LG Electronics

Consolidated Financial Statements December 31, 2022 and 2021

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

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

Opinion

We have audited the accompanying consolidated financial statements of LG Electronics Inc. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2022 and 2021, and the consolidated statements of profit or loss, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

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

Key Audit Matters

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

(a) Impairment test of property, plant and equipment, intangible assets and others

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

The Group recognized W691.4 billion of the impairment loss to a Cash Generating Unit (CGU) consisting of ZKW Holdings GmbH, its subsidiaries and related entities (hereinafter referred to as "ZKW") for the year ended December 31, 2021. The Group performed an impairment test on the ZKW CGU as an impairment indication was identified during the year ended December 31, 2022. As a result, no impairment loss was recognized. However, we determined the impairment test of property, plant and equipment, intangible assets and others as a key audit matter given the actual business performance compared to the business plan estimation was decreased due to impact of various economic conditions, and the level of management's judgments involved in the value-in-use assessment used in impairment testing is significant.

How our audit addressed the Key Audit Matter

We performed the following audit procedures related to the assessment of value in use performed by the Group. We also involved our valuation specialists when performing such audit procedures. Our audit procedures included:

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

(b) Provisions for GM recall

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

The Group recognized $\forall 1,429.4$ billion of provisions expected to be incurred in accordance with General Motors Company (hereinafter referred to as "GM")'s voluntary recall decision in 2021 due to defects in electric vehicle batteries supplied to GM. As settlement and payment were made during the year ended December 31, 2022, the provisions were decreased to $\forall 363.2$ billion. However, due to the fluctuations in related estimation factors, we determined the provisions for GM recall as a key audit matter given the level of management's judgments involved in the estimation of provisions is significant.

How our audit addressed the Key Audit Matter

We performed the following audit procedures related to recognition and measurement of provisions for GM recall.

- Obtaining an understanding of the accounting policies and internal controls related to recognition and measurement of provisions
- Testing internal controls such as the management's review and approval of significant judgements used in recognition and measurement of provisions
- Performing review for determination of significant assumptions used in measurement of provisions and detailed calculations

Other Matter

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

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

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

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.

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

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

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

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

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

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

We also provide those charged with governance with a statement that we have complied with relevant

ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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

The engagement partner on the audit resulting in this independent auditor's report is Sang-Woo Nam, Certified Public Accountant.

Seoul, Korea March 17, 2023

This report is effective as at March 17, 2023, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

LG Electronics Consolidated Statements of Financial Position December 31, 2022 and 2021

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LG Electronics Consolidated Statements of Profit or Loss Years Ended December 31, 2022 and 2021			
(in millions of Korean won, except per share amounts)	Notes	2022	2021
Continuing operations			
Net sales	28	83,467,318	73,907,984
Cost of sales	29	63,231,088	55,010,762
Gross profit (loss)	-	20,236,230	18,897,222
Selling and marketing expenses Administrative expenses Research and development expenses Service costs	29,30 29,30 29,30 29,30 29,30	10,700,361 1,788,544 2,397,333 1,799,020	9,080,366 1,410,710 2,092,951 2,255,198
Operating profit (loss)		3,550,972	4,057,997
Financial income Financial expenses Gain (Loss) from equity method valuation Other non-operating income Other non-operating expenses	31 32 14 33 34	1,038,184 1,231,875 (1,168,026) 3,852,929 3,502,373	588,909 660,571 448,881 1,864,071 2,460,391
Profit (Loss) before income tax Income tax expense Profit (Loss) from continuing operations	19 _	2,539,811 532,307 2,007,504	3,838,896 1,057,777 2,781,119
	-	_,	_,,
Discontinued operations Profit (Loss) from discontinued operations	-	(144,381)	(1,366,147)
Profit (Loss) for the year	-	1,863,123	1,414,972
Profit (Loss) for the year attributable to:			
Owners of the Parent Company Profit (Loss) from continuing operations Profit (Loss) from discontinued operations	-	1,340,750 (144,308)	2,396,717 (1,365,007)
Non-controlling interests Profit (Loss) from continuing operations Profit (Loss) from discontinued operations	-	<u>1,196,442</u> 666,754 <u>(73)</u> 666,681	1,031,710 384,402 (1,140) 383,262
Earnings (Losses) per share attributable to owners of the Parent Company during the year <i>(in Korean won)</i> :	- 35		
Earnings (losses) per ordinary share From continuing operations From discontinued operations		6,640 7,441 (801)	5,725 13,305 (7,580)
Earnings (losses) per preferred share From continuing operations From discontinued operations		6,690 7,491 (801)	5,775 13,355 (7,580)

LG Electronics Consolidated Statements of Comprehensive Income Years Ended December 31, 2022 and 2021

(in millions of Korean won)	Notes	2022	2021
Profit (Loss) for the year		1,863,123	1,414,972
Other comprehensive income (loss) for the year, net of tax			
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of the net defined benefit liability	20	324,767	194
Share of remeasurements of associates	14	48,057	(61,592)
Financial assets at fair value through other comprehensive income	8	(24,368)	(15,129)
Items that will be reclassified subsequently to profit or loss:			
Share of other comprehensive income (excluding remeasurements) of	14	(01.000)	050 440
associates and joint ventures		(24,988)	256,448
Cash flow hedges	40	100,732	66,098
Exchange differences on translation of foreign operations		322,133	658,424
Other comprehensive income (loss) for the year, net of tax		746,333	904,443
Total comprehensive income (loss) for the year, net of tax	_	2,609,456	2,319,415
Comprehensive income (loss) for the year, net of tax, attributable to:			
Owners of the Parent Company		1,911,429	1,888,995
Non-controlling interests		698,027	430,420
Total comprehensive income (loss) for the year, net of tax		2,609,456	2,319,415

LG Electronics Consolidated Statements of Changes in Equity Years Ended December 31, 2022 and 2021

	_		Attributable	to owners of the	Parent Company				
(in millions of Korean won)	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 at January 1, 2021		3,992,348	13,652,837	(1,994,842)	(3,079)	(209,764)	15,437,500	2,104,625	17,542,125
Total comprehensive income (loss):									
Profit (Loss) for the year		-	1.031.710	-	-	-	1.031.710	383,262	1.414.972
Remeasurements of the net defined benefit liability	20	-	27.651	-	-	-	27.651	(27,457)	194
Share of remeasurements of associates	14	-	(61,592)	-	-	-	(61,592)	(,,	(61,592)
Financial assets at fair value through other			(= :,===)				(,)		(= .,===)
comprehensive income	8	-	(81)	(15,122)	-	-	(15,203)	74	(15,129)
Share of other comprehensive income (excluding remeasurements) of									
associates and joint ventures	14	-	-	256,448	-	-	256,448	-	256,448
Cash flow hedges	40	-	-	65,096	-	-	65,096	1,002	66,098
Exchange differences									
on translation of foreign operations	-	-	-	569,507	15,378		584,885	73,539	658,424
Total comprehensive income (loss)	-	-	997,688	875,929	15,378	<u> </u>	1,888,995	430,420	2,319,415
Transactions with owners:									
Dividends	24	-	(216,938)	-	-	-	(216,938)	(62,709)	(279,647)
Changes in controlling interests in subsidiaries		-	-	-	-	121,086	121,086	390,706	511,792
Business combination	41		-	-			-	4,348	4,348
Total transactions with owners	-	-	(216,938)	-	-	121,086	(95,852)	332,345	236,493
Balance at December 31, 2021	-	3,992,348	14,433,587	(1,118,913)	12,299	(88,678)	17,230,643	2,867,390	20,098,033
						()			
Balance at January 1, 2022		3,992,348	14,433,587	(1,118,913)	12,299	(88,678)	17,230,643	2,867,390	20,098,033
Total comprehensive income (loss):									
Profit (Loss) for the year		-	1,196,442	-	-	-	1,196,442	666,681	1,863,123
Remeasurements of the net defined benefit liability	20	-	309,989	-	-	-	309,989	14,778	324,767
Share of remeasurements of associates	14	-	48,057	-	-	-	48,057	-	48,057
Financial assets at fair value through other									
comprehensive income	8	-	(139)	(24,456)	-	-	(24,595)	227	(24,368)
Share of other comprehensive income									
(excluding remeasurements) of				()					
associates and joint ventures	14	-	-	(24,988)	-	-	(24,988)	-	(24,988)
Cash flow hedges	40	-	-	98,050	-	-	98,050	2,682	100,732
Exchange differences on translation of foreign operations				319,935	(11,461)		308,474	13,659	322,133
Total comprehensive income (loss)	-	<u> </u>	1.554.349	368,541	(11,461)		1,911,429	698,027	2,609,456
,	-		1,004,049	300,341	(11,401)		1,911,429	090,027	2,009,400
Transactions with owners:									
Dividends	24	-	(153,915)	-	-		(153,915)	(77,553)	(231,468)
Changes in controlling interests in subsidiaries		-	-	-	-	3,951	3,951	(6,535)	(2,584)
Business combination	41	-	-	-	-	-	-	4,000	4,000
Issuance of ordinary shares of subsidiaries	-	-				<u> </u>	-	14,560	14,560
Total transactions with owners	-	-	(153,915)	-	-	3,951	(149,964)	(65,528)	(215,492)
Balance at December 31, 2022	_	3,992,348	15,834,021	(750,372)	838	(84,727)	18,992,108	3,499,889	22,491,997

LG Electronics Consolidated Statements of Cash Flows Years Ended December 31, 2022 and 2021

(in millions of Korean won)	Notes	2022	2021
Cash flows from operating activities			
Cash generated from (used in) operations	36	4,343,661	3,585,375
Interest received		187,103	82,224
Interest paid		(374,707)	(318,512)
Dividends received		102,537	11,532
Income tax paid		(1,150,755)	(683,237)
Net cash inflow (outflow) from operating activities		3,107,839	2,677,382
Cash flows from investing activities			
Decrease in deposits held by financial institutions		20,029	8,774
Decrease in other receivables		137,971	89,576
Proceeds from withdrawal and disposal of other financial assets		102,517	75,836
Proceeds from disposal of property, plant and equipment		320,227	311,431
Proceeds from disposal of intangible assets		134,620	12,695
Proceeds from withdrawal and disposal of investments in			
associates and joint ventures		1,977	
Proceeds from disposal of assets held for sale		301,283	96,113
Transfer of business	36	142,086	568,676
Increase in deposits held by financial institutions		(35,870)	(5,950
Increase in other receivables		(331,436)	(128,372
Acquisition of other financial assets		(183,281)	(92,665
Acquisition of property, plant and equipment		(3,116,817)	(2,648,065
Acquisition of intangible assets		(635,971)	(611,026
Acquisition of investments in associates and joint ventures		(59,376)	(38,169
Business combination	41	(25,505)	(104,390
Net cash inflow (outflow) from investing activities		(3,227,546)	(2,465,536
Cash flows from financing activities			
Proceeds from borrowings		4,590,931	1,387,368
Increase in non-controlling interests		14,585	472,960
Repayments of borrowings		(3,586,668)	(1,543,349
Repayments of lease liabilities		(330,581)	(308,015
Dividends paid		(239,947)	(291,232)
Net cash inflow (outflow) from financing activities		448,320	(282,268
Effects of exchange rate changes on cash and cash equivalents		(116,140)	230,414
		<u> </u>	
Net increase (decrease) in cash and cash equivalents		212,473	159,992
Cash and cash equivalents included in assets held for sale		50.074	F0 F0
at the beginning of the year	~	58,371	53,586
Cash and cash equivalents at the beginning of the year	6	6,051,516	5,896,309
Cash and cash equivalents included in assets held for sale	10		/== == ··
at the end of the year	42		(58,371)
Cash and cash equivalents at the end of the year	6	6,322,360	6,051,516

1. General Information

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

As at December 31, 2022, LG Corp. owns 33.7% of the Parent Company's total shares, excluding preferred shares, while financial institutions, foreign investors and others own the rest.

The Parent Company and its subsidiaries (collectively referred to as the "Group") operate following five major business segments: Home Appliance & Air Solution segment manufactures and sells refrigerators, washing machines, vacuum cleaners, and residential and commercial air conditioners; Home Entertainment segment manufactures and sells TVs and digital media products; Vehicle component Solutions segment designs and manufactures automobile parts; Business Solutions segment manufactures and sells monitors, PCs, information displays and others; and LG Innotek Co., Ltd. operates LED, optics solutions, substrate materials and automotive components businesses. As at December 31, 2022, the Parent Company has 143 subsidiaries (Note 1 (a)), 19 associates and joint ventures (Note 14).

(a) Consolidated subsidiaries as at December 31, 2022 and 2021, are as follows:

			December 31, 2022 Dec		Decembe	er 31, 2021				
			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	
The Republic of Korea	Korea	Hiplaza Co., Ltd.	100.00%	-	100.00%	-	December	Wholesales and retails of electronic products	More than half of voting rights	
	Korea	ACE R&A Co., Ltd.	100.00%	-	100.00%	-	December	Production and sales of air conditioner	More than half of voting rights	
	Korea	Hi M Solutek Co., Ltd.	100.00%	-	100.00%	-	December	Maintenance	More than half of voting rights	
	Korea	Hi-Caresolution Corp.	100.00%	-	100.00%	-	December	Services	More than half of voting rights	
	Korea	Hi Teleservice Co., Ltd.	100.00%	-	100.00%	-	December	Marketing services	More than half of voting rights	
	Korea	LG Innotek Co., Ltd. ¹	40.80%	59.20%	40.80%	59.20%	December	Production and sales of electrical/electronic materials	De-facto control	
	Korea	Innowith Co., Ltd. ¹	40.80%	59.20%	40.80%	59.20%	December	Services	De-facto control	
	Korea	Hanuri Co., Ltd.	100.00%	-	100.00%	-	December	Business facility maintenance	More than half of voting rights	
	Korea	ZKW Lighting Systems Korea Co., Ltd.	70.00%	30.00%	70.00%	30.00%	December	R&D	More than half of voting rights	
	Korea	LG Magna e-Powertrain Co., Ltd.	51.00%	49.00%	51.00%	49.00%	December	Production and sales of vehicle components	More than half of voting rights	
	Korea	APPLEMANGO CO.,LTD.	60.00%	40.00%	-	-	December	Manufacture of electric transformers	More than half of voting rights	
China	China	LG Electronics (China) Co., Ltd(LGECH)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights	
	China	LG Electronics (China) Research and Development Center Co., Ltd.(LGERD)	100.00%	-	100.00%	-	December	R&D	More than half of voting rights	

			December 31, 2022		Decembe	er 31, 2021				
			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)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights	
	China	LG ELECTRONICS HK LIMITED(LGEHK)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights	
	China	LG Electronics (Huizhou) Inc.(LGEHZ)	80.00%	20.00%	80.00%	20.00%	December	Production of electronic products	More than half of voting rights	
	China	LG Electronics Nanjing New Technology Co.,LTD(LGENT)	70.00%	30.00%	70.00%	30.00%	December	Production of electronic products	More than half of voting rights	
	China	LG Electronics Nanjing Vehicle Components Co.,Ltd.(LGENV)	100.00%	-	100.00%	-	December	Production of electronic products	More than half of voting rights	
	China	LG Electronics (Qinhuangdao) Co.,LTD(LGEQH)	100.00%	-	100.00%	-	December	Production of casting	More than half of voting rights	
	China	LG Electronics (Shenyang) Inc(LGESY)	78.90%	21.10%	78.90%	21.10%	December	Production of electronic products	More than half of voting rights	
	China	LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	80.00%	20.00%	80.00%	20.00%	December	Production of electronic products	More than half of voting rights	
	China	Nanjing LG Panda Appliances Co., Ltd(LGEPN)	70.00%	30.00%	70.00%	30.00%	December	Production of electronic products	More than half of voting rights	
	China	Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	100.00%	-	100.00%	-	December	Production of electronic products	More than half of voting rights	
	China	QINGGONGLIAN ELECTRICAL INSTALLATION ENGINEERING CO.,LTD.	80.00%	20.00%	80.00%	20.00%	December	Installation and sales of air conditioners	More than half of voting rights	
	China	LG Innotek Yantai Co.,Ltd.(LGITYT) ¹	40.80%	59.20%	40.80%	59.20%	December	Production and sales of electrical/electronic materials	De-facto control	
	China	LG Innotek Trading (Shanghai) Co.,Ltd.(LGITSH) ¹	40.80%	59.20%	40.80%	59.20%	December	Sales of electrical/electronic materials	De-facto control	

