
Interest income	223,945	240,450
Remeasurements of plan assets	(21,296)	5,260
Employer contributions	226,207	476,545
Benefits paid	(307,320)	(267,813)
Operating management cost	(4,087)	(3,486)
Others ¹	1,783	68
December 31	5,194,865	5,075,633

¹ Others include effects of exchange rate changes.

(f) The key actuarial assumptions used as of December 31, 2024 and 2023 are as follows:

	December 31, 2024	December 31, 2023
Weighted average of discount rate of the Group	3.90%	4.50%
Weighted average of expected salary growth rate of the Group	4.90%	5.90%

As of December 31, 2024, the discount rates applied to the Parent Company and subsidiaries are within the range of 1.2% and 11.7% (December 31, 2023: 0.9% and 10.3%), and the expected salary growth rates are within the range of 0.0% and 10.0% (December 31, 2023: 1.0% and 10.0%).

(g) The sensitivity analysis of the defined benefit obligation to changes in principal assumptions as of December 31, 2024 is as follows:

(in millions of Korean won)	1%p increase	1%p decrease
Discount rate	(402,797)	464,603
Expected salary growth rate	472,531	(415,415)

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

(h) The composition of plan assets as of December 31, 2024 and 2023 is as follows:

	December 31, 2024		December 31, 2023	
		Composition		Composition
(in millions of Korean won)	Amount	ratio(%)	Amount	ratio(%)
Securities combined with derivatives (principal and interest guaranteed)	2,059,783	39.70	1,990,492	39.20
Time deposits and others	3,135,082	60.30	3,085,141	60.80
Total	5,194,865	100.00	5,075,633	100.00

The Group's plan assets mainly consist of the assets with the quoted prices in an active market.

- (i) The weighted average duration of the defined benefit obligations is 9.53 years.
- (j) The Group evaluates the level of fund contribution annually, and if there is a shortfall in the funds, the Group shall finance the funds in accordance with the related policies. Expected contributions to retirement benefit plans for the year ended December 31, 2025 are ₩530,043 million.

20.2 Defined contribution plan

The expense recognized in relation to defined contribution plan for the year ended December 31, 2024 is \forall 38,068 million (2023: \forall 29,269 million).

21. Provisions

(a) Changes in provisions for each of the two years in the period ended December 31, 2024 are as follows:

		2024	4		
	Litigation and				
(in millions of Korean won)	Warranty	Restoration	others	Total	
January 1	1,001,682	52,511	322,927	1,377,120	
Additions ¹	1,482,851	10,016	(41,522)	1,451,345	
Transfer-in due to business combination	446	-	-	446	
Utilization	(1,025,369)	(3,472)	(81,735)	(1,110,576)	
Exchange differences	31,940	1,547	7,892	41,379	
December 31	1,491,550	60,602	207,562	1,759,714	
Current	1,391,670	12,118	111,579	1,515,367	
Non-current	99,880	48,484	95,983	244,347	

		-			
	Litigation and				
rranty	Restoration	others	Total		
1,556,634	36,374	175,927	1,768,935		
963,334	18,767	191,810	1,173,911		
(1,528,187)	(2,993)	(47,562)	(1,578,742)		
9,901	363	2,752	13,016		
1,001,682	52,511	322,927	1,377,120		
906,701	9,619	133,305	1,049,625		
94,981	42,892	189,622	327,495		
	963,334 (1,528,187) 9,901 1,001,682 906,701	1,556,634 36,374 963,334 18,767 (1,528,187) (2,993) 9,901 363 1,001,682 52,511 906,701 9,619	rranty Restoration others 1,556,634 36,374 175,927 963,334 18,767 191,810 (1,528,187) (2,993) (47,562) 9,901 363 2,752 1,001,682 52,511 322,927 906,701 9,619 133,305		

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

(b) Greenhouse gas emission liabilities

Details of emission rights received free of charge and estimated greenhouse gas emission by each compliance year as of December 31, 2024 are as follows:

(in tons)	2024	2025
Emission rights received free of charge ¹	1 310 915	1 308 721

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

In relation to greenhouse gas emissions, the Group estimates the expected future expenses to be borne by the Group for emissions exceeding the emission allowances for the corresponding compliance year, and accounts for $\forall 323$ million (2023: nil) as other liabilities. The estimated greenhouse gas emissions for compliance year 2024 is 704,864 tons as of December 31, 2024.

22. Other liabilities

Other liabilities as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Current		
Advances from customers	596,718	444,027
Withholding	643,884	522,376
Accrued expenses and others	3,142,451	3,020,970
Subtotal	4,383,053	3,987,373
Non-current		
Accrued expenses and others	239,445	209,754
Total	4,622,498	4,197,127

23. Paid-in capital

(a) As of December 31, 2024 and 2023 the number of authorized ordinary and preferred shares is 600 million.

		December 31, 2024		December 31, 2023	
	Par value per share	Number of shares issued	Amount (in millions of Korean won)	Number of shares issued	Amount (in millions of Korean won)
Ordinary shares	5,000	163,647,814	818,239	163,647,814	818,239
Preferred shares	5,000	17,185,992	85,930	17,185,992	85,930
Total		180,833,806	904,169	180,833,806	904,169

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

(b) Share premium balance as of December 31, 2024 is \(\psi_3,088,179\) million. The share premium of \(\psi_1,876,153\) million was recognized, which is \(\psi_2,815,707\) million of the carrying amount of net assets acquired from the entity split-off back on April 1, 2002, less the Parent Company's capital of \(\psi_783,961\) million and less the Parent Company's capital adjustment of \(\psi_155,593\) million. In addition, the amount of \(\psi_331,766\) million paid in excess of par value due to issuance of ordinary shares (merger with LG IBMPC Co., Ltd.) and the exercise of conversion right and warrants in 2005 and 2006 are included. The excess in paid-in capital amounting to \(\psi_880,260\) million over the par value was recognized as the share premium due to the issuance of ordinary shares in 2011.

24. Retained earnings and dividends

(a) Retained earnings as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Legal reserves ¹	273,791	259,300
Discretionary reserves	6,147,421	5,504,433
Unappropriated retained earnings ²	9,931,561	10,437,706
Total	16,352,773	16,201,439

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

(b) Dividends of the parent company

Details of dividends per share and a total dividend in respect of the year ended December 31, 2024 which is to be proposed at the annual general meeting on March 25, 2025 are as follows. These consolidated financial statements do not reflect this dividend payable.

i) Interim dividend

	2024		2023	
		Preferred		Preferred
	Ordinary shares	shares	Ordinary shares	shares
Dividend record date	2024.06.30	2024.06.30	-	-
Outstanding shares	163,647,814	17,185,992	163,647,814	17,185,992
Treasury shares	(763,176)	(4,693)	(763,176)	(4,693)
Numbers of shares for dividend	162,884,638	17,181,299	162,884,638	17,181,299
Par value (in Korean won)	5,000	5,000	5,000	5,000
Dividend rate	10.00%	10.00%	-	-
Dividends per share (in Korean won)	500	500	-	-
Total dividend amount (in millions of Korean won)	81,442	8,591	-	-

² A dividend of ₩144,912 million for the year ended December 31, 2023 was approved as originally proposed at the Annual General Meeting held on March 26, 2024 and was paid in April 2024 (dividend paid in 2023: ₩126,905 million). The interim dividend of ₩90,033 million with a record date of June 30, 2024 was resolved by the Board of Directors on July 24, 2024 and was paid in August 2024.

ii) Annual dividend

	2024		2023	
		Preferred		Preferred
	Ordinary shares	shares	Ordinary shares	shares
Dividend record date	2025.03.31	2025.03.31	2023.12.31	2023.12.31
Outstanding shares	163,647,814	17,185,992	163,647,814	17,185,992
Treasury shares	(763,176)	(4,693)	(763,176)	(4,693)
Numbers of shares for dividend	162,884,638	17,181,299	162,884,638	17,181,299
Par value (in Korean won)	5,000	5,000	5,000	5,000
Dividend rate	10.00%	11.00%	16.00%	17.00%
Dividends per share (in Korean won)	500	550	800	850
Total dividend amount (in millions of Korean won)	81,442	9,450	130,308	14,604

25. Accumulated other comprehensive income (loss)

Accumulated other comprehensive income (loss) as of December 31, 2024 and 2023 is as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Accumulated share of other comprehensive income (loss) of associates and joint ventures	356,353	88,029
Cash flow hedge	(7,761)	6,880
Financial assets at fair value through other comprehensive income	(12,232)	(19,702)
Exchange differences on translation of foreign operations	476,553	(496,025)
Subtotal	812,913	(420,818)
Accumulated other comprehensive income (loss) held for sale	(457)	(136)
Subtotal	(457)	(136)
Total	812,456	(420,954)

26. Other components of equity

Other components of equity as of December 31, 2024 and 2023 consist of:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Treasury shares ¹	(44,893)	(44,893)
Consideration for conversion rights	9,891	9,891
Gain on disposal of treasury shares	2,183	2,183
Capital transactions within the Group and others ²	(129,989)	(75,260)
Total	(162,808)	(108,079)

¹ The Parent Company has treasury shares consisting of 763,176 ordinary shares (December 31, 2023: 763,176 shares) and 4,693 preferred shares (December 31, 2023: 4,693 shares) as of December 31, 2024. The Parent Company intends to either grant these treasury shares to employees and directors as compensation or to sell them in the future. 761,427 ordinary shares acquired not exceeding the extent of distributable profits are planned to be retired within 2025.