			December 31, 2022		Decembe	er 31, 2021			
			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	ZKW Lighting Systems (Dalian) Co. Ltd.	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights
	China	LG Magna Nanjing e- Powertrain Vehicle Components Co., Ltd.	51.00%	49.00%	51.00%	49.00%	December	Production and sales of vehicle components	More than half of voting rights
Asia	Australia	LG ELECTRONICS AUSTRALIA PTY LIMITED(LGEAP)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	India	LG ELECTRONICS INDIA PRIVATE LIMITED(LGEIL) ⁴	100.00%	-	100.00%	-	March	Production and sales of electronic products	More than half of voting rights
	Japan	LG Japan Lab. Inc.(LGJL)	100.00%	-	100.00%	-	December	R&D	More than half of voting rights
	Japan	LG Electronics Japan, Inc.(LGEJP)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Malaysia	LG Electronics (M) Sdn. Bhd(LGEML)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Philippines	LG Electronics Philippines Inc.(LGEPH)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Singapore	LG Electronics Singapore Pte.Ltd.(LGESL)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Taiwan	LG Electronics Taiwan Taipei Co., Ltd.(LGETT)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Thailand	LG Electronics (Thailand) Company Limited(LGETH)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	India	LG Soft India Private Limited.(LGSI) ⁴	100.00%	-	100.00%	-	March	R&D	More than half of voting rights
	Indonesia	P.T. LG Electronics Indonesia(LGEIN)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	Philippines	LG Electronics Pasig Inc. ³	38.00%	62.00%	38.00%	62.00%	December	Real estates	De-facto control
	Indonesia	PT. LG Innotek Indonesia(LGITIN) ¹	40.80%	59.20%	40.80%	59.20%	December	Production and sales of electrical/electronic materials	De-facto control

			December 31, 2022 December 31, 2021						
			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
	Taiwan	LG Innotek (Taiwan) Co., Ltd.(LGITTW) ¹	40.80%	59.20%	40.80%	59.20%	December	Sales of electrical/electronic materials	De-facto control
	Vietnam	LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH) ¹	40.80%	59.20%	40.80%	59.20%	December	Production and sales of electrical/electronic materials	De-facto control
	Vietnam	LG Electronics Vietnam Hai Phong Co., Ltd.(LGEVH)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	Indonesia	PT. LG Electronics Service Indonesia(LGEID)	99.80%	0.20%	99.80%	0.20%	December	Services	More than half of voting rights
	Philippines	HI-M SOLUTEK PHILIPPINES INC.	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	Vietnam	HI-M SOLUTEK VIETNAM CO., LTD.	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	India	Alphonso Labs Private Limited ⁴	56.10%	43.90%	57.80%	42.20%	March	R&D	More than half of voting rights
	Indonesia	PT LGE INDONESIA RESEARCH AND DEVELOPMENT CENTER (LGEIC)	100.00%	-	100.00%	-	December	R&D	More than half of voting rights
	Japan	Cybellum Technologies Ltd.	69.20%	30.80%	69.60%	30.40%	December	Development and sales of automotive security solutions	More than half of voting rights
	Vietnam	LG Electronics Development Vietnam Company Limited	100.00%	-	-	-	December	R&D	More than half of voting rights
	Indonesia	PT HI-M SOLUTEK INDONESIA	100.00%	-	-	-	December	Services	More than half of voting rights
Europe	Netherlands	LG Electronics Benelux Sales B.V.(LGEBN)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Germany	LG Electronics Deutschland GmbH(LGEDG)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2022		Decembe	r 31, 2021			
			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
	Spain	LG Electronics Espana S.A.(LGEES)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Netherlands	LG Electronics European Holding B.V.(LGEEH)	100.00%	-	100.00%	-	December	European holding	More than half of voting rights
	Netherlands	LG Electronics European Shared Service Center B.V.(LGESC)	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	France	LG Electronics France S.A.S(LGEFS)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Greece	LG ELECTRONICS HELLAS SINGLE MEMBER SA (LGEHS)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Italy	LG Electronics Italia S.P.A.(LGEIS)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Latvia	LG Electronics Latvia LTD(LGELA)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Hungary	LG Electronics Magyar K.F.T.(LGEMK)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Mlawa Sp. z.O.O.(LGEMA)	100.00%	-	100.00%	-	December	Production of electronic products	More than half of voting rights
	Sweden	LG Electronics Nordic AB(LGESW)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Polska Sp. Z.O.O(LGEPL)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Portugal	LG Electronics Portugal S.A.(LGEPT)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	UK	LG Electronics U.K. LTD(LGEUK)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Poland	LG Electronics Wroclaw Sp. z.O.O.(LGEWR)	100.00%	-	100.00%	-	December	Production of electronic products	More than half of voting rights

		December 31, 2022		December 31, 2021				
		Percentage	of ownership	Percentage of	of ownership			
 Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of control
Finland	LG Electronics Finland Lab Oy(LGEFL)	100.00%	-	100.00%	-	December	R&D	More than half of voting rights
Poland	LG Innotek Poland Sp. z.o. o.(LGITPO) ¹	40.80%	59.20%	40.80%	59.20%	December	Production and sales of electrical/electronic materials	De-facto control
German	LG Electronics Vehicle Components Europe GmbH (LGEVG)	100.00%	-	100.00%	-	December	Sales of vehicle components	More than half of voting rights
Austria	ZKW Holding GmbH	70.00%	30.00%	70.00%	30.00%	December	Holding company	More than half of voting rights
Austria	ZKW Group GmbH	70.00%	30.00%	70.00%	30.00%	December	Services	More than half of voting rights
Austria	ZKW Elektronik GmbH	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights
Austria	ZKW Lichtsysteme GmbH	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights
Austria	ZKW Austria Immobilien Holding GmbH	70.00%	30.00%	70.00%	30.00%	December	Holding company	More than half of voting rights
Austria	ZKW Austria Immobilien GmbH	70.00%	30.00%	70.00%	30.00%	December	Real estates	More than half of voting rights
Slovakia	ZKW Slovakia s.r.o.	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights
Czech	KES - kabelove a elektricke systemy spol. s.r.o.	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights

			Decembe	er 31, 2022	Decembe	er 31, 2021			
			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
	Czech	ZKW Automotive Engineering CZ s.r.o.	70.00%	30.00%	70.00%	30.00%	December	R&D	More than half of voting rights
	Poland	KES Poland Sp.z o.o.	70.00%	30.00%	70.00%	30.00%	December	Production and sales of vehicle components	More than half of voting rights
	Poland	HI-M SOLUTEK POLAND Sp. z o.o.	100.00%	-	100.00%	0.00%	December	Services	More than half of voting rights
	Hungary	ACE R&A Hungary Limited Liability Company	100.00%	-			December	Production and sales of air conditioner	More than half of voting rights
	UK	Alphonso UK Limited	56.10%	43.90%	-		December	Advertisement	More than half of voting rights
	Greece	Alphonso Hellas S.A.	56.10%	43.90%	-		December	Advertisement	More than half of voting rights
North America	USA	LG Electronics Alabama Inc.(LGEAI)	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	Canada	LG Electronics Canada, Inc.(LGECI)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Mexico	LG Electronics Mexico S.A. DE C.V.(LGEMS)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Mexico	LG Electronics Reynosa, S.A. De C.V.(LGERS)	100.00%	-	100.00%	-	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
	USA	LG Innotek USA, Inc.(LGITUS) ¹	40.80%	59.20%	40.80%	59.20%	December	Sales of electrical/electronic materials	De-facto control

			December 31, 2022 December 31, 2021						
			Percentage	of ownership	Percentage	Percentage of ownership			
Territory	Location	Subsidiary	Controlling interest	Non- controlling interest	Controlling interest	Non- controlling interest	Closing month	Major business	Basis of 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 materials	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.	56.10%	43.90%	57.80%	42.20%	December	Advertisement	More than half of voting rights
	USA	LG Innotek Fund I LLC ¹	40.80%	59.20%	40.80%	59.20%	December	Investment in technology start-ups	De-facto control
	USA	Cybellum Technologies USA, Inc	69.20%	30.80%	69.60%	30.40%	December	Development and sales of automotive security solutions	More than half of voting rights
	USA	LG Electronics Fund ${\rm I\!I}$ LLC	100.00%	-	-		December	Investment in technology start-ups	More than half of voting rights

			Decembe	er 31, 2022	Decembe	er 31, 2021			
			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	NOVA Prime Fund I, LP.	100.00%	-	-		December	Investment in technology start-ups	More than half of voting rights
	USA	NOVA Prime Ventures LLC	100.00%	-	-		December	Services	More than half of voting rights
	USA	NOVA Prime Ventures GP LLC	100.00%	-	-		December	Services	More than half of voting rights
	Mexico	HI-M SOLUTEK MEXICO S DE RL DE CV.	100.00%	-	-		December	Maintenance	More than half of voting rights
	Mexico	LG Magna e-Powertrain Mexico S.A. DE C.V.	51.00%	49.00%	-		December	Production and sales of vehicle components	More than half of voting rights
South America	Argentina	LG Electronics Argentina S.A.(LGEAR)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Colombia	LG Electronics Colombia Limitada(LGECB)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Brazil	LG Electronics do Brasil Ltda.(LGEBR)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	Honduras	LG Electronics Honduras S.de R.L. ²	20.00%	80.00%	20.00%	80.00%	December	Sales of electronic products	De-facto control
	Chile	LG Electronics Inc Chile Limitada(LGECL)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Panama	LG Electronics Panama, S.A.(LGEPS)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Peru	LG Electronics Peru S.A.(LGEPR)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Venezuela	LG Electronics Venezuela, S.A.(LGEVZ)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Panama	LG Consulting Corp.	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	Guatemala	LG Electronics Guatemala, S.A.	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights

			December 31, 2022 December 31, 2021						
			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
Middle East and Africa	Angola	LG Electronics Angola Limitada(LGEAO)	100.00%	-	100.00%	-	December	Sales and services of electronic products	More than half of voting rights
	Jordan	LG Electronics Levant - Jordan(LGELF)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Africa Logistics FZE(LGEAF)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Algeria	LG Electronics Algeria SARL(LGEAS)	70.00%	30.00%	70.00%	30.00%	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Dubai FZE(LGEDF)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Egypt	LG Electronics Egypt S.A.E(LGEEG)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	UAE	LG Electronics Gulf FZE(LGEGF)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Middle East Company FZCO (LGEME)	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	Morocco	LG Electronics Morocco S.A.R.L.(LGEMC)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Nigeria	LG Electronics Nigeria Limited(LGENI)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Tunisia	LGENAF Service Company SARL	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	UAE	LG Electronics Overseas Trading FZE(LGEOT)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	South Africa	LG Electronics S.A. (Pty) Ltd.(LGESA)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	Türkiye	LG Electronics Ticaret A.S.(LGETK)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Saudi Arabia	LG-Shaker Co.Ltd.(LGESR)	51.00%	49.00%	51.00%	49.00%	December	Production of electronic products	More than half of voting rights

			December 31, 2022 December 31, 2021						
			Percentage	of ownership Non-	Percentage of	of ownership Non-			
Territory	Location	Subsidiary	Controlling interest	controlling interest	Controlling interest	controlling	Closing month	Major business	Basis of control
	Saudi Arabia	LG Electronics Saudi Arabia LLC	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	UAE	HI M SOLUTEK HVAC SERVICE AND MAINTENANCE LLC	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	Egypt	HI-M.SOLUTEK LLC	100.00%	-	100.00%	-	December	Services	More than half of voting rights
	Israel	Cybellum Technologies Ltd.	69.20%	30.80%	69.60%	30.40%	December	Development and sales of automotive security solutions	More than half of voting rights
Other	Kazakhstan	LG Electronics Almaty Kazakhstan Limited Liability Partnership(LGEAK)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights
	Russia	LG Electronics RUS, LLC(LGERA)	100.00%	-	100.00%	-	December	Production and sales of electronic products	More than half of voting rights
	Ukraine	LG Electronics Ukraine(LGEUR)	100.00%	-	100.00%	-	December	Sales of electronic products	More than half of voting rights

- ¹ Although the Group owns less than half of the voting rights of LG Innotek Co., Ltd., which is an intermediate parent company of its subsidiaries, the Group is deemed to have control over LG Innotek Co., Ltd. due to the size and dispersion of holdings of the other shareholders and their voting patterns at previous shareholders' meetings (Note 3).
- ² Although the Group owns less than a majority of the effective percentage of ownership of the entity, the Group has concluded that the Group controls the entity. This is because the Group has a right to appoint or dismiss the majority of its Board of Directors by virtue of an agreement with the other investors.
- ³ Although the Group owns less than a majority of the effective percentage of ownership of the entity, the Group has concluded that the Group controls the entity. This is because the Group has the substantial power to direct the relevant activities and is exposed to variable returns.
- ⁴ In the preparation of the consolidated financial statements, the financial statements for the 12-month period ended December 31, 2022 were used for those subsidiaries with different fiscal year ends.