27. Share-based payments

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

On December 31, 2021, the Group acquired Cybellum Technologies Ltd., which had granted share options to directors and selected employees. Details are as follows:

- · type of shares issued through share option: registered share capital;
- · grant method: issuance of shares; and
- · vesting condition and exercisable period:
- The options are exercisable if the directors and employees have been completed service in Cybellum Technologies Ltd. and its subsidiary for one year after the grant date. Four years after the grant date, 100% of originally issued number of shares are exercisable. (But for retiree with service period over one year and less than four years, only the number of vested shares is exercisable.)

² Included gain (loss) from transactions with non-controlling interests and other reserves of subsidiaries net of deferred taxes.

(b) The number of share options granted to employees by Alphonso Inc. as of December 31, 2024 is as follows:

Formanda di constituto di de	Number of granted shares	Number of vested shares	Exercise price per share
Expected expiry date	(Unit: shares) ¹	(Unit: shares)	(in USD)
2027	11,171	11,171	0.40
2028	6,097	6,097	0.67
2029	42,875	42,875	0.51
2030	9,487	7,393	0.50
2031	339,920	212,673	1.82
2032	223,273	80,813	5.48
2033	48,200	18,914	21.40
2034	215,000	47,831	77.37
Total	896,023	427,767	

¹ For the year ended December 31, 2024, share options of 215,000 shares were newly granted, and the type of shares to be issued, grant method and vesting condition and exercisable period are the same as the previously granted share options. The Group measured the cost of the share options using the Black-Scholes model.

For the year ended December 31, 2024, the Group recognized share-based payments of \forall 4,411 million (2023: \forall 1,324 million).

The number of share options granted to employees by Cybellum Technologies Ltd. as of December 31, 2024 is as follows:

Expected expiry date	Number of granted shares (Unit: shares) ²	Number of vested shares (Unit: shares)	Exercise price per share (in USD)
2026	1,101	1,101	30.75
2027	484	484	30.75
2028	357	357	30.75
2029	175	175	30.75
2030	3,857	3,857	16.85
2031	871	816	11.51
2032	10,642	7,713	117.89
2033	2,991	1,747	576.09
2034	1,923	236	658.16
Total	22,401	16,486	

² For the year ended December 31, 2024, share options of 2,660 shares were newly granted, and the type of shares to be issued, grant method and vesting condition and exercisable period are the same as the previously granted share options. The Group measured the cost of the share options using the Black-Scholes model.

For the year ended December 31, 2024, the Group recognized the share-based payments of $\forall 1,843$ million (2023: $\forall 5,461$ million).

(c) Changes in unexercised share options

Changes in the number of Alphonso Inc.'s unexercised share options outstanding and their related weighted average exercise prices for each of the two years in the period ended December 31, 2024 are as follows:

	2024		2023	
	Number of shares (Unit: shares)	Exercise price (in USD)	Number of shares (Unit: shares)	Exercise price (in USD)
Beginning unexercised balance	1,072,204	3.46	1,144,869	1.81
Expired	(96,940)	2.01	(206,560)	1.91
Exercised	(294,241)	2.07	(144,805)	1.93
Increase (newly granted)	215,000	77.37	278,700	8.29
Ending unexercised balance	896,023	21.81	1,072,204	3.46
Exercisable as of December 31	427,767	11.61	512,637	2.21

The weighted average remaining contractual maturity of share options outstanding is 7.5 years and 7.7 years as of December 31, 2024 and 2023 respectively.

Changes in the number of Cybellum Technologies Ltd.'s unexercised share options outstanding and their related weighted average exercise prices for the year ended December 31, 2024 are as follows:

	2024		2023	
	Number of shares	Exercise price	Number of shares	Exercise price
	(Unit: shares)	(in USD)	(Unit: shares)	(in USD)
Beginning unexercised balance	30,291	161.16	25,465	70.24
Expired	(5,002)	407.73	(1,199)	396.44
Exercised	(5,548)	13.14	(192)	67.62
Increase (newly granted)	2,660	606.74	6,217	576.09
Ending unexercised balance	22,401	195.68	30,291	161.16
Exercisable as of December 31	16,486	134.53	19,014	100.65

The weighted average remaining contractual maturity of share options outstanding is 6.7 years and 7.7 years as of December 31, 2024 and 2023 respectively.

28. Net sales

(a) Details of net sales for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Revenue from contracts with customers:		
Sales of goods	83,087,712	78,906,331
Rendering of services and others	2,930,033	2,353,773
Subtotal	86,017,745	81,260,104
Revenue from other sources:		
Rental income and others	1,710,437	1,002,560
Subtotal	87,728,182	82,262,664
Discontinued operations	134	1,965,902
Total	87,728,316	84,228,566

(b) Details of revenue from contracts with customers for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
By type of products:		
Refrigerator/washing machine/ air conditioner and others	31,616,239	29,190,781
TV/AV and others	15,110,663	14,181,196
In-vehicle infotainment and others	10,617,424	10,145,015
Monitor/PC and others	5,673,397	5,405,212
Camera module and others	21,195,330	20,597,447
Others ¹	1,804,692	1,740,453
By major geographical market ² :		
Korea	34,074,135	33,312,628
America	22,885,493	21,484,560
Europe	13,617,258	12,123,832
Asia & Africa, etc.	15,440,859	14,339,084
Timing of revenue recognition:		
At a point in time	81,394,881	77,289,522
Over time	4,622,864	3,970,582
Total	86,017,745	81,260,104

¹ Others include equipment production, inter-segment transactions and others.

² Sales by major geographical market are the sales by region in which the Group is located.

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

Due to the factors causing the changes in the costs of other segments in 2024, the estimated total contract revenue and costs for contracts in progress have changed. Details of changes in estimated total contract revenue and costs, and the impact on profit or loss for the year ended December 31, 2024 and after the reporting period are as follows:

() () () () () () () () () ()	Changes in estimated total	Changes in estimated total	Impact on profit or loss	Impact on profit or loss for the
(in millions of Korean won)	contract revenue ¹	contract cost	for the year ¹	succeeding years ¹
	215.494	77.747	124.068	13.679

¹ The effects of exchange rate fluctuations are included.

29. Expenses by nature

Expenses that are recorded by nature for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Changes in finished goods and work-in-process	(1,301,792)	144,979
Raw materials and merchandise used	54,700,305	52,181,966
Employee benefit expense	10,589,872	10,070,350
Depreciation and amortization	3,535,432	3,202,828
Advertising expense	1,589,502	1,463,180
Promotion expense	533,629	524,442
Freight expense	3,110,986	2,664,423
Commission expense	5,710,261	5,074,716
Other expenses	5,840,312	3,282,486
Subtotal ¹	84,308,507	78,609,370
Discontinued operations	342,170	2,068,657
Total ¹	84,650,677	80,678,027

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

30. General operating expenses (selling and administrative expenses, research and development expenses, and service costs)

Details of general operating expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Salaries	4,268,523	4,011,305
Retirement benefits	282,297	267,114
Employee welfare benefits	1,010,008	952,337
Freight expense	3,089,325	2,642,474
Rental expense	84,093	78,296
Commission expense	4,200,241	3,648,930
Depreciation	672,636	634,204
Amortization	167,934	152,655
Advertising expense	1,589,502	1,463,180
Promotional expense	533,629	524,442
R&D expense	343,227	345,998
Direct service costs	718,382	557,026
(Reversal of) Bad debts expense	44,611	14,264
Others	955,151	855,740
Subtotal	17,959,559	16,147,965
Discontinued operations	341,980	106,330
Total	18,301,539	16,254,295

31. Financial income and financial expenses

(a) Financial income for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Interest income	500,454	438,300
Exchange differences	617,942	823,102
Gain on derivatives	49,325	18,124
Subtotal	1,167,721	1,279,526
Discontinued operations	3,661	5,735
Total	1,171,382	1,285,261

(b) Financial expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Interest expense	571,340	535,254
Exchange differences	467,225	757,782
Loss on derivatives	39,973	29,410
Loss on disposal of trade receivables	53,499	55,968
Others	559	2,883
Subtotal	1,132,596	1,381,297
Discontinued operations	48,419	44,183
Total	1,181,015	1,425,480

32. Other non-operating income and other non-operating expenses

(a) Other non-operating income for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)	2024	2023	
Continuing operations			
Dividend income	738	1,604	
Exchange differences	2,274,494	2,122,969	
Gain on derivatives	45,226	21,716	
Gain on disposal of property, plant and equipment	12,271	16,492	
Gain on disposal of intangible assets	2,931	3,584	
Gain on disposal of assets held for sale	2	108	
Gain on valuation of financial assets at fair value through profit or loss	7,112	2,905	
Gain on transfer of business	-	45	
Others	63,170	123,659	
Subtotal	2,405,944	2,293,082	
Discontinued operations	6,548	2,003	

Total	2,412,492	2,295,085

⁽b) Other non-operating expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Continuing operations		
Exchange differences	2,512,680	2,159,019
Loss on derivatives	45,696	42,479
Loss on disposal of property, plant and equipment	29,913	21,661
Impairment loss on property, plant and equipment	229,325	61,665
Loss on disposal of intangible assets	31,527	53,486
Impairment loss on intangible assets	143,426	49,249
Loss on valuation of financial assets at fair value through profit or loss	2,523	10,465
Loss on remeasurement of financial liabilities	423,382	141,655
Others	114,090	222,151
Subtotal	3,532,562	2,761,830
Discontinued operations	466	4,543
Total	3,533,028	2,766,373

33. Earnings (losses) per share

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

(a) Basic earnings (losses) per ordinary share for each of the two years in the period ended December 31, 2024 are as follows:

	2024	2023
Profit (loss) attributable to ordinary shares (in millions of Korean won) ¹	331,671	644,102
Profit (loss) from continuing operations	586,682	741,177
Profit (loss) from discontinued operations	(255,011)	(97,075)
Weighted average number of ordinary shares outstanding (unit: shares) ²	162,884,638	162,884,638
Basic earnings (losses) per ordinary share (in Korean won)	2,036	3,954
Profit (loss) from continuing operations	3,602	4,550
Profit (loss) from discontinued operations	(1,566)	(596)

(b) Basic earnings (losses) per preferred share for each of the two years in the period ended December 31, 2024 are as follows:

_	2024	2023
Profit (loss) attributable to preferred shares (in millions of Korean won) ¹	35,844	68,800
Profit (loss) from continuing operations	62,743	79,040
Profit (loss) from discontinued operations	(26,899)	(10,240)
Weighted average number of preferred shares outstanding (unit: shares) ²	17,181,299	17,181,299
Basic earnings (losses) per preferred share (in Korean won)	2,086	4,004
Profit (loss) from continuing operations	3,652	4,600
Profit (loss) from discontinued operations	(1,566)	(596)
¹ Profit (loss) attributable to ordinary and preferred shares is as fol	lows:	
(in millions of Korean won)	2024	2023
Profit (loss) for the year attributable to owners of the Parent Company (A)	367,515	712,902
Profit (loss) from continuing operations attributable to owners of the Parent Company	649,425	820,217
Profit (loss) from discontinued operations attributable to owners of the Parent Company	(281,910)	(107,315)
Ordinary share dividends (B)	162,884	130,308
Preferred share dividends (C)	18,041	14,604
Undistributed profit (loss) (D=A-B-C)	186,590	567,990
Profit (loss) from continuing operations	468,500	675,305
Profit (loss) from discontinued operations	(281,910)	(107,315)
Undistributed profit available for ordinary shares (E)	168,787	513,794
Undistributed profit available for preferred shares (F)	17,803	54,196
Profit (loss) attributable to ordinary shares (G=B+E)	331,671	644,102
Profit (loss) attributable to preferred shares (H=C+F)	35,844	68,800
² Weighted average numbers of shares are calculated as follows:		
(unit: shares)	2024	2023
Ordinary shares issued as of December 31	163,647,814	163,647,814
Ordinary treasury shares as of December 31	(763,176)	(763,176)
Ordinary shares outstanding as of December 31	162,884,638	162,884,638
Weighted average number of ordinary shares outstanding	162,884,638	162,884,638
Preferred shares issued as of December 31	17,185,992	17,185,992
Preferred treasury shares as of December 31	(4,693)	(4,693)
Preferred shares outstanding as of December 31	17,181,299	17,181,299
Weighted average number of preferred shares outstanding	17,181,299	17,181,299

34. Cash flow information

Cash flows from operating activities are prepared using the indirect method. Details of cash generated from operations for each of the two years in the period ended December 31, 2024 are as follows:

(a) Cash generated from (used in) operations

(in millions of Korean won)	2024	2023	
Profit (Loss) for the year	591,365	1,150,611	
Adjustments:			
Interest expense, net	70,886	96,954	
Exchange differences, net	101,955	36,992	
Loss (gain) on derivatives, net	(10,874)	32,049	
Depreciation	2,992,934	2,703,747	
Amortization	540,930	513,252	
Loss (gain) on disposal of property, plant and equipment and intangible assets, net	46,238	55,071	
Provisions for severance benefits	451,321	405,146	
Additional provisions, net	947,476	818,953	
Income tax expense	462,520	756,971	
Loss (gain) from equity method, net	992,387	1,044,728	
Others	1,104,851	313,044	
Discontinued operations	440,018	342,135	
	8,140,642	7,119,042	
Changes in operating assets and liabilities			
Decrease (Increase) in trade receivables	(870,988)	(895,648)	
Decrease (Increase) in other receivables	(116,059)	(436,522)	
Decrease (Increase) in inventories	(1,154,130)	307,379	
Decrease (Increase) in contract assets	(110,728)	(466,786)	
Decrease (Increase) in other assets	(383,775)	502,162	
Increase (Decrease) in trade payables	(700,991)	1,189,967	
Increase (Decrease) in other payables	301,737	(4,565)	
Increase (Decrease) in provisions	(1,087,286)	(1,578,742)	
Increase (Decrease) in contract liabilities	183,434	445,167	
Increase (Decrease) in other liabilities	368,849	224,263	
Payment of defined benefit liability	(1,276)	(28,316)	
Deposit in plan assets, net	(226,207)	(476,545)	
	(3,797,420)	(1,218,186)	
Cash generated from operations	4,934,587	7,051,467	

(b) Changes in liabilities (assets) arising from financing activities

				20:	24			
		Effects of other changes						
(in millions of Korean won)	January 1	Cash flows from (used in) financing activities	Addition and others	Exchange differences (profit/loss)	Amortization	Effects of exchange rate changes	Gain (Loss) on valuation and others	December 31
Borrowings	7,491,572	(672,434)	-	180,684	=	112,856	-	7,112,678
Debentures	5,829,239	870,250	-	164,950	5,425	-	-	6,869,864
Lease liabilities	1,193,023	(380,298)	386,289	4,088	4,697	52,061	-	1,259,860
Net derivatives liabilities (assets)	(123,743)	18,313	-	(271,745)	(3,719)	-	(1,781)	(382,675)
Other payables	271,413	(182,047)	17,251	11,472	-	44,980	426,384	589,453
Total	14.661.504	(346.216)	403.540	89.449	6.403	209.897	424.603	15.449.180

=				202	3			
				Effects of other changes				
(in millions of Korean won)	January 1	Cash flows from (used in) financing activities	Addition and others	Exchange differences (profit/loss)	Amortization	Effects of exchange rate changes	Gain (Loss) on valuation and others	December 31
Borrowings	5,977,271	1,303,594	-	42,040	-	168,667	-	7,491,572
Debentures	5,067,916	740,071	-	18,062	3,190	-	-	5,829,239
Lease liabilities	1,096,235	(360,568)	435,887	(212)	3,924	17,757	=	1,193,023
Net derivatives liabilities (assets)	(135,375)	(2,600)	-	(24,399)	(3,176)	-	41,807	(123,743)
Other payables	125,288	-	=	2,368	-	2,102	141,655	271,413
Total	12,131,335	1,680,497	435,887	37,859	3,938	188,526	183,462	14,661,504

(c) Material non-cash transactions

(in millions of Korean won)	2024	2023
Reclassification of construction-in-progress to property, plant and equipment	1,558,552	2,714,980
Reclassification of construction-in-progress to intangible assets	629,235	453,539
Reclassification of current portion of borrowings and debentures	2,304,285	1,587,933
Reclassification of current portion of loans	805,869	42,241
Other payables to acquire property, plant and equipment	593,548	416,381
Other payables to acquire intangible assets	146,239	122,305
Acquisition of right-of-use assets	436,565	482,212

35. Contingencies and commitments

35.1. Contingencies

- (a) As of December 31, 2024 and 2023, borrowings are collateralized by a certain property, plant and equipment (land, buildings and others) (See Note 12).
- (b) As of December 31, 2024, the Parent Company and domestic subsidiaries are provided with performance guarantees of \(\pi\)415,136 million (2023: \(\pi\)400,116 million) from Seoul Guarantee Insurance and others relating to the performance guarantees. LG Innotek Co., Ltd. is provided with guarantee of principal amounting to USD 50 million (2023: USD 50 million) and interests from Shinhan Bank for the guaranteed private placement bonds.
- (c) There are a number of legal actions, disputes and investigations arising from the normal course of business that remain pending as of December 31, 2024. The Group cannot reasonably expect the ultimate effect of those litigations on the financial position. Management does not expect the outcome of the litigations will have a material effect on the Group's financial position.