(b) Financial information of major subsidiaries as at December 31, 2022 and 2021, and for the years ended December 31, 2022 and 2021, is as follows (before elimination of intercompany transactions):

			2022		
(in millions of Korean won)	Assets	Liabilities	Equity	Sales ¹	Profit (Loss) for the year
LG Innotek Co., Ltd.	8,668,015	5,103,994	3,564,021	19,095,662	720,394
LG Electronics U.S.A., Inc.(LGEUS)	5,175,281	3,440,999	1,734,282	15,712,389	191,646
LG Electronics European Shared Service Center B.V.(LGESC)	1,412,658	1,373,709	38,949	552,048	2,195
LG ELECTRONICS INDIA PRIVATE LIMITED(LGEIL)	1,523,699	556,451	967,248	3,187,970	
LG Electronics Vietnam Hai Phong Co., Ltd(LGEVH)	1,678,486	774.694	903,792	4,484,654	,
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	1,393,374	716,461	676,913	4,462,888	
Zenith Electronics LLC(Zenith)	1,522,384	156,209	1,366,175	199,558	
LG Electronics do Brasil Ltda.(LGEBR)	1,454,426	381,366	1,073,060	1,658,314	
LG Electronics RUS, LLC(LGERA)	750,810	247,817	502,993	944,547	
Hiplaza Co., Ltd.	1,100,730	890,713	210,017	2,693,409	
LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)	1,481,701	824,286	657,415	4,347,982	
ZKW Lichtsysteme GmbH	804,505	455,362	349,143	772,802	
LG Electronics (China) Co., Ltd(LGECH)	831,948	805,071	26,877	300,655	
LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	889,028	477,274	411,754	1,863,465	
ZKW Group GmbH	1,321,195	963,742	357,453	133,001	30,610
LG Electronics Deutschland GmbH(LGEDG)	470,769	315,227	155,542	1,953,543	13,399
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	643,568	446,437	197,131	1,496,969	
LG Electronics (Thailand) Company Limited(LGETH)	731,763	302,625	429,138	1,440,516	
P.T. LG Electronics Indonesia(LGEIN)	992.779	347,483	645,296	3,229,903	
LG Electronics Nanjing New Technology co.,LTD(LGENT)	607,866	327,387	280,479	2,279,508	
Nanjing LG Panda Appliances Co., Ltd(LGEPN)	540,815	351,526	189,289	1,134,611	35,732
LG Magna E-Powertrain Co.,Ltd.	1,149,468	386,948	762,520	849,404	(14,376)

			2021		
(in millions of Korean won)	Assets	Liabilities	Equity	Sales ¹	Profit (Loss) for the year
LG Innotek Co., Ltd.	6,989,347	4,092,054	2,897,293	14,599,169	789,717
LG Electronics U.S.A., Inc.(LGEUS)	5,501,018	4,078,083	1,422,935	14,228,221	252,382
LG Electronics European Shared Service Center B.V.(LGESC)	1,401,862	1,365,393	36,469	344,298	1,556
LG ELECTRONICS INDIA PRIVATE LIMITED(LGEIL)	1,422,320	622,764	799,556	2,625,580	198,528
LG Electronics Vietnam Hai Phong Co., Ltd(LGEVH)	1,515,442	650,031	865,411	4,142,366	118,846
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	1,481,671	856,700	624,971	4,705,190	130,611
Zenith Electronics LLC(Zenith)	1,337,885	117,699	1,220,186	165,215	39,870
LG Electronics do Brasil Ltda.(LGEBR)	1,372,789	432,180	940,609	1,838,995	330,014
LG Electronics RUS, LLC(LGERA)	1,177,101	547,951	629,150	1,886,789	109,630
Hiplaza Co., Ltd.	1,079,465	910,773	168,692	2,954,048	874
LG Innotek Vietnam Hai Phong Co.,Ltd.(LGITVH)	1,369,835	883,917	485,918	3,122,205	
ZKW Lichtsysteme GmbH	777,962	398,437	379,525	664,985	(11,390)
LG Electronics (China) Co., Ltd(LGECH)	686,470	687,734	(1,264)	337,345	60,258
LG Electronics (Tianjin) Appliances Co., Ltd.(LGETA)	909,494	547,005	362,489	1,646,101	37,657
ZKW Group GmbH	1,052,602	728,347	324,255	124,030	18,258
LG Electronics Deutschland GmbH(LGEDG)	1,140,618	973,875	166,743	3,807,125	26,643
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	803,550	602,287	201,263	1,686,156	,
LG Electronics (Thailand) Company Limited(LGETH)	680,464	291,124	389,340	1,400,763	83,485
P.T. LG Electronics Indonesia(LGEIN)	973,369	457,658	515,711	2,913,107	
LG Electronics Nanjing New Technology co.,LTD(LGENT)	865,635	600,650	264,985	2,337,375	
Nanjing LG Panda Appliances Co., Ltd(LGEPN)	580,270	383,562	196,708	1,068,373	26,151
LG Magna E-Powertrain Co.,Ltd.	933,683	169,402	764,281	252,495	(32,406)

¹ MC business and energy business were classified as discontinued operations and 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 of non-controlling interests and accumulated non-controlling interests

(in millions of Korean won)	December 31, 2022	December 31, 2021
Percentage of ownership in non-controlling interests	59.2%	59.2%
Accumulated non-controlling interests	2,593,209	2,011,225

ii) Profit (Loss) and dividends attributable to non-controlling interests for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Profit to non-controlling interests	598,719	545,509
Dividends to non-controlling interests	42,034	9,808

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, 2022	December 31, 2021
Current assets	4,713,796	4,113,364
Non-current assets	5,079,822	3,627,989
Total assets	9,793,618	7,741,353
Current liabilities	4,270,417	3,310,268
Non-current liabilities	1,257,408	1,116,879
Total liabilities	5,527,825	4,427,147
Equity attributable to owners of LG Innotek Co., Ltd. Non-controlling interests	4,265,793	3,314,206
Total equity	4,265,793	3,314,206

iv) Summarized consolidated statements of comprehensive income of subsidiaries with material non-controlling interests for the years ended December 31, 2022 and 2021, are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	2022	2021
Net sales	19,592,174	14,949,963
Profit (Loss) for the year	979,849	888,282
Other comprehensive income (loss), net of tax	42,731	14,802
Total comprehensive income (loss), net of tax	1,022,580	903,084

 v) Summarized consolidated statements of cash flows of subsidiaries with material noncontrolling interests for the years ended December 31, 2022 and 2021, are as follows (before elimination of intercompany transactions):

(in millions of Korean won)	2022	2021
Cash flows from operating activities	1,514,999	1,177,629
Cash flows from investing activities	(1,996,725)	(1,008,293)
Cash flows from financing activities	441,366	(309,628)
Effects of exchange rate changes on cash and cash equivalents	(5,977)	16,344
Net increase (decrease) in cash and cash equivalents	(46,337)	(123,948)
Cash and cash equivalents at the beginning of year reclassified as assets held for sale	58,371	53,586
Cash and cash equivalents at the beginning of year	565,874	694,607
Cash and cash equivalents at the end of year reclassified as assets held for sale	-	(58,371)
Cash and cash equivalents at the end of year	577,908	565,874

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

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

- ii) The protective rights of non-controlling interests which can restrict the use of the assets and settlement of the liabilities of the Group exist in certain subsidiaries.
- (e) Changes in the Parent Company's interest in subsidiaries
 - During the year ended December 31, 2022, non-controlling interests increased by ₩155 million due to the effect of changes in the percentage of ownership resulting from the stock options exercised in relation to Cybellum Technologies USA, Inc.
 - ii) During the year ended December 31, 2022, non-controlling interests decreased by ₩ 1,755 million due to the effect of changes in the percentage of ownership resulting from the stock options exercised and the tender offer agreement for non-controlling interests in relation to Alphonso Inc.

(f) Subsidiaries newly included in the scope of preparation of consolidated financial statements for the year ended December 31, 2022, are:

Subsidiary	Reason	Country	Percentage of ownership	Closing month	Major business
ACE R&A Hungary Limited Liability Company	Newly established	Hungary	100.0%	December	Production and sales of air conditioner
HI-M SOLUTEK MEXICO S DE RL DE CV.	Newly established	Mexico	100.0%	December	Maintenance
LG Electronics fund II LLC	Newly established	USA	100.0%	December	Investment in technology start-ups
LG Magna e-Powertrain Mexico S.A. DE C.V.	Newly established	Mexico	51.0%	December	Productions and sales of vehicle components
Alphonso UK Limited	Newly established	UK	57.0%	December	Advertisement
Alphonso Hellas S.A.	Newly established	Greece	57.0%	December	Advertisement
NOVA Prime Fund I, LP.	Newly established	USA	100.0%	December	Investment in technology start-ups
NOVA Prime Ventures LLC	Newly established	USA	100.0%	December	Services
NOVA Prime Ventures GP LLC	Newly established	USA	100.0%	December	Services
APPLEMANGO CO.,LTD.	Purchase of shares	Korea	60.0%	December	Manufacture of electric transformers
LG Electronics Development Vietnam Company Limited	Newly established	Vietnam	100.0%	December	R&D
PT HI-M SOLUTEK INDONESIA	Newly established	Indonesia	100.0%	December	Services

(g) Subsidiaries excluded from the scope of preparation of consolidated financial statements for the year ended December 31, 2022, are:

Subsidiary	Reason	Country		
LG Electronics Mobile Research U.S.A.,LLC.	Liquidation	USA		
LG Innotek Huizhou Co.,Ltd.	Sales of shares	China		
LG Electronics Nanjing Battery Pack Co.,Ltd.	Liquidation	China		

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

During the year ended December 31, 2022, the Group liquidated LG Electronics Mobile Research U.S.A.,LLC. and sold the shares of LG Innotek Huizhou Co.,Ltd., and recognized gains of \forall 2,617 million and \forall 6,387 million from the loss of control, respectively. In addition, the Group liquidated LG Electronics Nanjing Battery Pack Co.,Ltd. and recognized losses of \forall 1,150 million from the loss of control.

2. Significant Accounting Policies

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

Basis of Preparation

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

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

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

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

Changes in Accounting Policies and Disclosures

(a) New and amended standards and interpretations effective for the financial year beginning January 1, 2022

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

The amendments update a reference of definition of assets and liabilities to be recognized in a business combination in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, and Korean IFRS 2121 *Levies*. The amendments also clarify that contingent assets should not be recognized at the acquisition date. The amendment does not have a significant impact on the consolidated financial statements.

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

The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity will recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendment does not have a significant impact on the consolidated financial statements.

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

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendment does not have a significant impact on the consolidated financial statements.

- Annual improvements to Korean IFRS 2018-2020

Annual improvements of Korean IFRS 2018-2020 Cycle should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The amendment does not have a significant impact on the consolidated financial statements.

- Korean IFRS 1101 *First time Adoption of Korean International Financial Reporting Standards* – Subsidiaries that are first-time adopters
- Korean IFRS 1109 *Financial Instruments* Fees related to the 10% test for derecognition of financial liabilities
- · Korean IFRS 1041 Agriculture Measuring fair value
- (b) New, enacted and amended standards issued, but not effective for December 31, 2022, and not early adopted by the Group.

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

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2024. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- Korean IFRS 1001 Presentation of Financial Statements - Disclosure of Accounting Policies

The amendments to Korean IFRS 1001 define and require entities to disclose their material accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- Korean IFRS 1008 Changes in Accounting Policies, Accounting Estimates and Errors - Definition of Accounting Estimates

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

- Korean IFRS 1012 Income Taxes - Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction

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

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

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

Consolidation

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

(a) Subsidiaries

Subsidiaries are all entities over which the Parent Company has control. The Parent Company controls 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 recoded 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. Investments in associates are accounted for using the equity method of accounting and are initially recognized at cost. The Group's investment in associates includes goodwill identified at acquisition, net of any accumulated impairment loss (Note 14).

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

Unrealized gains on transactions between the Group and its associates are eliminated to the extent

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

(c) Joint Arrangements

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

(d) Transactions with non-controlling interests

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

(e) Business Combinations

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

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

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

Segment Reporting

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

Foreign Currency Translation

(a) Functional and presentation currency

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

(b) Transactions and balances

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

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

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

(c) Translation into presentation currency

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

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

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

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

Cash and Cash Equivalents

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

Financial Instruments

Classification

(a) Financial assets

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

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

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

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

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

(b) Financial Liabilities

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

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

Recognition and Measurement

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

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

(a) Debt instruments

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

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

(expenses)' in the year in which it arises.

(b) Equity instruments

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

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

Impairment

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

Offsetting of financial instruments

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

Derecognition

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

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

Financial liabilities are derecognized from the statement of financial position when it is extinguished;

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

Derivative Financial Instruments

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

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

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

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

Trade Receivables

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

Inventories

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

recognizes as Allowances for Valuation of Inventories. Net realizable value is the estimated selling price in the ordinary course of business, less applicable selling expenses.

Assets Held for Sale and Discontinued Operations

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

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

Property, Plant and Equipment

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

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

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

Useful lives

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

Each asset's depreciation method, residual values, and useful lives are reviewed and adjusted if necessary, at the end of each reporting period. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Gains and losses on disposals are determined by differences between the

net disposal proceeds of the asset and its carrying amount and are recognized within 'other nonoperating income (expenses)' in the consolidated statements of profit or loss.

Borrowing Costs

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

Government Grants

Grants from 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.

Intangible Assets

(a) Goodwill

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

(b) Industrial property rights

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

(c) Development costs

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

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

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

(d) Membership

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

(e) Other intangible assets

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

Investment Property

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

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

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

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

Impairment of Non-Financial Assets

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

Trade Payables

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

Borrowings

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

Financial Guarantee Contracts

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

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

Provisions

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

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

A contingent liability is disclosed (Note 37) when;

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

Current and Deferred Income Tax

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

The tax expense is measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is recognized on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. It represents future tax consequences that will arise when recovering or settling the carrying amount of its assets and liabilities. However, the deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor tax profit or loss. Deferred income tax is

determined using tax rates (and laws) that have been enacted or substantially enacted by the end of the reporting period and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

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

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

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

Employee Benefits

(a) Post-employment benefits

The Group operates both defined contribution and defined benefit plans.

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

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

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or

losses on settlement are recognized as profit or loss for the year.

(b) Other long-term employee benefits

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

(c) Termination benefits

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

(d) Share-based payment

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

Share Capital

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

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

Revenue Recognition

(a) Identify performance obligation

The Group sells home appliances, 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 are provision of right to use the Group's intellectual property that exist at the time of transfer. This means that the customer can direct the use of and obtain substantially all of the remaining benefits from the license at the point in time at which the license transfers. The Group determined the royalty income as a performance obligation satisfied at a point in time.

(c) A performance obligation satisfied over time

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

When the outcome of a transaction involving the rendering of services provided separately to customers can be estimated reliably, revenue associated with such transaction is recognized by reference to the percentage of completion of the services. Any changes in expected revenue, cost

or the amount of services rendered are accounted for as changes in estimates. These changes in estimates may bring adjustments to the expected revenue or cost which is recognized in the profit or loss in the period in which management recognizes the changes in circumstances.

The Group receives licensing fees for the trademark held by the Group from subsidiaries and associates. The 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.

Leases

Lessee accounting

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

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

(a) Right-of-use assets

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

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

(b) Lease liabilities

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

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

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

option, and

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

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

Lessor accounting

A lessor classifies each of its leases as either an operating lease or a finance lease. A lease that transfers substantially all the risks and rewards incidental to ownership of underlying asset is classified as a finance lease, and a lease other than a finance lease is classified as an operating lease. In a finance lease, the amount received from the lessor 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.

Dividend Distribution

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

Earnings per Share

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

Greenhouse Gas Emissions Rights (Allowances) and Obligations

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

emission rights and liabilities are classified as 'intangible assets' and 'provisions', respectively, in the consolidated statement of financial position.

3. Critical Accounting Estimates and Judgments

Critical Accounting Estimates and Assumptions

The Group makes estimates and assumptions concerning the future when preparing the financial statements. 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.

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.

Significant 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 significant risk of causing adjustments to the carrying amounts of assets and liabilities after the end of the reporting period are addressed below.

(a) Revenue Recognition

The Group recognizes revenue over time using the percentage of completion method for the rendering of service such as equipment production and installation. The Group measures the percentage of completion by estimating 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 at the end of each reporting period.

(e) Provisions

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

(f) Net Defined Benefit Liabilities

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

(g) Development Costs

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

(h) Lease

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

The 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.

Significant Judgment on Accounting Policies Adopted by the Group

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

4. Segment Information

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

Type of products
Refrigerators, washing machines, air conditioners, vacuum cleaners and others
TVs, audio, beauty appliances and others
Vehicle components and others
Monitors, PCs, information displays and others
Camera modules, substrate & material, motor/sensor and others Equipment production and others

 (a) The segment information for sales and operating profit (loss) for the years ended December 31, 2022 and 2021, is as follows:

				2022			
(in millions of						Other	
Korean won)	H&A	HE	VS	BS	Innotek	segments ¹	Total
Sales	29,895,512	15,726,658	8,649,586	6,090,341	19,592,174	3,513,047	83,467,318
External sales	29,869,215	15,719,892	8,649,584	6,085,982	19,077,123	4,065,522	83,467,318
Internal sales	26,297	6,766	2	4,359	515,051	(552,475)	-
Operating profit (loss) ² Depreciation	1,129,598	5,354	169,638	25,232	1,270,640	950,510	3,550,972
and amortization	884,023	372,016	521,171	111,152	865,857	209,062	2,963,281

				2021			
(in millions of						Other	
Korean won)	H&A	HE	VS	BS	Innotek	segments ¹	Total
Sales	27,110,463	17,219,094	6,700,495	5,476,688	14,949,963	2,451,281	73,907,984
External sales	27,077,935	17,209,614	6,700,254	5,472,447	14,412,717	3,035,017	73,907,984
Internal sales	32,528	9,480	241	4,241	537,246	(583,736)	-
Operating profit (loss) ²	2,209,313	1,091,149	(936,434)	321,849	1,259,418	112,702	4,057,997
Depreciation							
and amortization	764,475	372,724	526,832	107,664	766,153	181,204	2,719,052

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

	December	31, 2022	December 31, 2021		
(in millions of Korean won)	Assets	Liabilities	Assets	Liabilities	
H&A	25,596,616	13,093,139	24,253,234	12,878,080	
HE	13,379,291	9,301,351	13,620,098	9,638,743	
VS	9,032,375	10,808,828	8,050,137	9,973,745	
BS	5,131,988	3,612,383	4,877,335	3,383,135	
Innotek	9,793,618	5,527,825	7,741,353	4,427,147	
Subtotal ¹	62,933,888	42,343,526	58,542,157	40,300,850	
Other segments and inter-segment transactions	(7,777,747)	(9,679,382)	(5,060,679)	(6,917,405)	
Total	55,156,141	32,664,144	53,481,478	33,383,445	

(b) Segment assets and liabilities as at December 31, 2022 and 2021, are as follows:

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

(c) Non-current assets by geographic area as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	Non-current assets ¹		
Geographic areas	December 31, 2022	December 31, 2021	
Korea	12,396,828	11,747,934	
China	912,927	949,526	
Asia	1,588,895	1,399,179	
North America	1,943,272	1,534,049	
Europe	996,680	963,708	
South America	118,280	105,440	
Middle East & Africa	290,662	290,804	
Russia and others	141,001	153,763	
Total	18,388,545	17,144,403	

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, 2022 are sales from Innotek segment and others amounting to ₩16,199,908 million (2021: ₩11,250,707 million).