As of December 31, 2024, LG Display Co., Ltd., an associate of the Group, is facing multiple patent-related lawsuits and is under investigation by relevant authorities for collusion allegations, with civil litigation also in progress. The outcome may affect the gain or loss from equity method valuation, but the Group is not individually responsible for the above suit or the ongoing investigation.

35.2 Commitments

- (a) As of December 31, 2024, the Group has borrowing agreements, such as overdraft facility agreements, trade financing and others, with various banks, including Shinhan Bank and others, with a limit of \$8,354,071 million (2023: \$7,779,499 million).
- (b) As of December 31, 2024, the Group has sales agreements for receivables with various banks including KEB Hana Bank amounting to ₩5,571,311 million (2023: ₩5,655,911 million).
- (c) As of December 31, 2024, the Group has corporate trade receivables secured loan agreement by electronic settlement and mutually beneficial cooperation settlement with various banks, including Shinhan Bank, for up to $\forall 1,527,311$ million (2023: $\forall 1,511,711$ million) in connection with the payment of trade payables. In addition, the Group has entered into supply financing agreements with financial institutions to enhance the efficiency of the payment process and to provide early payment options to suppliers. Under these agreements, if a supplier that has provided goods or services to the Group transfers its trade receivables to a financial institution within the payment term, the Group will settle the amount directly with the financial institution. Since the supply financing agreements do not result in a substantial reduction of the Group's payment obligations or modification of payment terms, there is no change in the underlying liabilities recognized as trade payables or other payables.
- (d) As of December 31, 2024, the Group has commercial paper agreements with Shinhan Bank and others for ₩40,000 million (2023: ₩60,000 million).

(e) Contractual commitments for the acquisition of assets

Assets contracted for, but not yet acquired as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Property, plant and equipment	232,362	392,694
Intangible assets	35,241	39,483
Investments in associates and joint ventures	54,310	78,772
Total	321,913	510,949

Other than the above commitments, Zenith Electronics LLC(Zenith), a subsidiary, agreed to tender offers based on fair value at certain time in relation to the shares held by non-controlling shareholders of Alphonso Inc. and the shares to be issued by the exercise of stock options. As of December 31, 2024, the Group recognized this commitment as 'other payables.'

In addition, the Parent Company agreed to tender offers based on fair value at certain time in relation to the shares held by non-controlling shareholders of Cybellum Technologies Ltd. and the shares to be issued by the exercise of stock options. As of December 31, 2024, the Group recognized this commitment as 'other payables' and 'other financial liabilities.' Regarding the shares held by non-controlling shareholders of Athom Holding B.V., the Parent Company agreed to purchase them at a certain time based on the acquisition price. The Group recognized this commitment as 'other payables' as of December 31, 2024.

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

i) The Group has non-cancellable operating lease agreements regarding home appliance rental business and investment properties. The future aggregate lease receipts under operating leases As of December 31, 2024 are as follows:

			Decembe	r 31, 2024		
(in millions of Korean won)	Within 1 year	1 to 2 years	2 to 3 years	3 to 4 years	Over 4 years	Total lease payments
Home appliance rental	132,748	60,488	15,503	1,540	-	210,279
Real estate rental	5,489	5,489	5,472	149	5	16,604
Total	138,237	65,977	20,975	1,689	5	226,883

ii) The Group recognized \(\psi 338,585\) million (2023: \(\psi 464,732\) million) in lease income for the year ended December 31, 2024.

iii) Details of assets subject to operating lease are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Acquisition cost	553,062	812,813
Accumulated depreciation	(282,595)	(426,640)
Accumulated impairment losses	(60,169)	(60,548)
Net carrying amount	210,298	325,625

iv) Changes in net carrying amount of assets subject to operating lease for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
January 1	325,625	465,268
Acquisition	12,950	52,782
Transfer	3,306	-
Disposal and others	(212)	(2,560)
Depreciation	(123,110)	(174,149)
Impairment loss	(8,978)	(15,646)
Exchange differences	717	(70)
December 31	210,298	325,625

(g) Financial lease commitments – the Group as lessor

i) Gross investment in the lease and present value of the minimum lease payments for the financial lease as of December 31, 2024 and 2023 are as follows:

	December 3	31, 2024	Decembe	er 31, 2023
(in millions of Korean won)	Gross investment in the lease ¹	Net Investment in the lease	Gross investment in the lease ¹	Net Investment in the lease
Within one year	406,817	289,031	137,636	98,689
Between 1 and 2 years	421,249	325,252	138,113	106,012
Between 2 and 3 years	426,058	354,207	134,626	109,731
Between 3 and 4 years	407,256	361,266	138,393	121,343
Later than 4 years	504,549	478,712	204,101	192,587
Total	2,165,929	1,808,468	752,869	628,362

¹ There are no unguaranteed residual value reflected on gross investment in the lease.

ii) Unrealized interest income of financial lease as of December 31, 2024 and 2023 is as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Gross investment in the lease	2,165,929	752,869
Net investment in the lease	1,808,468	628,362
Unrealized interest income	357,461	124,507

iii) For the year ended December 31, 2024, the Group recognized income amounting to \$1,334,157 million (2023: \$498,161 million) in relation to financial lease contract, and financial income net investment in the lease amounting to \$81,436 million (2023: \$22,878 million) is included.

(h) License agreements including patent and trademark

As of December 31, 2024, the Group has various agreements as follows:

Purpose	Related products	Provided by	Used by
Use of license	All products	Qualcomm Incorporated and others	LG Electronics Inc.
Provision of license	All products	LG Electronics Inc.	Panasonic Corporation and others
Use of trademarks	All products	LG Corp.	LG Electronics Inc.
Use of trademarks	Vehicle components	Magna International Inc.	LG Electronics Inc.

36. Related party

- (a) Major transactions for each of the two years in the period ended December 31, 2024 and balances of receivables and payables from transaction with related parties as of December 31, 2024 and 2023 are as follows:
- i) Major income and expense transactions with related parties

(in millions of Kore	ean won)	2024					
	<u>-</u>	Inco	me transaction	ns	Exp	ense transactio	ons
Classification	Name	Sales	Others	Total	Purchases	Others	Total
Significantly influencing the Group	LG Corp.	1,511	-	1,511	203	182,985	183,188
Associates	LG Display Co., Ltd. and its subsidiaries	409,443	105,935	515,378	3,588,925	259	3,589,184
	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries	202	-	202	21,173	10	21,183
	Acryl Inc.	-	-	-	681	1,561	2,242
	ROBOTIS Co., Ltd.	-	-	-	-	74	74
	Robostar Co., Ltd. and its subsidiaries	29	-	29	9,190	1,217	10,407
	THE WAVE TALK, INC.	-	-	-	-	100	100
	GOQUAL INC.	<u> </u>	<u>-</u>	-	13	78	91
	Subtotal	409,674	105,935	515,609	3,619,982	3,299	3,623,281
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	93,366	-	93,366	109,752	30	109,782
	EIC PROPERTIES PTE LTD.	-	-	-	-	913	913
	LG-MRI LLC ²	-	-	-	2,281	-	2,281
	LG-LHT Passenger Solution GmbH ³	23		23			-
	Subtotal	93,389		93,389	112,033	943	112,976
Other related parties	LG CNS Co., Ltd. and its subsidiaries	70,206	3,324	73,530	179,083	1,378,468	1,557,551
	D&O Corp. and its subsidiaries	373	-	373	147	35,658	35,805
	LG Management Development Institute	51	-	51	10	106,289	106,299
	LG SPORTS Ltd.	24	18	42	280	15,166	15,446
	LG Holdings Japan Co., Ltd.	<u> </u>	<u>-</u>	-	<u>-</u>	1,116	1,116
	Subtotal	70,654	3,342	73,996	179,520	1,536,697	1,716,217
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	1,469,890	153,183	1,623,073	586,101	3,656	589,757
	LG Uplus Corp and its subsidiaries	71,782	2,678	74,460	36,368	8,198	44,566
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	5,357	2,518	7,875	-	670	670
	HS Ad Inc. and its subsidiaries	12,625	-	12,625	192	641,955	642,147
	XI C&A Co., Ltd. and its subsidiaries ⁴	1,113	-	1,113	-	74,478	74,478
	S&I Corp. and its subsidiaries ⁴	4,355	<u> </u>	4,355	1,103	27,422	28,525
	Subtotal	1,565,122	158,379	1,723,501	623,764	756,379	1,380,143
	Total	2,140,350	267,656	2,408,006	4,535,502	2,480,303	7,015,805
				_			