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

(a) Categorizations of financial instruments as at December 31, 2022 and 2021, are as follows:

	December 31, 2022					
(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	6,322,360	-	-	-	6,322,360	
Deposits held by financial institutions	246,226	-	-	-	246,226	
Trade receivables	6,951,954	1,241,667	-	166,100	8,359,721	
Other receivables	1,390,575	-	-	-	1,390,575	
Other financial assets		118,926	111,728	188,327	418,981	
Total	14,911,115	1,360,593	111,728	354,427	16,737,863	

	December 31, 2022							
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total				
Trade payables	8,212,419	-	-	8,212,419				
Borrowings	11,045,187	-	-	11,045,187				
Lease liabilities	-	-	1,096,235	1,096,235				
Other payables	4,688,063	-	-	4,688,063				
Other financial liabilities		10,787	9,878	20,665				
Total	23,945,669	10,787	1,106,113	25,062,569				

	December 31, 2021				
(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	6,051,516	-	-	-	6,051,516
Deposits held by financial institutions	205,391	-	-	-	205,391
Trade receivables	6,598,731	1,567,007	-	25,799	8,191,537
Other receivables	1,160,959	-	-	-	1,160,959
Other financial assets	-	121,222	79,145	41,487	241,854
Total	14,016,597	1,688,229	79,145	67,286	15,851,257

	December 31, 2021						
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total			
Trade payables	8,741,937	-	-	8,741,937			
Borrowings	9,931,553	-	-	9,931,553			
Lease liabilities	-	-	955,422	955,422			
Other payables	4,193,751	-	-	4,193,751			
Other financial liabilities	-	17,092	51,210	68,302			
Total	22,867,241	17,092	1,006,632	23,890,965			

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

	2022				
(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	208,024	-	-	-	208,024
Exchange differences	544,271	62,400	-	-	606,671
Bad debt expenses	(5,766)	-	-	-	(5,766)
Loss on disposal of trade receivables	(519)	(35,727)	-	_	(36,246)
Dividend income	· · ·	249	2,858	-	3,107
Gain (Loss) on valuation of financial assets at fair value through profit or loss Gain (Loss) on derivatives (through profit or loss)	-	-	15,686 78,115	-	15,686
Profit (Loss) for the year from discontinued operations	3,738	-	13	-	3,751
Fair value gain (loss), net of tax (through other comprehensive income) Gain (Loss) on derivatives, net of tax (through other	-	(24,368)	-	-	(24,368)
comprehensive income)	-	-	-	80,146	80,146

		2022		
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total
Interest expense	(347,401)	-	(16,186)	(363,587)
Exchange differences	(523,233)	-	47,539	(475,694)
Gain (Loss) on derivatives (through profit or loss)	-	(120,993)	-	(120,993)
Profit (Loss) for the year from discontinued operations	(18,960)	(35)	(116)	(19,111)
Gain (Loss) on derivatives, net of tax (through other comprehensive income)	_	_	20.586	20,586
Others	(2,694)	-	-	(2,694)

		20	21		
(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	88,580	-	-	-	88,580
Exchange differences	508,108	73,808	-	-	581,916
Reversal of bad debt expenses	25,472	-	-	-	25,472
Loss on disposal of trade receivables	(411)	(6,603)	-	-	(7,014)
Dividend income	-	247	5,761	-	6,008
Gain (Loss) on valuation of financial assets at fair value through profit or loss Gain (Loss) on derivatives (through profit or loss)	-	-	45,562	-	45,562
Profit (Loss) for the year from	-	-	55,549	-	55,549
discontinued operations Fair value gain (loss), net of tax	29,857	-	3,798	-	33,655
(through other comprehensive income) Gain (Loss) on derivatives, net of	-	(15,129)	-	-	(15,129)
tax (through other comprehensive income)	-	-	-	26,231	26,231

		2021		
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total
Interest expense	(174,605)	-	(64,502)	(239,107)
Exchange differences	(681,903)	-	70,475	(611,428)
Gain (Loss) on derivatives (through profit or loss) Gain (Loss) on redemption of bonds	- (1,968)	(51,356)	-	(51,356)
Profit (Loss) for the year from	(1,908)	-	-	(1,900)
discontinued operations Gain (Loss) on derivatives, net of	(140,657)	(2,467)	(847)	(143,971)
tax (through other comprehensive income) Others	- (2,918)	-	41,809 -	41,809 (2,918)

(c) Recognized financial instruments that are subject to an enforceable master netting arrangements or similar arrangements as at December 31, 2022 and 2021, are as follows:

	December 31, 2022						
		Pagagizad	Net amounts	Amounts r	ot 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	417,381	(397,716)	19,665	-	-	19,665	
Financial liabilities							
Trade payables	585,018	(397,716)	187,302	-	-	187,302	

	December 31, 2021					
		Recognized	Net amounts presented in	Amounts r	ot offset	
(in millions of Korean won)	Recognized financial instrument	financial instrument offset	the statement of financial position	Financial instruments	Cash collateral	Net amount
Financial assets Trade receivables	425,321	(402,770)	22,551	-	-	22,551
Financial liabilities Trade payables	735,572	(402,770)	332,802	-	-	332,802

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

(a) Cash and cash equivalents

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

(in millions of Korean won)	December 31, 2022	December 31, 2021
Cash on hand	544	411
Bank deposits ¹	6,321,816	6,051,105
Total	6,322,360	6,051,516

¹ Deposits restricted in use amounting to $\forall 31,847$ million (2021: $\forall 31,093$ million) in relation to value added tax is included as at December 31, 2022.

(b) Deposits held by financial institutions

The deposits held by financial institutions restricted in use as at December 31, 2022 and 2021, are as follows:

December 31, 2022	December 31, 2021	
80,000	80,000	
70,969	66,388	
20,000	-	
77	68	
171,046	146,456	
62	65	
459	697	
74,659	58,173	
75,180	58,935	
246,226	205,391	
	80,000 70,969 20,000 77 171,046 62 459 74,659 75,180	

7. Trade Receivables and Other Receivables

(a) Trade receivables and other receivables, net of allowance for doubtful accounts, as at December 31, 2022 and 2021, are as follows:

	December 31, 2022			December 31, 2021			
		Allowance for		Allowance for			
	Original	doubtful	Carrying	Original	doubtful	Carrying	
(in millions of Korean won)	amount	accounts	amount	amount	accounts	amount	
Trade receivables							
Current	8,304,434	(87,922)	8,216,512	8,251,982	(85,523)	8,166,459	
Non-current	143,209	-	143,209	25,078	-	25,078	
Other receivables							
Current	613,069	(10,287)	602,782	500,773	(11,717)	489,056	
Non-current	787,876	(83)	787,793	672,017	(114)	671,903	

(b) Details of other receivables as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021	
Current			
Loans	20,581	12,766	
Non-trade receivables	366,430	248,357	
Accrued income	109,829	83,242	
Deposits	105,942	144,691	
Subtotal	602,782	489,056	
Non-current			
Loans	146,684	126,693	

(in millions of Korean won)	December 31, 2022	December 31, 2021
Non-trade receivables	215,430	232,716
Deposits	425,679	312,494
Subtotal	787,793	671,903
Total	1,390,575	1,160,959

(c) The aging analysis of trade receivables and other receivables as at December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	December 31, 2022				
	Trade receivables		Other red	Other receivables	
	Current	Non-current	Current	Non-current	Total
Receivables not past due	6,954,213	143,209	564,917	786,090	8,448,429
Past due but not impaired					
Up to 6 months	1,091,603	-	21,524	1,347	1,114,474
7 to 12 months	57,554	-	11,033	81	68,668
Over 1 year	45,712		6,126	358	52,196
Subtotal	1,194,869		38,683	1,786	1,235,338
Impaired	155,352		9,469		164,821
Total	8,304,434	143,209	613,069	787,876	9,848,588

December 31, 2021				
6				
rrent	Total			
7,263	8,448,556			
3,616	789,809			
895	19,886			
243	25,231			
1,754	834,926			
-	166,368			
2,017	9,449,850			
4				

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

(f) Movements in allowance for doubtful accounts for the years ended December 31, 2022 and 2021, are as follows:

			2022		
(in millions of Korean won)	At Jan. 1	Addition (Reversal)	Write-off	Other	At Dec. 31
Trade receivables	85,523	6,810	(2,691)	(1,720)	87,922
Other receivables					
Current	11,717	(1,272)	(58)	(100)	10,287
Non-current	114	(35)	-	4	83

			2021		
(in millions of Korean won)	At Jan. 1	Addition (Reversal)	Write-off	Other	At Dec. 31
Trade receivables	112,516	(23,249)	(5,528)	1,784	85,523
Other receivables					
Current	19,229	716	(3,586)	(4,642)	11,717
Non-current	35	76	-	3	114

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

(g) Trade receivables have been discounted through collateralized borrowing agreements with banks for the year ended December 31, 2022. In case the customers default, the Group has an obligation to pay the related amounts to the banks. As a result, this transaction has been accounted for as a collateralized borrowing (Note 16). Discounted trade receivables as at December 31, 2022 amount to ₩41,026 million (December 31, 2021: ₩51,577 million).

8. Other Financial Assets and Liabilities

(a) Details of other financial assets and liabilities as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Other financial assets		
Derivatives	194,049	47,114
Financial assets at fair value through other comprehensive income Financial assets at fair value through profit	118,926	121,222
or loss	106,006	73,518
Total	418,981	241,854
Current	7,823	18,276
Non-current	411,158	223,578
(in millions of Korean won)	December 31, 2022	December 31, 2021
Other financial liabilities		
Derivatives	20,550	68,188
Financial guarantee liability	115	114
Total	20,665	68,302
Current	10,237	8,512
Non-current	10,428	59,790

	December 31, 2022		December 31, 2021		
(in millions of Korean won)	Assets	Liabilities	Assets	Liabilities	
Current					
Currency forward	2,402	10,122	6,332	8,398	
Cross-currency swap	4,504	-	9,647	-	
Interest rate swap	555				
Subtotal	7,461	10,122	15,979	8,398	
Non-current					
Cross-currency swap	143,185	6,357	31,135	1,420	
Interest rate swap	43,403	806	-	54,219	
Put option		3,265		4,151	
Subtotal	186,588	10,428	31,135	59,790	
Total	194,049	20,550	47,114	68,188	

(b) Details of derivatives as at December 31, 2022 and 2021, are as follows:

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

(c) Changes in financial assets at fair value through other comprehensive income for the years ended December 31, 2022 and 2021, are as follows:

	2022							
(in millions of Korean won)	At January 1	Acquisition	Disposal	Transfer	Valuation	Other	At December 31	
Listed equity securities	60,441	825	(2)	-	(32,450)	611	29,425	
Unlisted equity securities	60,781	22,881	-	1,600	-	4,239	89,501	
Debt securities	-	5,751	(5,751)	-		-		
Total	121,222	29,457	(5,753)	1,600	(32,450)	4,850	118,926	

	2021						
(in millions of Korean won)	At January 1	Acquisition	Disposal	Transfer	Valuation	Other	At December 31
Listed equity securities	58,103	-	(13,883)	43,702	(28,765)	1,284	60,441
Unlisted equity securities	59,317	12,141	-	(25,625)	11,939	3,009	60,781
Total	117,420	12,141	(13,883)	18,077	(16,826)	4,293	121,222

(d) Changes in financial assets at fair value through profit or loss for the years ended December 31, 2022 and 2021, are as follows:

	2022						
(in millions of Korean won)	At January 1	Acquisition	Disposals	Transfer	Valuation	Others	At December 31
Listed equity securities	2,297	-	(845)	167	(1,371)	114	362
Unlisted equity securities ¹	71,221	33,033	(15,674)	(1,767)	17,057	1,141	105,011
Debt securities		633			-	-	633
Total	73,518	33,666	(16,519)	(1,600)	15,686	1,255	106,006

	2021						
(in millions of Korean won)	At January 1	Acquisition	Disposals	Transfer	Valuation	Others	At December 31
Listed equity securities	-	-	(6,781)	1,521	6,904	653	2,297
Unlisted equity securities ¹	29,844	15,654	(9,230)	(3,516)	35,697	2,772	71,221
Debt securities	7,615	5,232		(16,082)	2,961	274	
Total	37,459	20,886	(16,011)	(18,077)	45,562	3,699	73,518

¹ Equity securities in CerebrumX Labs, Inc and Aurora Labs Itd, which the Group can exercise a significant influence in the Board of Directors of the investee although the percentage of ownership is less than 20%, are included. The equity securities are held by LG Electronics Fund I LLC, a subsidiary, and measured at fair value due to exemption from applying the equity method.

9. Inventories

(a) Inventories as at December 31, 2022 and 2021, consist of:

	December 31, 2022			December 31, 2021			
(in millions of Korean won)	Cost	Valuation allowance	Carrying amount	Cost	Valuation allowance	Carrying amount	
Finished products and merchandise	5,582,184	(182,917)	5,399,267	5,804,591	(140,508)	5,664,083	
Work-in-process	604,495	(15,473)	589,022	485,275	(11,547)	473,728	
Raw materials and supplies	3,342,626	(223,151)	3,119,475	3,377,654	(103,212)	3,274,442	
Other	358,168	(77,124)	281,044	374,978	(33,213)	341,765	
Total	9,887,473	(498,665)	9,388,808	10,042,498	(288,480)	9,754,018	

- (b) In continuing operations, the cost of inventories recognized as an expense during the year ended December 31, 2022 amounted to ₩61,149,151 million (2021: ₩53,538,387 million). These were included in 'cost of sales'. Loss on valuation of inventories during the year ended December 31, 2022 amounted to ₩ 341,731 million (2021: ₩ 178,118 million). In discontinued operations, the cost of inventories recognized as an expense during the year ended December 31, 2022 amounted to ₩282,618 million (2021: ₩2,341,111 million). These were included in 'cost of sales'. Loss on valuation of inventories during the year ended December 31, 2022 amounted to ₩282,618 million (2021: ₩2,341,111 million). These were included in 'cost of sales'. Loss on valuation of inventories during the year ended December 31, 2022 amounted to ₩30,902 million (2021: ₩66,225 million).
- (c) There is no inventory provided as collateral for borrowings as at December 31, 2022.

10. Contract Assets and Contract Liabilities

(a) Contract assets as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Due from customers	639,024	496,732
(Less: allowance for doubtful accounts)	(4,170)	(3,901)
Right to recover returned products	126,522	136,587
Costs to fulfill contracts and others	307,306	280,048
Total	1,068,682	909,466
Current	704,039	612,754
Non-current	364,643	296,712

(b) Contract liabilities as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Expected promotional incentives for customers	739,990	819,831
Expected returns from customers	221,652	218,642
Customer loyalty program	113,625	114,406
Rendering of warranty services	136,636	95,871
Due to customers and others	279,286	252,632
Total	1,491,189	1,501,382
Current	1,443,977	1,453,996
Non-current	47,212	47,386

(c) Revenue recognized in relation to contract liabilities for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022	2021
Revenue recognized that was included in the contract liability amount at the beginning of the year:		
Due to customers and others	183,570	144,091
Customer loyalty program	85,169	77,197
Rendering of warranty services	46,908	44,391
Total	315,647	265,679
Revenue recognized from performance obligations satisfied in previous		
year	11,075	16,888

(d) Unsatisfied long-term contracts

At the end of the reporting period, the total amount of transaction price allocated to the unsatisfied or partially unsatisfied performance obligations was $\forall 1,584,092$ 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, 2022, the Group recognized impairment loss amounting to ₩337 million (2021: reversal of impairment loss of ₩3,370 million) in relation to due from customers, and amortization and others of ₩95,792 million (2021: ₩73,970 million) in relation to costs to fulfill a contract.

11. Other Assets

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

(in millions of Korean won)	December 31, 2022	December 31, 2021	
Current:			
Advances	168,853	79,393	
Prepaid expenses	312,961	281,384	
Prepaid value added tax	1,170,316	814,361	
Others ¹	194,091	714,721	
Subtotal	1,846,221	1,889,859	
Non-current:			
Long-term prepaid expenses	310,341	332,167	
Long-term advances	-	50	
Other investment assets	170	156	
Subtotal	310,511	332,373	
Total	2,156,732	2,222,232	

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 at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	Land	Buildings	Structures	Machinerv	Tools	Equipment	Other	Construction -in-progress	Total
At December 31, 2022									
Acquisition cost	3,161,625	10,519,082	478,342	10,216,792	3,659,566	1,332,545	1,406,017	737,024	31,510,993
Accumulated depreciation	(186,877)	(3,559,631)	(224,732)	(6,479,339)	(3,047,018)	(897,604)	(818,475)	-	(15,213,676)
Accumulated impairment losses	-	(116,948)	(10,530)	(272,886)	(36,291)	(5,292)	(5,934)	-	(447,881)
Government grants	(9,222)	(542)	(7)	(7,650)	(75)	(102)			(17,598)
Net book amount	2,965,526	6,841,961	243,073	3,456,917	576,182	429,547	581,608	737,024	15,831,838
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At December 31, 2021									
Acquisition cost	3,058,006	10,131,052	484,983	9,493,363	3,462,304	1,229,057	1,465,425	554,086	29,878,276
Accumulated depreciation	(164,143)	(3,431,464)	(223,650)	(6,212,407)	(2,912,585)	(852,284)	(776,183)	- ((14,572,716)
Accumulated impairment losses	(9,122)	(173,775)	(10,439)	(347,816)	(33,306)	(6,349)	(6,899)	-	(587,706)
Government grants	(9,073)	(683)	(8)	(7,029)	(274)	(3)			(17,070)
Net book amount	2,875,668	6,525,130	250.886	2,926,111	516,139	370,421	682,343	554,086	14,700,784

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

					2022				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1	2,875,668	6,525,130	250,886	2,926,111	516,139	370,421	682,343	554,086	14,700,784
Acquisitions Acquisition from business	165,730	621,584	6,148	95,189	204,920	168,957	82,248	2,479,528	3,824,304
combination Reclassification from	-	-	-	110	3	110	119	-	342
assets held for sale	-	1,371	-	-	-	-	-	-	1,371
Transfer ¹	7,982	384,270	7,122	1,621,628	222,579	28,104	131,270	(2,304,516)	98,439
Disposals and others	(49,376)	(53,798)	(4,199)	(24,602)	(7,595)	(4,847)	(5,635)	-	(150,052)
Decrease due to transfer of business	-	-	-	-	(52)	(5)	-	-	(57)
Depreciation	(44,683)	(581,286)	(19,265)	(1,104,748)	(354,308)	(136,361)	(288,078)	-	(2,528,729)
Impairment losses ^{2,3,4}	-	(120,160)	(348)	(84,663)	(5,501)	(302)	(20,910)	-	(231,884)
Exchange differences	10,205	64,850	2,729	27,892	(3)	3,470	251	7,926	117,320
At December 31	2,965,526	6,841,961	243,073	3,456,917	576,182	429,547	581,608	737,024	15,831,838

					2021				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1	2,856,182	6,156,511	228,521	2,650,789	449,000	320,231	747,070	565,694	13,973,998
Acquisitions	85,824	520,193	10,332	159,710	204,418	139,692	75,690	1,928,174	3,124,033
Acquisition from business combination Reclassification from assets held for sale	- 73,198	887	- 585	- 902	- 134	152	-	-	1,039
Transfer	1,002	336,531	27,398	1,292,271	238,672	32,569	163,106	(1,933,328)	158,221
Disposals and others	(39,013)	(189,774)	(398)	(6,582)	(9,390)	(2,195)	(18,953)	(16,852)	(283,157)
Decrease due to transfer of business	(37,023)	(80,587)	(5,117)	(57,588)	(3,526)	(1,069)	(1,368)	(906)	(187,184)
Depreciation	(38,761)	(522,107)	(17,776)	(1,040,539)	(357,957)	(127,502)	(274,381)	-	(2,379,023)
Impairment losses ^{2,3,4}	(9,122)	(11,938)	(2,794)	(148,536)	(22,317)	(717)	(15,523)	-	(210,947)
Reclassification to assets held for sale	(34,350)	(51,787)	(8)	(19,084)	(50)	(433)	(1)	-	(105,713)
Exchange differences	17,731	151,862	10,143	94,768	17,155	9,577	5,042	11,304	317,582
At December 31	2,875,668	6,525,130	250,886	2,926,111	516,139	370,421	682,343	554,086	14,700,784

¹ The transfer of other property, plant and equipment amounting to ₩ 101,853 million was made from inventories to rental assets.

² The Group conducted a periodic impairment test, accordingly, impairment loss of ₩9,593 million (H&A: ₩8,333 million, BS: ₩1,260 million) (2021: ₩109,672 million) for some of business under H&A and BS segment, where sales are expected to decline in the future, was recognized as 'other non-operating expenses'. This 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 (Note 13).

³ For the year ended December 31, 2022, impairment loss on property, plant and equipment from discontinued operations of energy business amounting to ₩ 84,592 million is included.

⁴ For the year ended December 31, 2022, impairment loss on property, plant and equipment from discontinued operations of MC business amounting to ₩925 million (2021: ₩33,550 million) is included.

(c) Line items including depreciation in the consolidated statements of profit or loss for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Continuing operations		
Cost of sales	1,912,579	1,741,214
Selling and marketing expenses	269,144	237,433
Administrative expenses	160,995	143,410
Research and development expenses	101,789	75,128
Service costs	35,631	30,827
Other non-operating expenses	26,540	10,278
Subtotal	2,506,678	2,238,290
Discontinued operations	22,051	140,733
Total	2,528,729	2,379,023

(d) Changes of right-of-use assets for the years ended December 31, 2022 and 2021, are as follows:

-					2022				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1	262,766	670,299	1,548	1,865	1,957	12,124	84,766	53	1,035,378
Acquisitions	89,370	429,402	211	-	1	9,338	64,438	-	592,760
Transfer	(3,413)	-	-	-	-	-	-	-	(3,413)
Disposals and others	(17,197)	(31,597)	-	(119)	-	(133)	(4,565)	-	(53,611)
Depreciation	(44,683)	(260,100)	(932)	(662)	(1,162)	(6,809)	(56,945)	-	(371,293)
Exchange differences	801	5,089	15	12	1	16	1,260	37	7,231
At December 31	287,644	813,093	842	1,096	797	14,536	88,954	90	1,207,052

					2021				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1	225,017	624,050	635	1,227	3,069	10,349	101,810	53	966,210
Acquisitions	75,973	267,301	1,871	2,184	109	7,292	47,957	-	402,687
Acquisition from business combination	-	887	-	-	-	-	-	-	887
Transfer	-	2	-	-	-	-	-	(2)	-
Disposals and others	(5,638)	(18,123)	(137)	(838)	(14)	(415)	(3,442)	-	(28,607)
Depreciation	(38,761)	(229,932)	(835)	(760)	(1,206)	(5,441)	(64,761)	-	(341,696)
Exchange differences	6,175	26,114	14	52	(1)	339	3,202	2	35,897
At December 31	262,766	670,299	1,548	1,865	1,957	12,124	84,766	53	1,035,378

The amount recognized as lease income in relation to sublease of the above right-of-use assets for the year ended December 31, 2022, was $\forall 7,741$ million (2021: $\forall 9,144$ million).

(e) Capitalized borrowing costs and capitalization rates for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Capitalized borrowing costs	4,723	2,793
Capitalization rate (%)	4.92	2.65

- (f) Details of property, plant and equipment provided as collateral as at December 31, 2022 and 2021, are as follows:
 - i) Details of collateral provided for the Group

		December 31, 2022								
(in millions of Korean won)	Carrying amount	Secured amount	Related line item	Related amount	Secured party					
Land and buildings	172,889	199,236	Borrowings and others	76,595	Korea Development Bank and others					

	December 31, 2021								
(in millions of Korean won)	Carrying amount	Secured amount	Related line item	Related amount	Secured party				
Land and buildings	86,907	165,238	Borrowings and others	157,460	Korea Development Bank and others				

ii) Details of collateral provided for external parties

At the end of the reporting period, buildings were pledged as a collateral to guarantee the land lessor's obligation to Shinhan Bank and others, the mortgagee, within the secured amount of up to \forall 14,400 million (2021: \forall 14,040 million). The carrying amount of the pledged asset was \forall 5,165 million as at December 31, 2022 (2021: \forall 5,923 million).

13. Intangible assets

(a) Details of intangible assets as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	Goodwill	Industrial property rights	Development costs ¹	Membership rights	Other	Construction- in-progress ¹	Total
At December 31, 2022							
Acquisition cost	926,903	956,879	3,314,999	35,320	1,466,537	762,912	7,463,550
Accumulated amortization and impairment losses	(637,985)	(498,321)	(2,790,879)	(762)	(1,040,283)	(40,490)	(5,008,720)
Net book amount	288,918	458,558	524,120	34,558	426,254	722,422	2,454,830

At December 31, 2021							
Acquisition cost	886,581	907,218	3,163,905	53,446	1,464,811	746,555	7,222,516
Accumulated amortization and impairment losses	(637,985)	(454,057)	(2,618,301)	(640)	(1,040,142)	(28,142)	(4,779,267)
Net book amount	248,596	453,161	545,604	52,806	424,669	718,413	2,443,249

¹ As at December 31, 2022, internally generated development costs are included in development costs and construction-in-progress amounting to ₩356,786 million and ₩390,979 million (2021: ₩532,043 million and ₩360,556 million), respectively.

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

				2022			
(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction- in-progress	Total
At January 1	248,596	453,161	545,604	52,806	424,669	718,413	2,443,249
Acquisitions	-	2,330	27,068	2,962	134,021	311,438	477,819
Acquisitions by internal development	-	-	-	-	-	209,127	209,127
Acquisitions due to business combination ¹	23,098	4	-	-	9,129	-	32,231
Transfer	-	111,076	179,157	-	31,376	(479,361)	(157,752)
Disposals and others Decrease due to transfer of	-	(27,440)	(5,531)	(21,188)	(3,954)	(25,236)	(83,349)
business	-	-	(7,810)	-	(34)	(4,363)	(12,207)
Amortization	-	(80,023)	(226,644)	(18)	(173,071)	-	(479,756)
Impairment losses2,3,4	-	(616)	12,058	-	(2,069)	(7,930)	1,443
Exchange differences	17,224	66	218	(4)	6,187	334	24,025
At December 31	288,918	458,558	524,120	34,558	426,254	722,422	2,454,830

	2021						
(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction- in-progress	Total
At January 1	487,404	484,756	571,382	51,583	1,074,308	469,647	3,139,080
Acquisitions	-	32	18,002	1,457	169,586	244,574	433,651
Acquisitions by internal development	-	-	-	-	-	195,601	195,601
Acquisitions due to business combination ¹	119,087	-	-	-	58,018	-	177,105
Reclassification from assets held for sale	-	410	21	-	-	-	431
Transfer	-	110,144	250,683	-	26,795	(387,622)	-
Disposals and others Decrease due to transfer of	-	(52,598)	(7,767)	(324)	(2,335)	(30,433)	(93,457)
business	-	(461)	(403)	-	(189)	-	(1,053)
Amortization	-	(81,898)	(242,696)	-	(260,156)	-	(584,750)
Impairment losses ^{2,3,5} Reclassification to assets	(369,703)	(4,635)	(57,658)	-	(633,650)	(9,169)	(1,074,815)
held for sale	-	(1,940)	-	-	(23)	-	(1,963)
Others ⁶	-	-	-	-	-	243,226	243,226

Exchange differences	11,808	(649)	14,040	90	(7,685)	(7,411)	10,193
At December 31	248,596	453,161	545,604	52,806	424,669	718,413	2,443,249

¹ The Group recognized goodwill and other identifiable intangible assets arising from business combination with APPLEMANGO CO.,LTD. for the year ended December 31, 2022 and Cybellum Technologies Ltd. for the year ended December 31, 2021 (Note 41).

² The Group conducted a periodic impairment test, accordingly, impairment loss of ₩1,340 million (H&A: ₩991 million, BS: ₩349 million) (2021: ₩732,480 million) for some of business under H&A and BS segment, where sales are expected to decline in the future, was recognized as 'other non-operating expenses'. This 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.

³ As a result of an impairment test for all projects related to internally generated development costs and others, a reversal of impairment loss of development costs relating to certain projects with improved business value, amounting to ₩25,112 million (2021: impairment loss of ₩46,991 million), was recognized as 'other non-operating expenses'.

⁴ For the year ended December 31, 2022, impairment loss on intangible assets from discontinued operations of energy business amounting to ₩309 million is included.

⁵ For the year ended December 31, 2021, impairment loss on intangible assets from discontinued operations of MC business amounting to ₩293,348 million is included.

⁶ Others include reclassification of long-term advances and others.

(c) Line items including amortization of intangible assets for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Continuing operations		
Cost of sales	342,067	364,055
Selling and marketing expenses	17,733	21,372
Administrative expenses	50,176	53,727
Research and development expenses	64,827	49,315
Service costs	3,612	2,562
Other non-operating expenses	27	23
Subtotal	478,442	491,054
Discontinued operations	1,314	93,696
Total	479,756	584,750

(d) Capitalized borrowing costs and capitalization rates for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Capitalized borrowing costs	2,880	2,187
Capitalization rate (%)	3.05	2.90

(e) There are no intangible assets pledged as a collateral for borrowings at the end of the reporting period.