(in millions of Kor	ean won)	2023								
		Inco	me transaction	ns	Expe	ense transactio	ns			
Classification	Name	Sales	Others	Total	Purchases	Others	Total			
Significantly										
influencing the	LG Corp.	3,593	-	3,593	-	173,046	173,046			
Group										
Associates	LG Display Co., Ltd. and its	545,023	121,152	666,175	3,205,969	4,077	3,210,046			
Associates	subsidiaries	343,023	121,132	000,173	3,203,909	4,077	3,210,040			
	Hitachi-LG Data Storage Inc.	210	_	210	79,396	243	79,639			
	(HLDS) and its subsidiaries	210		210	73,000	240	7 3,003			
	Acryl Inc.	-	-	-	-	2,040	2,040			
	ROBOTIS Co., Ltd.	-	-	-	-	30	30			
	Robostar Co., Ltd. and its	24	_	24	19,619	3,876	23,495			
	subsidiaries	24		27	10,010	0,070	20,400			
	SideChef Group Limited	<u>-</u> .	<u> </u>	<u>-</u>		1,288	1,288			
	Subtotal	545,257	121,152	666,409	3,304,984	11,554	3,316,538			
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret	81,726	_	81,726	159,230	17	159,247			
Joint ventures	A.S.(LGEAT)	01,720	_	01,720	155,250	17	100,247			
	EIC PROPERTIES PTE LTD.	-	-	-	-	1,175	1,175			
	LG-MRI LLC ²	22,181	-	22,181	29,346	-	29,346			
	LG-LHT Passenger Solutions	834	_	834	_	_	_			
	GmbH ³									
	Subtotal	104,741	<u> </u>	104,741	188,576	1,192	189,768			
Other related	LG CNS Co., Ltd. and its	122,161	3,056	125,217	165,604	1,018,799	1,184,403			
parties	subsidiaries	122,101	0,000	120,211	100,004	1,010,755	1,104,400			
	D&O Corp., LTD. and its	152	_	152	644	24,954	25,598			
	subsidiaries	102		102	044	24,504	20,000			
	LG Management Development	46	_	46	275	90,895	91,170			
	Institute				2.0	00,000	01,			
	LG SPORTS Ltd.	23	16	39	-	15,958	15,958			
	LG Holdings Japan Co., Ltd.	1	<u> </u>	1		6,155	6,155			
	Subtotal	122,383	3,072	125,455	166,523	1,156,761	1,323,284			
Others ¹	LG Chem Ltd., its subsidiaries and	1,340,746	51,992	1,392,738	2,514,397	15,753	2,530,150			
0	joint ventures	.,0.0,	01,002	1,002,700	2,01.,007	.0,.00	2,000,.00			
	LG Uplus Corp and its subsidiaries	59,339	2,053	61,392	50,417	5,262	55,679			
	LG HOUSEHOLD & HEALTH	1,304	2,577	3,881	826	232	1,058			
	CARE LTD and its subsidiaries		2,0							
	HS Ad Inc. and its subsidiaries	7,213	-	7,213	323	555,056	555,379			
	XI C&A Co., Ltd. and its	19,022	_	19,022	8,934	229,976	238,910			
	subsidiaries ⁴					,				
	S&I Corp. and its subsidiaries ⁴	25,740	<u> </u>	25,740	4,627	108,844	113,471			
	Subtotal	1,453,364	56,622	1,509,986	2,579,524	915,123	3,494,647			
	Total	2,229,338	180,846	2,410,184	6,239,607	2,257,676	8,497,283			

¹ Although the entities are not the related parties of the Group in accordance with KIFRS 1024, the entities belong to the large-scale business group to which the Group also belongs in accordance with the *Monopoly Regulation* and Fair Trade Act of the Republic of Korea.

² The entity was liquidated during the year ended December 31, 2024.

³ The entity was disposed of during the year ended December 31, 2024.

ii) Major outstanding balances of receivables from and payables to related parties

(in millions of Ko	orean won)				December	r 31, 2024				
			Rece	ivables			Payables			
Classification	Name	Trade receivables	Loans	Other receivables	Total	Trade payables	Borrowings	Other payables⁵	Total	
Significantly influencing the Group	LG Corp.	59	-	28,273	28,332	-	-	37,804	37,804	
Associates	LG Display Co., Ltd. and its subsidiaries	101,054	1,000,000	254,115	1,355,169	588,628	-	51,642	640,270	
-	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries Robostar Co., Ltd. and its subsidiaries	-	-	-	-	6,593 311	-	3 6,015	6,596 6,326	
	Subtotal	101,054	1,000,000	254,115	1,355,169	595,532	-	57,660	653,192	
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	15,911	-	-	15,911	11,792	-	2	11,794	
	EIC PROPERTIES PTE LTD.	-	-	-	-	-	-	88	88	
	Subtotal	15,911			15,911	11,792	_	90	11,882	
Other related parties	LG CNS Co., Ltd. and its subsidiaries	13,808	-	1,311	15,119	17,311	-	572,040	589,351	
	D&O Corp., LTD. and its subsidiaries	6	-	1,000	1,006	22	-	7,778	7,800	
	LG Management Development Institute	8	-	7	15	-	-	1,516	1,516	
	LG SPORTS Ltd.	2	-	-	2	-	-	972	972	
	LG Holdings Japan Co., Ltd.			5,666	5,666			10,202	10,202	
	Subtotal	13,824	-	7,984	21,808	17,333	-	592,508	609,841	
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	334,191	-	638,076	972,267	165,787	-	77,311	243,098	
	LG Uplus Corp and its subsidiaries	3,108	-	590	3,698	1,323	-	3,056	4,379	
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	23	-	277	300	24	-	789	813	
	HS Ad Inc. and its subsidiaries	38	-	1,226	1,264	791	-	287,156	287,947	
	Subtotal	337,360		640,169	977,529	167,925	_	368,312	536,237	
	Total	468,208	1,000,000	930,541	2,398,749	792,582	-	1,056,374	1,848,956	

⁴ Excluded from the large-scale business group under the *Monopoly Regulation and Fair Trade Act* as of March 19, 2024.

	orean won)		Recei	vahlos	December	-	Paval	bloc	
		Trade	Recei	Other		Trade	Payal	Other	
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	_	Total
Significantly influencing the Group	LG Corp.	480	-	29,911	30,391	-	-	35,829	35,829
Associates	LG Display Co., Ltd. and its subsidiaries Hitachi-LG Data	173,522	1,000,000	264,036	1,437,558	384,166	-	71,278	455,444
	Storage Inc. (HLDS) and its subsidiaries	-	-	-	-	16,618	-	519	17,137
	Robostar Co., Ltd. and its subsidiaries							9,891	9,891
	Subtotal	173,522	1,000,000	264,036	1,437,558	400,784	-	81,688	482,472
Joint ventures Sa A.	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	11,737	-	-	11,737	13,583	-	3	13,586
	EIC PROPERTIES PTE LTD.	-	-	-	-	-	-	104	104
	LG-MRI LLC ²	6,884	-	-	6,884	3,152	-	5	3,157
	LG-LHT Passenger Solutions GmbH ³	66		-	66				
	Subtotal	18,687	-	-	18,687	16,735	-	112	16,847
Other related parties	LG CNS Co., Ltd. and its subsidiaries	38,905	-	1,460	40,365	14,220	-	447,295	461,515
	D&O Corp., LTD. and its subsidiaries	1	-	1,000	1,001	21	-	7,139	7,160
	LG Management Development Institute	6	-	-	6	-	-	1,196	1,196
	LG SPORTS Ltd.	1	-	-	1	-	-	1,025	1,025
	LG Holdings Japan Co., Ltd.	-	-	5,520	5,520	-	-	-	-
	Subtotal	38,913	-	7,980	46,893	14,241	-	456,655	470,896
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures	344,768	-	254,938	599,706	349,146	-	83,222	432,368
	LG Uplus Corp and its subsidiaries	10,738	-	652	11,390	2,416	-	674	3,090
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	112	-	1,331	1,443	26	-	246	272
	HS Ad Inc. and its subsidiaries	80	-	845	925	643	-	221,259	221,902
	XI C&A Co., Ltd. and its subsidiaries ⁴	4,372	-	-	4,372	-	-	66,383	66,383
	S&I Corp. and its subsidiaries ⁴	9,837	-	407	10,244	475	-	20,282	20,757
	Subtotal	369,907		258,173	628,080	352,706		392,066	744,772
	Total								

iii) Major capital transactions and others with related parties

(in millions of	Korean won)					2024		
			Dividen	Cash distributio		cing loan sactions	Financing be transact	
		Dividend income	d paid	n (reduction)	Loans	Collections	Borrowings	Repayments
Significantly influencing the Group	LG Corp.	-	71,623	-	-	-	-	29,814
Associates	LG Display Co., Ltd. ¹	-	-	436,031				2,130
	Ericsson-LG Co., Ltd.	17,500	-	-	-	-	-	-
	Mirae Asset-LG Electronics New Growth Fund I	3,436	-	8,529	-	-	-	-
	NOVA Prime Fund I, LP	-	-	5,584	-	-	-	-
	Rinse, Inc.	-	-	36,852	-	-	-	-
	LG-LHT Aircraft Solutions GmbH ³	-	-	5,330	-	-	-	-
	LG-LHT Passenger Solutions GmbH ³			5,330				
	Subtotal	20,936	-	497,656	-	-	-	2,130
Other related parties	LG CNS Co., Ltd. and its subsidiaries	-	-	-	-	-	5,280	1,853
	D&O Corp. and its subsidiaries	-	-	-	-	-	469	1,708
	LG Holdings Japan Co., Ltd.						-	5,156
	Subtotal						5,749	8,717
	Total	20,936	71,623	497,656	-	-	5,749	40,661

¹ Although the entities are not the related parties of the Group in accordance with KIFRS 1024, the entities belong to the large-scale group to which the Group also belongs in accordance with the *Monopoly Regulation and Fair Trade Act* of the Republic of Korea.

² The entity was liquidated during the year ended December 31, 2024.

³ The entity was disposed of during the year ended December 31, 2024

⁴ Excluded from the large-scale business group under the *Monopoly Regulation and Fair Trade Act* as of March 19, 2024.

⁵ Other payables include lease liabilities.

(in millions of Korean won)					2023			
	·	Dividend	Dividend	Cash distribution		cing loan actions		borrowing actions ⁴
		income	paid	(reduction)	Loans	Collections	Borrowings	Repayments
Significantly influencing the Group	LG Corp.	-	38,566	-		-	29,889	27,673
Associates	LG Display Co., Ltd. 1	-	-	-	1,000,000	-	-	-
	Ericsson-LG Co., Ltd.	11,250	-	-	-	-	-	-
LP LG- CC LLC	NOVA Prime Fund I, LP	-	-	8,502	-	-	-	-
	LG-MRI LLC ²	317	-	-			-	
	CCP-LGE OWNER, LLC	1	-	-	-	-	-	-
	LG-LHT Aircraft Solutions GmbH ³	-	-	12,448	-	-	-	-
	LG-LHT Passenger Solutions GmbH ³ GUANGDONG	-	-	13,839	-	-	-	-
	SMART LIFE TECHNOLOGY CO., LTD	-	-	321	-	-	-	-
	FITNESSCANDY CO., LTD. ²	-	-	1,377	-	-	-	-
	Subtotal	11,568		36,487	1,000,000	-	-	-
Other related parties	LG CNS Co., Ltd. and its subsidiaries		-	-		-	-	121
	D&O Corp. and its subsidiaries	-	-	-	-	-	409	1,532
	Subtotal			-		-	409	1,653
	Total	11,568	38,566	36,487	1,000,000	_	30,298	29,326

¹ As of December 31, 2024, the Parent Company has entered into a loan agreement with LG Display Co., Ltd. for ₩1,000,000 million, and has been provided with collateral related thereto. As of December 31, 2024, ₩1,000,000 million has been executed.

(b) The compensation paid or payable to key management personnel for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Salaries and other short-term benefits	17,234	12,166
Retirement benefits	1,680	2,091
Other long-term benefits	2	2
Total	18,916	14,259

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

² The entity was liquidated during the year ended December 31, 2024.

³ The entity was disposed of during the year ended December 31, 2024.

⁴ Repayments include repayments of lease liabilities.

- (c) There is no collateral provided by the Group for the financial support of related parties as of December 31, 2024 and 2023.
- (d) The Group has not recognized any bad debt expense or allowance for trade receivables from related parties as of December 31, 2024 and 2023.

37. Risk management

37.1 Financial risk management

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

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

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

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

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

(a) Market risk

i) Foreign exchange risk

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

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

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

As of December 31, 2024 and 2023 if the foreign exchange rate of the Korean won fluctuated for monetary assets and liabilities denominated in major foreign currency other than functional currency by 10% while holding other variables constant, the impact on profit (loss) before tax would be as follows:

	December	31, 2024	December 31, 2023		
(in millions of Korean won)	10% increase	10% decrease	10% increase	10% decrease	
USD/KRW	104,160	(104,160)	63,185	(63,185)	
EUR/KRW	27,940	(27,940)	30,146	(30,146)	

ii) Interest rate risk

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

The Group minimizes its borrowings from others and optimizes its deposits by expanding internal finance sharing. The Group periodically monitors both domestic and foreign interest rate trends to establish countermeasures against changes in interest rates.

If interest rates fluctuate by 1%p with all other variables held constant, the effects on income and expenses related to borrowings and deposits held by financial institutions with variable interest rates for each of the two years in the period ended December 31, 2024 are as follows:

	202	24	2023		
(in millions of Korean won)	1%p increase	1%p decrease	1%p increase	1%p decrease	
Interest income	75,574	(75,574)	84,825	(84,825)	
Interest expense	13,127	(13,127)	18,745	(18,745)	

iii) Details of derivatives contracts are as follows:

Derivatives for hedging purposes

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

Details of hedging instruments are as follows:

		Contracted amount (in	Contracted currency	Interest rate (paid)	Types of	Starting	Expiration	Carrying (in mill Koreal	ions of
Classification	Contractor	millions)	rate	(%)	hedging	date	date	Assets	Liabilities
	Woori Bank and others	USD 1,968 (USD/KRW)	1,067.90 ~ 1,380.30	1.88 ~ 4.56	Cash flow hedge	2017.10.23 ~ 2024. 9.24	2025. 4.23 ~ 2031. 7.28	377,895	-
Cross- currency	CITI Bank	EUR 95 (EUR/KRW)	1,312.50	3.84	Cash flow hedge	2022. 7.15	2028. 1.14	17,054	-
swap	CITI Bank and others	JPY 22,000 (JPY/KRW)	8.7 ~ 10.0	4.06 ~ 4.38	Cash flow hedge	2023.4.4 ~ 2023.11.24	2029. 4. 4 ~ 2029. 5.24	4,382	13,167
Interest rate swap	Woori Bank and others	KRW 1,266,821 / USD 203	-	2.75 ~ 4.87	Cash flow hedge	2014. 4.30 ~ 2024. 3.29	2027. 1.15 ~ 2032.11.16	13,978	18,671
Currency forward	ING and others	EUR 47 (EUR/USD)	0.94		Fair value hedge	2024.12.19	2025.12.17		167

Interest rates received for the above derivative contracts are equal to annual interest rates of borrowings (See Note 16).

Details of hedged items are as follows:

(in millions of Korean won)	Types of hedging	Hedged items	amount	fair value (net of tax)
Cross-currency swap	Cash flow hedge	Borrowings	3,152,020	(244,814)
Interest rate swap	Cash flow hedge	Borrowings	1,356,731	(795)
(in millions of Korean won)	Types of hedging	Hedged items	Carrying amount	Changes in fair value (net of tax)
Currency forward	Fair value hedge	Borrowings	_	161

The results of hedge accounting are as follows:

Fair value

hedge

(in millions of Korean won)	Types of hedging	Changes in fair value of derivatives (net of tax)	Line items in profit or loss	Reclassified to profit or loss (net of tax)	Other comprehensive loss (net of tax)	Accumulated other comprehensive income (loss)
Cross-currency swap	Cash flow hedge	244,814	Interest expense and exchange differences	(252,443)	(7,630)	(5,380)
Interest rate swap	Cash flow hedge	795	Interest expense	(10,464)	(9,669)	(3,968)
(in millions of Korean won)	Types of hedging	Changes in fair va derivatives (net of tax)	Lin	e items in fit or loss	Effective risk hedging (pre-tax)	Ineffective risk hedging (pre- tax)

(161)

Exchange differences

(161)

Derivatives for trading purposes

Currency forward contracts

Currency forward

The Group entered the currency forward contracts and others to manage the risk against possible future changes in foreign exchange rates and interest rates. Details of currency forward, interest rate swap, option contracts and embedded derivatives of the Group, as of December 31, 2024, and related profit or loss for the year ended December 31, 2024 are as follows:

(in millions of Korean won)	Purchase	Sale	Gain (Loss) on valuation	Gain (Loss) on transaction
Currency forward	693,915	675,396	6,520	13,806
Currency swap	-	-	-	22,899
Interest rate swap	-	-	(2,213)	(30)
Option contracts	-	-	2,544	-
Embedded derivatives	-	_	(15.337)	-

Stock purchase contracts

According to the put options granted to employees to whom stock options of Cybellum Technologies Ltd. were granted, the Group recognizes $\mbox{$W$}3,489$ million of derivative liabilities as of December 31, 2024 and $\mbox{$W$}1,032$ million of loss on derivatives valuation during the year ended December 31, 2024.