- (f) Impairment tests for goodwill
 - i) Goodwill is allocated among the Group's cash generating units (CGUs) under each operating segment. At the end of the reporting period, an operating segment-level summary of goodwill allocation is presented below:

(in millions of Korean won)	H&A	HE	VS	Others	Total
Goodwill	2,570	133,493	128,804	24,051	288,918

- ii) The recoverable amount of CGUs has been determined based on value-in-use or fair value less costs of disposal. These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the estimated growth rate which does not exceed the long-term average growth rate for the industry in which the identified CGUs operate.
- iii) Management determined the estimated pre-tax cash flow based on past performance and its expectations of market development. Value-in-use is measured by applying the 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
Discount rates	11.63%	11.98%	12.16%
Nominal permanent growth rates	1%	1%	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)	VS1	
	1%p increase	1%p decrease
Discount rates	208,507	(269,087)
Nominal permanent growth rates	(159,198)	123,977

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

(g) Research and development expenses

Research and development expenses for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021	
Continuing operations			
Uncapitalized research and development expenditures Amortization from internally generated development	3,804,679	3,367,346	
_costs	238,640	273,685	
Subtotal	4,043,319	3,641,031	
Discontinued operations	8,267	305,480	
Total	4,051,586	3,946,511	

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 at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Associates	3,909,200	5,099,208
Joint ventures	54,350	50,036
Total	3,963,550	5,149,244

ii) Investments in associates as at December 31, 2022 and 2021, are as follows:

	December 31, 2022			December 31, 2021				
(in millions of Korean won)	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount	Acquisition cost	Net asset amount	Unrealized gain	Carrying amount
LG Display Co., Ltd.	679,218	3,744,719	(98,205)	3,646,514	679,218	4,972,517	(100,046)	4,872,471
Ericsson-LG Co., Ltd.	12,649	65,982	-	65,982	12,649	60,008	-	60,008
Hitachi-LG Data Storage Inc.(HLDS)	101,961	57,094	(1,655)	55,439	101,961	54,189	(1,482)	52,707
CCP-LGE OWNER, LLC ¹	11,652	9,977	-	9,977	11,652	9,720	-	9,720
ROBOTIS Co., Ltd.1	9,000	8,668	-	8,668	9,000	8,639	-	8,639
Acryl Inc. ¹	2,000	751	-	751	2,000	1,128	-	1,128
Robostar Co., Ltd.	88,112	79,202	(2,312)	76,890	88,112	78,755	(1,722)	77,033
AiM Future, Inc. Mirae Asset-LG Electronics	800	959	-	959	800	993	-	993
New Growth Fund I	28,023	26,880	-	26,880	10,000	9,489	-	9,489
Rinse, Inc. ¹	18,184	17,140		17,140	7,030	7,020		7,020
Total	951,599	4,011,372	(102,172)	3,909,200	922,422	5,202,458	(103,250)	5,099,208

¹ The financial statements as at November 30, 2022 were used due to a different closing date.

		Decembe	r 31, 2022			Decembe	r 31, 2021	
(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	18,368	(264)	18,104	14,718	22,121	(278)	21,843
EIC PROPERTIES PTE LTD.	9,636	18,518	-	18,518	9,636	16,871	-	16,871
LG-MRI LLC Neolite ZKW Lightings PVT Ltd.	516	1,289	-	1,289	516	1,445	-	1,445
LG-LHT Aircraft Solutions GmbH LG-LHT Passenger Solutions	34,342	7,117	-	7,117	22,984	4,441	-	4,441
GmbH GUANGDONG SMART LIFE	32,817	4,468	-	4,468	20,528	3,475	-	3,475
TECHNOLOGY CO., LTD.	1,535	1,797	-	1,797	1,193	1,436	-	1,436
Alluto LLC	2,095	401	-	401	2,095	525	-	525
FITNESSCANDY Co., Ltd.	4,233	2,656		2,656				<u> </u>
Total	99,892	54,614	(264)	54,350	71,670	50,314	(278)	50,036

iii) Investments in joint ventures as at December 31, 2022 and 2021, are as follows:

(b) Associates and joint ventures

i) Associates as at December 31, 2022, are as follows:

Name of associate	Location	Closing month	Percentage of ownership (%)	Nature of relationships with the Group
LG Display Co., Ltd.	Korea	December	37.9	Production and supply of display products
Ericsson-LG Co., Ltd.	Korea	December	25.0	Supply of communication devices and network solution products
Hitachi-LG Data Storage Inc.(HLDS)	Japan	December	49.0	Production and supply of data storages
CCP-LGE OWNER, LLC ¹	USA	December	71.0	Solar power plant
ROBOTIS Co., Ltd. ²	Korea	December	7.9	Production and sales of personal robot
Acryl Inc. ²	Korea	December	13.6	Development and sales of software
Robostar Co., Ltd.	Korea	December	33.4	Production and sales of industrial robot
AiM Future, Inc. ²	Korea	December	15.6	A.I. solution
Mirae Asset-LG Electronics New Growth Fund I	Korea	December	50.0	Investment in technology start ups
Rinse, Inc.	USA	December	23.3	Laundry service

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

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

ii) Joint ventures as at December 31, 2022, 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
LG-MRI LLC	USA	December	50.0	Production and supply of digital display products
Neolite ZKW Lightings PVT Ltd.	India	March	26.0	Production and sales of vehicle components
LG-LHT Aircraft Solutions GmbH	Germany	December	49.0	Production and sales of aircraft components
LG-LHT Passenger Solutions GmbH	Germany	December	49.0	Production and sales of aircraft components
GUANGDONG SMART LIFE TECHNOLOGY CO., LTD.	China	December	35.0	Sales of electronic products
Alluto LLC ¹	USA	December	51.0	Automotive software license
FITNESSCANDY Co., Ltd. ¹	Korea	December	51.0	Production and sales of media contents

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 the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)					2022				
	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Changes in share of associates	Exchange differences	At Dec. 31
LG Display Co., Ltd.	4,872,471	-	(1,162,392)	(21,800)	46,391	(88,156)	-	-	3,646,514
Ericsson-LG Co., Ltd.	60,008	-	12,567	316	1,341	(8,250)	-	-	65,982
Hitachi-LG Data Storage Inc.(HLDS)	52,707	-	1,787	945	-	-	-	-	55,439
CCP-LGE OWNER, LLC	9,720	-	(269)	-	-	(121)	(31)	678	9,977
ROBOTIS Co.,Ltd.	8,639	-	(561)	138	-	-	452	-	8,668
Acryl Inc.	1,128	-	(377)	-	-	-	-	-	751
Robostar Co.,Ltd.	77,033	-	(465)	(3)	325	-	-	-	76,890
AiM Future, Inc. Mirae Asset-LG	993	-	(34)	-	-	-	-	-	959
Electronics New Growth Fund I	9,489	20,000	1,731	-	-	(4,340)	-	-	26,880
Rinse, Inc.	7,020	11,153	(1,073)	(50)			90		17,140
Total	5,099,208	31,153	(1,149,086)	(20,454)	48,057	(100,867)	511	678	3,909,200

(in millions of Korean won)					2021				
	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Changes in share of associates	Exchange differences	At Dec. 31
LG Display Co., Ltd.	4,214,088	-	454,787	265,548	(61,952)	-	-	-	4,872,471
Ericsson-LG Co., Ltd.	55,468	-	9,592	(17)	215	(5,250)	-	-	60,008
Hitachi-LG Data Storage Inc.(HLDS)	48,822	-	(180)	4,065	-	-	-	-	52,707
CCP-LGE OWNER, LLC	9,723	-	(838)	-	-	-	-	835	9,720
ROBOTIS Co.,Ltd.	8,396	-	(325)	568	-	-	-	-	8,639
Acryl Inc.	1,376	-	(309)	-	-	-	61	-	1,128
Robostar Co.,Ltd.	77,943	-	(1,125)	70	145	-	-	-	77,033
AiM Future, Inc. Mirae Asset-LG	800	-	17	-	-	-	176	-	993
Electronics New Growth Fund I	-	10,000	(511)	-	-	-	-	-	9,489
Rinse, Inc.		7,030	(10)						7,020
Total	4,416,616	17,030	461,098	270,234	(61,592)	(5,250)	237	835	5,099,208

ii) Changes in the carrying amounts of investments in joint ventures for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)					2022				
	At Jan. 1	Acquisition	Share of profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Disposal	Exchange differences	At Dec. 31
Arcelik-LG Klima Sanayi									
ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE	21,843	-	2,163	(5,902)	-	-	-	-	18,104
LTD.	16,871	-	381	1,266	-	-	-	-	18,518
LG-MRI LLC	1,444	-	320	-	-	(540)	-	65	1,289
Neolite ZKW Lightings									
PVT Ltd.	-	-	-	-	-	-	-	-	-
LG-LHT Aircraft Solutions									
GmbH	4,442	11,359	(8,777)	93	-	-	-	-	7,117
LG-LHT Passenger			<i></i>						
Solutions GmbH	3,475	12,290	(11,370)	73	-	-	-	-	4,468
GUANGDONG SMART LIFE TECHNOLOGY									
CO., LTD.	1,436	341	84	(64)	-	-	-	-	1,797
Alluto LLC	525	-	(164)	-	-	-	-	40	401
FITNESSCANDY Co., Ltd.		4,233	(1,577)						2,656
Total	50,036	28,223	(18,940)	(4,534)		(540)		105	54,350

(in millions of Korean won)					2021				
	At Jan. 1	Acquisition	Share of _profit(loss)	Other comprehen- sive income (excluding remeasure- ment)	Remeasure- ment component	Withdrawal of investments by dividend / capital reduction / liquidation and others	Disposal	Exchange differences	At Dec.
Arcelik-LG Klima Sanayi									
ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE	31,302	-	5,812	(15,271)	-	-	-	-	21,843
LTD.	15,207	-	297	1,367	-	-	-	-	16,871
LG-MRI LLC	1,118	-	515	-	-	(274)	-	85	1,444
Neolite ZKW Lightings									
PVT Ltd.	-	-	-	-	-	-	-	-	-
LG-LHT Aircraft Solutions									
GmbH	2,724	10,946	(9,215)	(13)	-	-	-	-	4,442
LG-LHT Passenger									
Solutions GmbH	2,011	9,891	(8,427)	-	-	-	-	-	3,475
GUANGDONG SMART									
LIFE TECHNOLOGY									
CO., LTD.	939	302	64	131	-	-	-	-	1,436
Alluto LLC	1,673		(1,263)					115	525
Total	54,974	21,139	(12,217)	(13,786)		(274)		200	50,036

(d) Summarized financial information of the associates that are material to the reporting entity as at December 31, 2022 and 2021, and for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Current assets	9,444,035	13,187,067
Non-current assets	26,241,984	24,967,448
Total assets	35,686,019	38,154,515
Current liabilities	13,961,520	13,994,817
Non-current liabilities	10,405,272	9,397,197
Total liabilities	24,366,792	23,392,014
Equity attributable to owners of LG Display Co., Ltd.	9,879,589	13,118,855
Non-controlling interests	1,439,638	1,643,646
Total equity	11,319,227	14,762,501

- LG Display Co., Ltd. and its subsidiaries

(in millions of Korean won)	2022	2021
Net sales	26,151,781	29,878,043
Profit (Loss) for the year	(3,195,585)	1,328,033
Equity attributable to owners of LG Display Co., Ltd.		
Profit (Loss) for the year	(3,071,565)	1,180,671
Other comprehensive income (Loss) , net of tax	64,879	537,141
Total comprehensive income (Loss) , net of tax	(3,006,686)	1,717,812

Dividends received from LG Display Co., Ltd. for the year ended December 31, 2022 are ₩88,156 million (2021: nil).

(e) Reconciliations of the summarized financial information of associates that are material to the reporting entity to the carrying amount of the Group's interest for the years ended December 31, 2022 and 2021, are as follows:

- LG Display Co., Ltd. and its subsidiaries

(in millions of Korean won)	2022	2021
Opening equity attributable to owners of LG Display Co., Ltd.	13,118,855	11,401,043
Profit (Loss) for the year	(3,071,565)	1,180,671
Other comprehensive income, net of tax	64,879	537,141
Dividends	(232,580)	-
Closing equity attributable to owners of LG Display Co., Ltd.	9,879,589	13,118,855
Group ownership (%)	37.9%	37.9%
The Group's share at the end of the reporting period	3,744,719	4,972,517
Unrealized gain	(98,205)	(100,046)
Carrying amount at the end of the reporting period	3,646,514	4,872,471

(f) The Group's share in the operating results of the individually insignificant associates and joint ventures for the years ended December 31, 2022 and 2021, is as follows:

	20)22	2021		
(in millions of Korean won)	Associates	Joint ventures	Associates	Joint ventures	
Profit (Loss) for the year	13,997	(18,948)	7,391	(12,368)	
Other comprehensive income (loss), net of tax	2,989	(4,538)	5,050	(13,786)	
Total comprehensive income (loss), net of tax	16,986	(23,486)	12,441	(26,154)	

- (g) There is no accumulated unrecognized change in equity due to discontinued use of the equity method for the years ended December 31, 2022 and 2021.
- (h) Details of marketable investments in associates as at December 31, 2022 and 2021, are as follows:

			December 31, 2022		
	Туре	Shares held (Unit: shares)	Price per share (Unit: Korean won)	Fair value <i>(in million</i> s	Book amount of Korean won)
LG Display Co., Ltd.	Associate	135,625,000	12,450	1,688,531	3,646,514
Robostar Co.,Ltd	Associate	3,256,500	18,650	60,734	76,890
ROBOTIS Co.,Ltd.	Associate	961,550	22,500	21,635	8,668
			December 04,0004		
			December 31, 2021		
	Туре	Shares held (Unit: shares)	Price per share (Unit: Korean won)	Fair value (in millions	Book amount of Korean won)
LG Display Co., Ltd.	Type Associate		Price per share		
LG Display Co., Ltd. Robostar Co.,Ltd		(Unit: shares)	Price per share (Unit: Korean won)	(in millions	of Korean won)

15. Investment Properties

(a) Details of investment properties as at December 31, 2022 and 2021, are as follows:

	December 31, 2022				
(in millions of Korean won)	Land	Buildings	Total		
At December 31, 2022					
Acquisition cost	4,239	158,249	162,488		
Accumulated depreciation	(118)	(4,930)	(5,048)		
Accumulated impairment					
losses	<u> </u>	(55,563)	(55,563)		
Net book amount	4,121	97,756	101,877		

	December 31, 2021				
(in millions of Korean won)	Land	Buildings	Total		
At December 31, 2021					
Acquisition cost	194	817	1,011		
Accumulated depreciation		(641)	(641)		
Net book amount	194	176	370		

(b) Changes in investment properties for the years ended December 31, 2022 and 2021, are as follows:

	2022					
(in millions of Korean won)	Land	Buildings	Total			
At January 1	194	176	370			
Transfer	4,045	157,753	161,798			
Depreciation	(118)	(4,610)	(4,728)			
Impairment losses		(55,563)	(55,563)			
At December 31	4,121	97,756	101,877			

	2021				
(in millions of Korean won)	Land	Buildings	Total		
At January 1	194	185	379		
Depreciation	<u> </u>	(9)	(9)		
At December 31	194	176	370		

- (c) The fair value of investment property is valued by an independent professional appraiser with certified qualification or determined based on the evaluation reflecting official land value or recently available transaction price of similar properties, and it is classified as 'level 3' of the fair value hierarchy. The fair value of investment property as at December 31, 2022, is ₩101,830 million (December 31, 2021: ₩505 million).
- (d) Rental income amounting to ₩3,288 million (2021: ₩127 million) and rental expenses amounting to ₩4,442 million (2021: ₩132 million) are recognized in the consolidated statements of profit or loss relating to the investment properties for the year ended December 31, 2022.
- (e) Gains on disposal amounting to ₩22 million are recognized relating to investment properties for the year ended December 31, 2022 (2021: nil).