The Group also recognized a derivative financial asset of $\mbox{$W$22,590$}$ million as it acquired a call option to purchase Series C-1 shares of Bear Robotics, Inc. for the year ended December 31, 2024. Additionally, the Group recognized a derivative valuation loss of $\mbox{$W$18,231$}$ million related to this contract for the year ended December 31, 2024.

iv) Price risk

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

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

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

	December	31, 2024	December 31, 2023	
(in millions of Korean won)	30% increase	30% decrease	30% increase	30% decrease
KOSDAQ	12,461	(12,461)	4,556	(4,556)
NASDAQ	62	(62)	98	(98)
NYSE	1,482	(1,482)	2,726	(2,726)
Austrian Traded Index	255	(255)	231	(231)

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

(b) Credit risk

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

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

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

(in millions of Korean won)	December 31, 2024	December 31, 2023
Trade receivables with insurance or collateral		
Excellent	4,425,475	2,437,946
Good	1,218,602	671,630
Fair	2,465,699	1,629,571
Poor ¹	551,861	1,663,480
Subtotal	8,661,637	6,402,627
Trade receivables without insurance or collateral		
Tier 1	340,736	673,329
Tier 2	525,776	588,848
Tier 3	1,279,203	847,191
Subtotal	2,145,715	2,109,368
Total	10,807,352	8,511,995

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

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

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

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

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

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

Tier 2 – Debtors with domestic and global credit rating other than Tier 1

Tier 3 – Small debtors without credit history

The credit rating of cash equivalents and deposits held by financial institutions estimated by the Group using external credit rating criteria as of December 31, 2024 and 2023 is as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Excellent	7,551,890	8,037,889
Good	247,195	639,067
Others	14,269	31,649
Total	7,813,354	8,708,605

Excellent: A- and above (Global credit rating agency such as S&P), AA+ and above (Domestic credit rating agency such as Korea Investors Service)

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

Others: Financial deposit without credit rating

(c) Liquidity risk

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

The Group maintains adequate amount of cash and committed credit facilities in Kookmin Bank, Shinhan Bank and Standard Chartered Bank to cope with potential liquidity risk arising from financial distress.

In addition, the Group is able to source funds any time in the domestic and international financial markets because it has good investment credit grades of AA Stable from Korea Investors Service, Korea Ratings and NICE Information Service, BBB from Standard & Poors, and Baa2 from Moody's as of December 31, 2024.

i) Cash flow information on maturity of financial liabilities as of December 31, 2024 and 2023 is as follows:

	December 31, 2024				
(in millions of Korean won)	Total	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years
Trade payables	9,884,770	9,884,770	-	-	-
Borrowings	15,750,257	3,474,912	2,410,448	6,678,027	3,186,870
Lease liabilities	1,445,351	423,265	308,046	424,953	289,087
Other payables	6,049,696	5,729,548	275,858	13,250	31,040
Other financial liabilities	86,340	962	4,057	9,175	72,146
Total	33,216,414	19,513,457	2,998,409	7,125,405	3,579,143

	December 31, 2023				
(in millions of Korean won)	Total	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years
Trade payables	9,427,288	9,427,288	-	-	-
Borrowings	15,338,523	3,101,393	2,311,301	5,731,781	4,194,048
Lease liabilities	1,341,187	370,035	280,387	460,881	229,884
Other payables	4,837,025	4,624,116	99,804	112,550	555
Other financial liabilities	70,780	3,016	1,960	7,110	58,694
Total	31,014,803	17,525,848	2,693,452	6,312,322	4,483,181

The above cash flows are calculated at nominal value based on the earliest maturity dates and include cash flows of principal and interests. The Group's trading portfolio derivative within other financial liabilities that are not qualified for hedge accounting have been included at their fair value of $\forall 2,685$ million (2023: $\forall 2,567$ million) within the less than 1-year time bucket. This is because the contractual maturities are not essential for an understanding of the timing of the cash flows. These contracts are managed on a net-fair value basis rather than by maturity date. Derivatives for cash flow hedges from changes in interest rate and exchange rate are reflected in the cash flows of related borrowings.

37.2 Capital risk management

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

Liability to equity ratio and net borrowing ratio as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won, except for ratios)	December 31, 2024	December 31, 2023
Liability(A)	40,417,925	36,742,257
Equity(B)	25,211,664	23,498,536
Cash and cash equivalents(C)	7,573,036	8,487,563
Borrowings and lease liabilities(D)	15,242,402	14,513,834
Liability to equity ratio(A/B)	160.3%	156.4%
Net borrowings ratio((D-C)/B)	30.4%	25.6%

37.3 Fair value estimation

(a) The carrying amounts and fair values of the Group's financial assets and liabilities as of December 31, 2024 and 2023 are as follows:

	December 31, 2024				
	Curr	ent	Non-cui	rent	
(in millions of Korean won)	Carrying amount	Fair value	Carrying amount	Fair value	
Assets at fair value					
Financial assets at fair value through profit or loss					
Other financial assets and others	13,450	13,450	167,590	167,590	
Financial assets at fair value through other comprehensive income					
Trade receivables	2,652,562	1	-	-	
Other financial assets	-	-	140,904	140,904	
Derivatives for hedging purposes					
Other financial assets	62,776	62,776	350,533	350,533	
Assets at amortized cost					
Financial assets at amortized cost					
Cash and cash equivalents	7,573,036	1	-	-	
Deposits held by financial institutions	46,681	1	193,637	1	
Trade receivables	7,596,479	1	131,664	131,664	
Other receivables	1,583,477	1	1,022,169	986,210	
Other assets					
Trade receivables	286,573	1	1,514,052	1,514,052	
Total	19,815,034	_	3,520,549		

	December 31, 2024				
	Current Non-curr			rrent	
	Carrying		Carrying		
(in millions of Korean won)	amount	Fair value	amount	Fair value	
Liabilities at fair value					
Financial liabilities at fair value through profit or loss					
Other financial liabilities and others	2,685	2,685	25,201	25,201	
Derivatives for hedging purposes					
Other financial liabilities	167	167	31,838	31,838	
Liabilities at amortized cost					
Financial liabilities at amortized cost					
Trade payables	9,884,770	1	-	-	
Borrowings	2,889,260	1	11,093,282	11,597,228	
Other payables	5,729,464	1	319,949	318,701	
Other liabilities					
Lease liabilities	385,675	2	874,185	2	
Other financial liabilities	115	3	-	-	
Total	18,892,136		12,344,455		

	December 31, 2023				
	Current		Non-cur	Non-current	
(in millions of Korean won)	Carrying amount	Fair value	Carrying amount	Fair value	
Assets at fair value					
Financial assets at fair value through profit or loss					
Other financial assets	78,862	78,862	127,152	127,152	
Financial assets at fair value through other comprehensive income					
Trade receivables	2,265,310	1	-	-	
Other financial assets	-	-	117,872	117,872	
Derivatives for hedging purposes					
Other financial assets	23,192	23,192	155,048	155,048	
Assets at amortized cost					
Financial assets at amortized cost					
Cash and cash equivalents	8,487,563	1	-	-	
Deposits held by financial institutions	26,386	1	195,189	195,189	
Trade receivables	6,903,227	1	109,029	109,029	
Other receivables	595,793	1	1,779,637	1,717,168	
Other assets					
Trade receivables	96,485	1	530,410	530,410	
Total	18,476,818	· _	3,014,337		

	December 31, 2023					
	Curr	ent	Non-cu	rrent		
(in millions of Korean won)	Carrying amount	Fair value	Carrying amount	Fair value		
Liabilities at fair value						
Financial liabilities at fair value through profit or loss						
Other financial liabilities	9,177	9,177	8,985	8,985		
Derivatives for hedging purposes						
Other financial liabilities	-	-	43,769	43,769		
Liabilities at amortized cost						
Financial liabilities at amortized cost						
Trade payables	9,427,288	1	-	-		
Borrowings	2,601,636	1	10,719,175	10,466,597		
Other payables	4,624,046	1	212,648	210,745		
Other liabilities						
Lease liabilities	336,772	2	856,251	2		
Other financial liabilities	115	3	-			
Total	16,999,034		11,840,828			

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

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

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

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

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

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

- Level 1: Financial instruments measured at the quoted prices in an active market for identical assets or liabilities are included in Level 1. Assets or liabilities categorized within Level 1 are financial instruments such as marketable equity securities and others.
- Level 2: When financial instruments are measured by using a discounted cash flow, if all significant inputs required to measure the fair value of an instrument are observable, the instrument is included in Level 2. Assets or liabilities categorized within Level 2 are financial instruments such as derivative financial instruments.
- Level 3: When financial instruments are measured by using a discounted cash flow and others, if one or more of the significant inputs are unobservable in the market, the instrument is included in Level 3. The assets or liabilities categorized within Level 3 are unmarketable equity securities and debt securities and others.