16. Borrowings

(a) Carrying amounts of borrowings as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021	
Current			
Short-term borrowings	885,911	330,086	
Current portion of long-term borrowings	506,782	856,648	
Current portion of debentures	894,825	708,866	
Subtotal	2,287,518	1,895,600	
Non-current			
Long-term borrowings	4,584,578	3,142,863	
Debentures	4,173,091	4,893,090	
Subtotal	8,757,669	8,035,953	
Total	11,045,187	9,931,553	

(b) Details of borrowings as at December 31, 2022 and 2021, are as follows:

		Annual interest	Carrying	amount
(in millions of Korean won)	Latest maturity date	rate at December 31, 2022 (%)	December 31, 2022	December 31, 2021
Short-term borrowings in local currency				
Shinhan Bank and others ¹	-	3.62 ~ 5.20	100,051	24,869
Short-term borrowings in foreign currency				
Citibank and others ¹	-	2.30 ~ 19.25	785,860	305,217
Long-term borrowings in local currency Korea Development Bank and others Long-term borrowings in	2035. 1. 9	2.21 ~ 5.12	2,725,893	2,213,607
foreign currency Hana Bank and others	2031. 7.28	0.75 ~ 8.50	2,365,467	1,785,904
Local currency debentures				
Public, non-guaranteed bonds	2036. 5. 4	1.33 ~ 4.44	3,390,000	3,880,000
Private, non-guaranteed bonds	2041.2.9	1.99 ~ 5.56	1,230,000	1,080,000
Foreign currency debentures				
Private, non-guaranteed bonds	2028.6.8	5.35 ~ 6.36	258,765	460,668
Private, guaranteed bonds	2026.10.26	2.88 ~ 5.46	198,485	193,509
Less: discount on debentures			(9,334)	(12,221)
Total			11,045,187	9,931,553

¹ The above short-term borrowings in foreign currency include the short-term borrowings collateralized by trade receivables amounting to #41,026 million (2021: #51,577 million) as at December 31, 2022.

The Group entered into currency forward, interest rate swap and cross-currency swap contracts to

hedge cash flow risk related to floating interest rates and foreign exchange rates of certain portion of borrowings (Note 40).

The principal and interests of certain private guaranteed bonds are guaranteed by Shinhan Bank (Note 37).

17. Lease Liabilities

(a) Details of lease liabilities as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021	
Lease liabilities			
Current	303,969	292,526	
Non-current	792,266	662,896	
Total	1,096,235	955,422	

(b) The amounts, relating to leases, recognized in the consolidated statements of profit or loss for years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022 December 31, 2		
Continuing operations			
Interest expense relating on lease liabilities	36,128	30,722	
Short-term lease payments (included in cost of sales, selling and marketing expenses,			
administrative expenses, and others) Payments for leases of low-value assets that	56,962	58,912	
are not short-term leases (included in cost of sales, selling and marketing expenses,			
administrative expenses, and others)	29,392	26,881	
Expense relating to variable lease payments not included in the measurement of lease liabilities (included in selling and marketing expenses,			
administrative expenses, and others)	115,411	115,815	
Subtotal	237,893	232,330	
Discontinued operations	2,069	10,766	
Total	239,962	243,096	

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 are ₩568,066 million (2021: ₩543,786 million).

18. Other Payables

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

(in millions of Korean won)	December 31, 2022	December 31, 2021	
Current			
Non-trade payables	3,552,339	3,177,650	
Accrued expenses	985,754	886,499	
Dividends payable	189	279	
Leasehold deposits received	13,272	12,993	
Subtotal	4,551,554	4,077,421	
Non-current			
Non-trade payables	126,817	116,021	
Leasehold deposits received	9,692	309	
Subtotal	136,509	116,330	
Total	4,688,063	4,193,751	

19. Current and Deferred Income Tax

Income tax expense

(a) Details of income tax expense for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021	
Current income taxes			
Current tax on profits for the year	992,569	954,697	
Adjustments in respect of prior years	(32,233)	(20,341)	
Deferred income taxes			
Changes in temporary differences	(82,959)	(410,284)	
Changes in tax credit carryforwards	(334,439)	33,094	
Changes in tax loss carryforwards	(55,387)	(502)	
Income tax expense (benefit)	487,551	556,664	
Continuing operations	532,307	1,057,777	
Discontinued operations	(44,756)	(501,113)	

(b) The reconciliation between profit before income tax and income tax expense for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022	2021	
Continuing operations	2,539,811	3,838,896	
Discontinued operations	(189,137)	(1,867,260)	
Profit (Loss) before income tax	2,350,674	1,971,636	

(in millions of Korean won)	2022	2021
Tax expense based on applicable tax rate ¹	852,021	538,458
Income not subject to tax	(53,318)	(74,661)
Expenses not deductible for tax purposes	78,875	105,161
Tax credits/exemptions	(174,222)	(207,680)
Adjustments in respect of prior years	(32,233)	(20,341)
Others	(183,572)	215,727
Income tax expense (benefit)	487,551	556,664
Continuing operations	532,307	1,057,777
Discontinued operations	(44,756)	(501,113)
Effective tax rate	20.7%	28.2%

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 36.2% (2021: 27.3%) for the year ended December 31, 2022. The applicable tax rate has decreased due to changes in the proportions of each entity's profit (loss) before income tax.

Deferred income tax

(a) Deferred tax assets and deferred tax liabilities after offsetting as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Deferred tax assets:		
Deferred tax asset to be recovered within 12 months	1,077,159	876,658
Deferred tax asset to be recovered after more than 12 months	3,137,893	3,278,364
Deferred tax assets before offsetting	4,215,052	4,155,022
Deferred tax liabilities:		
Deferred tax liability to be settled within 12 months	193,607	402,208
Deferred tax liability to be settled after more than 12		
months	1,616,155	1,704,156
Deferred tax liabilities before offsetting	1,809,753	2,106,364
Deferred tax assets after offsetting	2,452,091	2,085,710
Deferred tax liabilities after offsetting	46,801	37,052

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

	2022					
	At	Business	Charged (credited) to the statements	Charged (credited) to other comprehensive	Exchange	At
(in millions of Korean won)	January 1	combination	of profit or loss	income	differences	December 31
Changes in temporary differences Investments in subsidiaries, associates and joint ventures	(445,134)	-	270,688	28.298	24	(146,124)
Property, plant and equipment	243,037	(1,909)	75,530	-	(4,300)	312,358
Accrued expenses	662,547	-	(107,800)	-	(2,559)	552,188
Provisions	652,713	-	(281,936)	-	1,659	372,436
Others	162,731		126,477	(141,774)	505	147,939
Subtotal	1,275,894	(1,909)	82,959	(113,476)	(4,671)	1,238,797
Tax credit carryforwards	683,951	-	334,439	-	-	1,018,390
Tax loss carryforwards	88,813		55,387		3,903	148,103
Deferred tax assets(liabilities)	2,048,658	(1,909)	472,785	(113,476)	(768)	2,405,290

	2021					
			Charged	Charged (credited) to		
			(credited) to	other		
	At	Business		comprehensive	Exchange	At
(in millions of Korean won)	January 1	combination	of profit or loss	income	<u>differences</u>	December 31
Changes in temporary						
differences						
Investments in subsidiaries, associates and joint						
ventures	(402,589)	-	(38,105)	(6,426)	1,986	(445,134)
Property, plant and equipment	141,866	-	103,919	-	(2,748)	243,037
Accrued expenses	523,849	(151)	146,356	-	(7,507)	662,547
Provisions	219,459	-	436,332	-	(3,078)	652,713
Others	495,917	(13,193)	(238,218)	(29,299)	(52,476)	162,731
Subtotal	978,502	(13,344)	410,284	(35,725)	(63,823)	1,275,894
Tax credit carryforwards	717,045	-	(33,094)	-	-	683,951
Tax loss carryforwards	88,572		502		(261)	88,813
Deferred tax assets(liabilities)	1,784,119	(13,344)	377,692	(35,725)	(64,084)	2,048,658

(c) Tax effects directly recognized in other comprehensive income directly for the years ended December 31, 2022 and 2021, are as follows:

	2022			2021		
	Before	Tax	After	Before	Тах	After
(in millions of Korean won)	tax	effects	tax	tax	effects	tax
Remeasurements of the net defined benefit						
liability	439,772	(115,005)	324,767	4,292	(4,098)	194
Cash flow hedges	135,583	(34,851)	100,732	89,804	(23,706)	66,098
Financial assets at fair value through other		. ,			. ,	
comprehensive income	(32,450)	8,082	(24,368)	(16,826)	1,697	(15,129)
Exchange differences on translation of						
foreign operations	293,835	28,298	322,133	668,042	(9,618)	658,424
Total	836,740	(113,476)	723,264	745,312	(35,725)	709,587

(d) Details of deductible (taxable) temporary differences, tax credit carryforwards and loss carry forwards unrecognized as deferred tax assets (liabilities) as at December 31, 2022, are as follows:

(in millions of Korean won)	Amount	Remark
Taxable temporary difference (investment in subsidiaries)	(7,646,326)	Planned permanent reinvestment of undistributed profit
Deductible temporary difference (investment in subsidiaries)	4,515,830	Unlikely to reverse (disposed of) in the foreseeable future
Tax credit carryforwards ¹	622,880	Uncertainty of future taxable profit
Loss carryforwards ²	63,374	Uncertainty of future taxable profit

¹ Unrecognized tax credit carryforwards as at December 31, 2022 will be expired from 2026.

² Unrecognized loss carryforwards as at December 31, 2022 will be expired from 2023

20. Post-employment Benefits

Defined Benefit Plan

(a) The amounts of net defined benefit liabilities (assets) as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Present value of funded obligations	3,787,030	4,200,364
Present value of unfunded obligations	152,566	52,362
Subtotal	3,939,596	4,252,726
Fair value of plan assets	(4,624,609)	(4,056,627)
Net defined benefit liabilities (assets) ¹	(685,013)	196,099

¹Net defined benefit assets are included.

(b) The amounts recognized in the consolidated statements of profit or loss for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Current service cost	439,722	427,432
Past service cost	21,631	203
Net interest cost	6,223	11,373
Operating management cost	3,287	2,992
Total	470,863	442,000

(c) Line items in which expenses are included for the years ended December 31, 2022 and 2021, are as follows:

2022	2021
203,325	210,325
114,603	69,389
34,256	24,934
75,695	72,356
32,365	28,601
460,244	405,605
10,619	36,395
470,863	442,000
	203,325 114,603 34,256 75,695 32,365 460,244 10,619

(d) Movements in the present value of defined benefit obligations for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
At January 1	4,252,726	4,029,147
Current service cost	439,722	427,432
Past service cost	21,631	203
Interest cost	120,731	97,075
Remeasurements for:		
 Actuarial loss (gain) arising from changes in demographic assumptions 	16,641	35,019
 Actuarial loss (gain) arising from changes in financial assumptions 	(576,157)	(157,137)
 Actuarial loss (gain) arising from experience adjustments 	82,740	94,476
Benefits paid	(422,056)	(273,706)
Increase due to business combination	-	-
Decrease due to plan liquidation and other	-	(753)
Others ¹	3,618	970
At December 31	3,939,596	4,252,726

¹Others include effects of exchange rate changes.

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

(in millions of Korean won)	2022	2021
At January 1	4,056,627	3,540,730
Interest income	114,508	85,702
Remeasurements of plan assets	(37,004)	(23,350)
Employer contributions	905,911	611,110
Benefits paid	(412,061)	(155,857)
Operating management cost	(3,287)	(2,992)
Others ¹	(85)	1,284
At December 31	4,624,609	4,056,627

¹Others include effects of exchange rate changes.

(f) The significant actuarial assumptions used as at December 31, 2022 and 2021, are as follows:

	December 31, 2022	December 31, 2021
Weighted average of discount rate of the Group	5.3%	2.9%
Weighted average of expected salary growth rate of the Group	5.9%	5.0%

As at December 31, 2022, the discount rates applied to the Parent Company and subsidiaries are within the range of 0.5% and 10.9% (December 31, 2021: 0.1% and 7.9%), and the expected salary growth rates are within the range of 1.0% and 10.0% (December 31, 2021: 1.0% and 10.0%).

(g) The sensitivity analysis of the defined benefit obligation to changes in principal assumptions as at December 31, 2022, is as follows:

(in millions of Korean won)	1%p increase	1%p decrease	
Discount rate	(339,850)	392,326	
Expected salary growth rate	399,245	(361,088)	

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

(h) Plan assets consist of:

	December 31, 2022		December 31, 2021	
(in millions of Korean won)	Amount	Composition (%)	Amount	Composition (%)
Securities combined with derivatives				
(guaranteed)	1,703,108	36.8	1,686,270	41.6
Time deposits and others	2,921,501	63.2	2,370,357	58.4

Total	4,624,609	100.0	4,056,627	100.0

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

(i) The weighted average duration of the defined benefit obligations is 10.03 years.

The Group evaluates the fund contribution level annually, and if there is a shortfall in the funds, the Group has a policy to finance the funds. Expected contributions to post-employment benefit plans for the year ending December 31, 2023, are $\forall 304,291$ million.

Defined Contribution Plan

The expense recognized in relation to defined contribution plan for the year ended December 31, 2022 was \forall 17,388 million (2021: \forall 16,292 million).

21. Provisions

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

		202	2		
	Litigation and				
(in millions of Korean won)	Warranty	Restoration	others	Total	
At January 1	2,767,091	50,480	165,438	2,983,009	
Additions ¹	823,873	(7,958)	60,285	876,200	
Utilization	(2,041,401)	(5,896)	(54,498)	(2,101,795)	
Exchange differences	7,071	(252)	4,702	11,521	
At December 31	1,556,634	36,374	175,927	1,768,935	
Current	1,436,859	10,701	33,245	1,480,805	
Non-current	119,775	25,673	142,682	288,130	

		202	21	
(in millions of Korean won)	Warranty	Restoration	Litigation and others	Total
At January 1	966,233	47,038	182,508	1,195,779
Additions ¹	2,617,243	5,631	43,625	2,666,499
Utilization Decrease due to transfer	(829,762)	(2,492)	(65,862)	(898,116)
of business	(2,383)	-	-	(2,383)
Exchange differences	15,760	303	5,167	21,230
At December 31	2,767,091	50,480	165,438	2,983,009
Current	2,559,658	32,250	17,376	2,609,284
Non-current	207,433	18,230	148,062	373,725

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

(b) Greenhouse Gas Emission Liabilities

As at December 31, 2022, emission rights received free of charge for each reporting period and greenhouse gas emission estimated by management, are as follows:

(in tons)	2022	2022
Emission rights received free of charge ¹	1,321,373	1,286,146

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

In 2022, there was no emission right that the Group additionally purchased from the market and there was no recognized emission liability as greenhouse gas emission estimated by management was 656,495 tons.

22. Other Liabilities

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

(in millions of Korean won)	December 31, 2022	December 31, 2021	
Current			
Advances from customers	606,999	712,624	
Withholding	499,264	558,309	
Accrued expenses and others	2,685,232	2,875,099	
Subtotal	3,791,495	4,146,032	
Non-current			
Accrued expenses and others	166,360	228,536	
Total	3,957,855	4,374,568	

23. Paid-in Capital

(a) As at December 31, 2022 and 2021, the number of shares authorized is 600 million.

		Decembe	er 31, 2022	Decembe	er 31, 2021
	Par value per share	Number of shares issued	Amount (in millions of Korean won)	Number of shares issued	Amount (in millions of Korean won)
Ordinary shares	5,000	163,647,814	818,239	163,647,814	818,239
Preferred shares	5,000	17,185,992	85,930	17,185,992	85,930
Total		180,833,806	904,169	180,833,806	904,169

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

(b) Share premium balance as at December 31, 2022, is ₩3,088,179 million. The share premium of ₩1,876,153 million was recognized, which is ₩2,815,707 million of the carrying amount of net assets acquired from the entity split-off back on April 1, 2002, less the Parent Company's capital of ₩783,961 million and less the Parent Company's capital adjustment of ₩155,593 million. In addition, the amount of ₩331,766 million paid in excess of par value due to issuance of ordinary shares (merger with LG IBMPC Co., Ltd.) and the exercise of conversion right and warrants in 2005 and 2006 are included. The excess in paid-in capital amounting to ₩880,260 million over the par value was recognized as the share premium due to the issuance of ordinary shares in 2011.