The fair value of financial instruments traded in active markets is based on quoted market prices as of December 31, 2024. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, an entity within the same industry, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price for financial assets held by the Group is the closing price as of December 31, 2024. These instruments are included in Level 1. Instruments included in Level 1 comprise primarily equity investments and others classified as financial assets at fair value through other comprehensive income.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses various valuation techniques that the Group develops or figures that external valuation agencies provide, and makes judgements based on current market conditions. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to measure the fair value of an instrument are observable, the instrument is included in Level 2.

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

ii) Financial instruments measured at fair value

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value as of December 31, 2024 and 2023 are as follows:

		December 31, 2024				
(in millions of Korean won)	Level 1	Level 2	Level 3	Total		
Assets						
Other financial assets						
Financial assets at fair value through other comprehensive income	46,398	-	94,506	140,904		
Financial assets at fair value through profit or loss	552	19,021	161,467	181,040		
Derivatives for hedging purposes	-	413,309	-	413,309		
Liabilities						
Other financial liabilities						
Financial liabilities at fair value through profit or loss	-	6,174	21,712	27,886		
Derivatives for hedging purposes	-	32,005	-	32,005		

		December 31, 2023				
(in millions of Korean won)	Level 1	Level 2	Level 3	Total		
Assets						
Other financial assets						
Financial assets at fair value through other comprehensive income	30,668	-	87,204	117,872		
Financial assets at fair value through profit or loss	74,750	7,197	124,067	206,014		
Derivatives for hedging purposes	-	178,240	-	178,240		
Liabilities						
Other financial liabilities						
Financial liabilities at fair value through profit or loss	-	11,634	6,528	18,162		
Derivatives for hedging purposes	-	43,769	-	43,769		

The above fair value amounts are recurring fair value measurements.

Valuation technique and inputs for fair value measurements categorized within Level 2 as of December 31, 2024 and 2023 are as follows:

	Fair v	/alue		
(in millions of Korean won)	December 31, 2024	December 31, 2023	Valuation techniques	Inputs
Assets				
Other financial assets				
Financial assets at fair value through profit or loss	19,021	7,197	Discounted cash flow and binomial model	Discount rate and exchange rate share price and volatility
Derivatives for hedging purposes	413,309	178,240	Discounted cash flow	Discount rate and exchange rate
Liabilities				
Other financial liabilities				
Financial liabilities at fair value through profit or loss	6,174	11,634	Discounted cash flow and binomial model	Discount rate and exchange rate share price and volatility
Derivatives for hedging purposes	32,005	43,769	Discounted cash flow	Discount rate and exchange rate

⁻ Valuation technique and inputs for fair value measurements categorized within Level 2

- Valuation technique and inputs for fair value measurements categorized within Level 3

As of December 31, 2024 and 2023, financial instruments measured at fair value categorized within Level 3 comprise unmarketable equity securities, debt securities, other financial liabilities and are measured using discounted cash flow considering discount rate and others as inputs.

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

Financial instruments not measured at fair value but for which the fair value is disclosed as of December 31, 2024 and 2023 are as follows:

		December	31, 2024	
(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Non-current trade receivables	-	-	1,645,716	1,645,716
Non-current other receivables	-	-	986,210	986,210
Liabilities				
Non-current borrowings	-	-	11,597,228	11,597,228
Non-current other payables	-	-	318,701	318,701

		December	31, 2023	
(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Non-current trade receivables	-	-	639,439	639,439
Non-current other receivables	-	-	1,717,168	1,717,168
Liabilities				
Non-current borrowings	-	-	10,466,597	10,466,597
Non-current other payables	-	-	210,745	210,745

⁻ Valuation technique and inputs for fair value measurements categorized within Level 2

As of December 31, 2024 and 2023, there are no financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within Level 2.

- Disclosure in relation to fair value measurements categorized within Level 3

Valuation technique, inputs and unobservable inputs of financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within Level 3 as of December 31, 2024 and 2023 are as follows:

	Decembe	r 31, 2024	December	r 31, 2023			I, 2023 Significant but		Range of significant but	
(in millions of Korean won)	Carrying amount	Fair value	Carrying amount	Fair value	Valuation techniques	Inputs	unobservable inputs	unobservable inputs		
Assets										
Non-current trade receivables	1,645,716	1,645,716	639,439	639,439	Discounted cash flow	Discount rate and exchange rate	Discount rate	5.2% ~ 6.1%		
Non-current other receivables	1,022,169	986,210	1,779,637	1,717,168	Discounted cash flow	Discount rate and exchange rate	Discount rate	1.9% ~ 10.8%		
Liabilities										
Non-current borrowings	11,093,282	11,597,228	10,719,175	10,466,597	Discounted cash flow	Discount rate and exchange rate	Discount rate	3.1% ~ 4.7%		
Non-current other payables	319,949	318,701	212,648	210,745	Discounted cash flow	Discount rate and exchange rate	Discount rate	3.2% ~ 4.1%		

38. Business combinations

(a) On June 5, 2024, the Group acquired 80.0% of shares in Athom Holding B.V. and its subsidiaries for the purposes of acquiring and enhancing its capacity in smart space business. The following table summarizes the consideration paid and the fair value of assets acquired and liabilities assumed:

(in millions of Korean won)	Amount
Consideration	
Cash and cash equivalents	69,106
Other liabilities ¹	17,251
Recognized amounts of identifiable assets acquired and liabilities assumed	
Current assets	
Cash and cash equivalents	1,967
Trade receivables ²	853
Other receivables ²	118
Inventories	4,400
Other assets	168
Non-current assets	
Property, plant and equipment	186
Intangible assets	10,338
Current liabilities	
Trade payables	106
Other liabilities	565
Provisions	446
Non-current liabilities	
Deferred tax liabilities	2,667
Fair value of total identifiable net assets	14,246
Non-controlling interests	
Goodwill ³	72,111

¹ The Group recognized this obligation as a financial liability upon the business combination, in accordance with the conditional purchase agreement for the remaining shares of Athom Holding B.V.

The direct costs related to the acquisition arising from the business combination amount to \forall 2,134 million and are expensed as incurred.

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

 $^{^3}$ Goodwill of orall 72,111 million is assumed from the business combination with Athom Holding B.V. as the Group's sales increased thereafter and is not included in a non-deductible expense for taxation purposes.

The sales and net loss of Athom Holding B.V. and its subsidiaries, which have been included in the consolidated statement of profit or loss from June 5, 2024 (the acquisition date), amount to $\mbox{$W6,815$}$ million and $\mbox{$W1,671$}$ million, respectively. If Athom Holding B.V. and its subsidiaries had been included in the scope of consolidation from January 1, 2024, the sales and net income that would have been recorded in the consolidated statement of profit or loss are as follows:

(in millions of Korean won)	Pre-adjustment	Adjustment	Post-adjustment
Net sales	87,728,182	3,936	87,732,118
Income (loss)	591,365	405	591,770

39. Assets and liabilities classified as held for sale

(a) Details of assets classified as held for sale as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024 ¹	December 31, 2023 ²
Assets held for sale		
Land	682	663
Building	2,929	3,287
Machinery	-	198
Other property, plant and equipment	7	7
Total	3,618	4,155

¹ The sale is in progress as of December 31, 2024 and expected to be completed by 2025.

- (b) Assets held for sale were measured at fair value less costs to sell before the reclassification, and there is no related impairment loss recognized.
- (c) Details of other components of equity as held for sale as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Exchange differences on translation of foreign operations	(457)	(136)

² The sale of machinery was completed for the year ended December 31, 2024 and the sale of buildings and other assets held by the Group is in progress.

40. Discontinued operations

In 2024, the Group discontinued the operations of the battery pack business in order to focus on the Group's core business through firmwide resource efficiency and to secure financial resources for preparing new business for future growth by improving its financial structure.

Profit and loss from discontinued operations for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Net sales	134	1,965,902
Operating income (loss)	(342,036)	(102,756)
Profit (Loss) before income tax	(380,714)	(143,743)
Income tax expense (benefit)	(98,804)	(36,428)
Loss for the year, net of tax	(281,910)	(107,315)

Cash flows from discontinued operations for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024	2023
Net cash flows from (used in) operating activities	(106,733)	(310,441)
Net cash flows from (used in) investing activities	13,472	433
Net cash flows from (used in) financing activities	93,261	310,008

41. Approval of the consolidated financial statements

The consolidated financial statements of the Group were approved by the Board of Directors on January 22, 2025, and are scheduled to be finally approved at the regular general meeting of shareholders to be held on March 25, 2025.

42. Events after the reporting period

On January 22, 2025, the Board of Directors resolved to acquire a 30% stake in Bear Robotics, Inc., in accordance with an existing shareholders' agreement.