24. Retained Earnings and Dividends

(in millions of Korean won)	December 31, 2022	December 31, 2021
Legal reserves ¹	246,609	231,218
Discretionary reserves	4,539,499	5,569,863
Unappropriated retained earnings	11,047,913	8,632,506
Total	15,834,021	14,433,587

(a) Retained earnings as at December 31, 2022 and 2021, consist of:

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

(b) Dividends of the Parent Company

Details of dividends per share and a total dividend in respect of the year ended December 31, 2022, which is to be proposed at the annual general meeting on March 27, 2023, are as follows. These consolidated financial statements do not reflect this dividend payable.

(Unit: shares)	202	2	202	1
-	Ordinary shares	Preferred shares	Ordinary shares	Preferred shares
Outstanding shares	163,647,814	17,185,992	163,647,814	17,185,992
Treasury shares	(763,176)	(4,693)	(763,176)	(4,693)
Numbers of shares for dividend	162,884,638	17,181,299	162,884,638	17,181,299
Par value <i>(in Korean won)</i>	5,000	5,000	5,000	5,000
Dividend rate Dividends per share <i>(in Korean</i>	14%	15%	17%	18%
<i>won)</i> Total dividend amount <i>(in</i>	700	750	850	900
<i>millions of Korean won)</i> Dividend payout ratio ¹	114,019	12,886	138,452	15,463
(Dividends/Net profit)	13%	2%	-	-
Stock price ² <i>(in Korean won)</i> Dividend yield ratio (Dividend	89,140	42,880	135,800	65,460
per share/Market price)	0.79%	1.75%	0.63%	1.37%

- ¹ Dividend payout ratio is calculated based on the net profit of the Parent Company. It is not calculated for the year ended December 31, 2021 due to the net loss of the Parent Company.
- ² Average of prices in the stock market for one week preceding the two business days before the record date of the shareholders' list for the general meeting of shareholders related to above dividends.

25. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) as at December 31, 2022 and 2021, consist of:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Accumulated share of other comprehensive		
income (loss) of associates and joint ventures	63,025	88,013
Cash flow hedge	61,390	(36,660)
Financial assets at fair value through other		
comprehensive income	(17,096)	7,360
Exchange differences on translation of foreign	(0== 00 ()	
operations	(857,691)	(1,177,626)
Subtotal	(750,372)	(1,118,913)
Accumulated other comprehensive		
income (loss) held for sale	838	12,299
Subtotal	838	12,299
Total	(749,534)	(1,106,614)

26. Other Components of Equity

Other components of equity as at December 31, 2022 and 2021, consist of:

(in millions of Korean won)	December 31, 2022	December 31, 2021
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	(51,908)	(55,859)
Total	(84,727)	(88,678)

¹ The Parent Company has treasury shares consisting of 763,176 ordinary shares (December 31, 2021: 763,176 shares) and 4,693 preferred shares (December 31, 2021: 4,693 shares) at the end of the reporting period. The Parent Company intends to either grant these treasury shares to employees and directors as compensation or to sell them in the future.

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

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
- 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.)
- (b) The number of share options granted to employees by Alphonso Inc. as at December 31, 2022 is as follows :

Expected expiry date	Number of granted shares (Unit : shares) ¹	Number of vested shares (Unit : shares)	Exercise price per share (in USD)
2023	7,900	7,900	0.01
2027	49,711	49,711	0.39
2028	23,603	22,249	0.67
2029	102,060	66,274	0.51
2030	58,141	7,212	0.53
2031	816,754	222,581	1.81
2032	86,700	14,535	5.48
Total	1,144,869	390,462	

¹During 2022, share options of 152,750 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.

During 2022, the Group recognized the share-based payments of \forall 1,740 million.

The number of share options granted to employees by Cybellum Technologies Ltd. as at December 31, 2022 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	246	246	30.75
2030	7,015	5,116	14.56
2031	2,042	1,296	12.92
2032	14,220	2,356	112.01
Total	25,465	10,956	

² During 2022, share options of 15,463 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.

As at December 31, 2021, the Group recognized \forall 4,348 million that was measured at fair value using the binomial model approach for above share option as at the acquisition date. (Note 41)

During 2022, the Group recognized the share-based payments of \forall 6,395 million(2021: \forall 456 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 the years ended December 31, 2022, 2021 are as follows:

	2022		2021	
	Number of shares (Unit : shares)	Exercise price (in USD)	Number of shares (Unit : shares)	Exercise price (in USD)
Beginning unexercised				
balance	1,764,659	1.48	764,663	0.52
Expired	(399,112)	1.79	(37,806)	0.61
Exercised	(373,428)	1.17	(302,562)	0.66
Increase (newly granted)	152,750	4.08	1,340,364	1.81
Ending unexercised balance	1,144,869	1.81	1,764,659	1.48
Exercisable at the end of the				
reporting period	390,462	1.42	265,360	0.86

The weighted average remaining contractual maturity of share options outstanding is 8.2 years and 9.3 years as at December 31, 2022 and 2021, 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, 2022, are as follows:

	Number of shares (Unit : shares)	Exercise price (in USD)
Beginning unexercised balance	14,895	16.82
Expired	(3,677)	107.08
Exercised	(1,216)	15.00
Increase (newly granted)	15,463	126.11
Ending unexercised balance	25,465	70.24
Exercisable at the end of the reporting period	10,956	26.09

The weighted average remaining contractual maturity of share options outstanding is 8.4 years as at December 31, 2022.

28. Net Sales

(a) Details of net sales for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Continuing operations		
Revenue from contracts with customers:		
Sales of goods	79,876,537	71,947,452
Rendering of services and others	2,820,733	1,288,990
Subtotal	82,697,270	73,236,442
Revenue from other sources:		
Rental income and others	770,048	671,542
Subtotal	83,467,318	73,907,984
Discontinued operations	378,597	2,605,382
Total	83,845,915	76,513,366

(b) Details of revenue from contracts with customers for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
By type of products: Refrigerator/ washing machine/ air		
conditioner and others	29,139,750	26,447,008
TV/AV and others	15,710,118	17,201,836
In-vehicle infotainment and others	8,646,019	6,698,829
Monitor/PC and others	6,086,709	5,473,046
Camera module and others	19,591,338	14,949,502
Others ¹	3,523,336	2,466,221
By major geographical market ² :		

Korea	32,542,794	26,852,803
North America	19,736,196	17,232,171
Asia	7,836,156	6,604,280
Europe	11,992,639	11,856,621
South America	3,208,494	3,284,397
Middle East & Africa	3,356,250	2,773,291
China	2,638,833	2,600,818
Russia and others	1,385,908	2,032,061
Timing of transfer:		
Transferred at a point in time	79,503,867	70,992,187
Transferred over time	3,193,403	2,244,255
Total	82,697,270	73,236,442

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 revenue and total contract costs

Due to the factors causing the changes in costs of VS and other segments in 2022, 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, 2022 and the succeeding periods are as follows:

(in millions of Korean won)	Changes in estimated total contract revenue	Changes in estimated total contract cost	Impact on profit or loss for the year	Impact on profit or loss for the succeeding years
VS	98,739	99,567	(8,088)	7,260
Other segments	118,045	149,366	(32,626)	1,305
Total	216,784	248,933	(40,714)	8,565

29. Expenses by Nature

Expenses that are recorded by nature for the years ended December 31, 2022 and 2021, consist of:

(in millions of Korean won)	2022	2021
Continuing operations		
Changes in finished goods and work-in-process	98,096	(1,672,309)
Raw materials and merchandise used	51,562,596	46,156,404
Employee benefit expense	9,612,519	8,461,928
Depreciation and amortization	2,963,281	2,719,052
Advertising expense	1,419,979	1,466,382
Promotion expense	448,616	510,514
Freight expense	3,947,373	3,156,729
Commission expense	4,560,401	3,935,274
Other expenses	5,303,485	5,116,013
Subtotal ¹	79,916,346	69,849,987
Discontinued operations	538,284	3,942,026
Total ¹	80,454,630	73,792,013

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

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

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

(in millions of Korean won)	2022	2021
Continuing operations		
Salaries	3,697,673	3,342,273
Post-employment benefits	407,444	204,192
Employee welfare benefits	874,462	714,783
Freight expense	3,917,247	3,137,939
Rental expense	83,804	77,505
Commission expense	3,286,617	2,715,966
Depreciation	572,287	486,807
Amortization	136,348	126,976
Advertising expense	1,419,979	1,466,382
Promotional expense	448,616	510,514
R&D expense	377,111	322,619
Direct service costs	703,050	1,348,984
(Reversal of) bad debts expense	7,447	(26,684)
Others	753,173	410,969
Subtotal	16,685,258	14,839,225
Discontinued operations	163,329	1,325,683

Total	16,848,587	16,164,908

31. Financial Income

Financial income for the years ended December 31, 2022 and 2021, consists of:

(in millions of Korean won)	2022	2021
Continuing operations		
Interest income	208,024	88,580
Exchange differences	803,830	470,758
Gain on derivatives	26,330	29,571
Subtotal	1,038,184	588,909
Discontinued operations	2,529	32,706
Total	1,040,713	621,615

32. Financial Expenses

Financial expenses for the years ended December 31, 2022 and 2021, consist of:

(in millions of Korean won)	2022	2021
Continuing operations		
Interest expense	363,587	239,107
Exchange differences	807,471	380,891
Loss on derivatives	21,877	28,673
Loss on disposal of trade receivables	36,246	7,014
Loss on redemption of debentures	-	1,968
Others	2,694	2,918
Subtotal	1,231,875	660,571
Discontinued operations	16,207	111,722
Total	1,248,082	772,293

33. Other Non-operating Income

Other non-operating income for the years ended December 31, 2022 and 2021, consists of:

(in millions of Korean won)	2022	2021
Continuing operations		
Dividend income	3,107	6,008
Exchange differences	3,173,487	1,261,844
Gain on derivatives	61,061	45,174
Gain on disposal of property, plant and equipment Gain on disposal of intangible assets	223,964 17,482	38,821 2,020

Reversal of impairment loss on intangible assets Reversal of impairment loss on assets held	1,866	-
for sale	-	40,324
Gain on disposal of assets held for sale	188,769	36,034
Gain on valuation of financial assets at fair		
value through profit or loss	26,295	55,752
Gain on transfer of business	94,010	290,062
Others	62,888	88,032
Subtotal	3,852,929	1,864,071
Discontinued operations	101,612	96,649
Total	3,954,541	1,960,720

34. Other Non-operating Expenses

Other non-operating expenses for the years ended December 31, 2022 and 2021, consist of:

(in millions of Korean won)	2022	2021
Continuing operations		
Exchange differences	3,028,847	1,368,671
Loss on derivatives	108,392	41,879
Loss on disposal of property, plant and equipment Impairment loss on property, plant and	16,513	26,583
equipment	146,600	111,676
Loss on disposal of intangible assets	28,167	39,077
Impairment loss on intangible assets	-	781,451
Loss on disposal of assets held for sale	-	6,819
Impairment loss on assets held for sale Loss on valuation of financial assets at fair	-	1,435
value through profit or loss	10,609	10,190
Others	163,245	72,610
Subtotal	3,502,373	2,460,391
Discontinued operations	117,383	548,249
Total	3,619,756	3,008,640

35. 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 the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022	2021
Profit (Loss) attributable to ordinary shares (in millions of Korean won) ¹	1,081,504	932,491
Continuing operations	1,212,043	2,167,253
Discontinued operations	(130,539)	(1,234,762)
Weighted average number of ordinary shares outstanding <i>(unit: shares)</i> ² Basic earnings (losses) per ordinary share	162,884,638	162,884,638
(in Korean won)	6,640	5,725
Continuing operations	7,441	13,305
Discontinued operations	(801)	(7,580)

(b) Basic earnings (losses) per preferred share for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022	2021
Profit (Loss) attributable to preferred shares (in millions of Korean won) ¹	114.938	99.219
· · · · · · · · · · · · · · · · · · ·	114,950	99,219
Continuing operations	128,707	229,464
Discontinued operations	(13,769)	(130,245)
Weighted average number of preferred shares outstanding <i>(unit: shares)</i> ² Basic earnings (losses) per preferred share	17,181,299	17,181,299
(in Korean won)	6,690	5,775
Continuing operations	7,491	13,355
Discontinued operations	(801)	(7,580)

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

(in millions of Korean won)	2022	2021
Profit (Loss) for the year (A)	1,196,442	1,031,710
Continuing operations	1,340,750	2,396,717
Discontinued operations	(144,308)	(1,365,007)
Ordinary share dividends (B)	114,019	138,452
Preferred share dividends (C)	12,886	15,463
Undistributed profit (loss) (D=A-B-C)	1,069,537	877,795
Continuing operations	1,213,845	2,242,802
Discontinued operations	(144,308)	(1,365,007)
Undistributed profit available for ordinary shares (E)	967,485	794,039
Undistributed profit available for preferred shares (F)	102,052	83,756
Profit (Loss) attributable to ordinary shares (G=B+E)	1,081,504	932,491

(in millions of Korean won)	2022	2021
Profit (Loss) attributable to preferred shares (H=C+F)	114,938	99,219
² Weighted average numbers of shares are calculated as follo	ws:	
(unit: shares)	2022	2021
Ordinary shares issued	163,647,814	163,647,814
Ordinary treasury shares	(763,176)	(763,176)
Ordinary shares outstanding	162,884,638	162,884,638
Weighted average number of ordinary shares outstanding	162,884,638	162,884,638
Preferred shares issued		
Preferred treasury shares	17,185,992	17,185,992
Preferred shares outstanding	(4,693)	(4,693)
Weighted average number of preferred shares outstanding	9 17,181,299	17,181,299

36. Cash Flow Information

Cash flows from operating activities are prepared using the indirect method. Details of cash generated from operations for the years ended December 31, 2022 and 2021, are as follows:

(a) Cash generated from operations

(in millions of Korean won)	2022	2021
Profit (Loss) for the year	1,863,123	1,414,972
Adjustments:		
Interest expense, net	155,563	150,526
Exchange differences, net	(151,211)	(14,253)
Loss (Gain) on derivatives, net	42,878	(4,193)
Depreciation	2,506,678	2,238,290
Amortization	478,442	491,054
Loss (Gain) on disposal of property, plant and equipment and intangible assets, net	(196,766)	24,819
Provisions for severance benefits	477,632	421,897
Additional provisions, net	822,945	2,196,229
Income tax expense	532,307	1,057,777
Loss (Gain) from equity method, net	1,168,026	(448,881)
Loss (Gain) on disposal of investments in associates and joint ventures, net	-	(237)
Others	289,980	661,633
Discontinued operations	76,958	811,128
	6,203,432	7,585,789
Changes in operating assets and liabilities		, ,
Decrease (increase) in trade receivables	(195,508)	(685,221)
Decrease (increase) in other receivables	(207,778)	(179,618)
Decrease (increase) in inventories	226,738	(2,394,912)
Decrease (increase) in contract assets	(157,953)	(19,659)
Decrease (increase) in other assets	118,242	(845,661)
Increase (decrease) in trade payables	(298,133)	(387,712)
Increase (decrease) in other payables	275,318	319,058
Increase (decrease)in provisions	(2,101,795)	(898,116)
Increase (decrease) in contract liabilities	(32,308)	(232,351)
Increase (decrease) in other liabilities	(416,423)	716,184
Payment of defined benefit liability	(27,383)	(136,908)
Deposit in plan assets, net	(905,911)	(670,470)
	(3,722,894)	(5,415,386)
Cash generated from operations	4,343,661	3,585,375

(b) Changes in liabilities from financing activities.

					2022			
				Effects of other changes				
(in millions of Korean won)	At January 1	Net cash flows from financing activities	Business combination	Addition and others	Exchange differences (profit/loss)	Amortization	Effects of exchange rate changes	At December 31
Borrowings	4,329,597	1,553,053	1,447	-	50,223	-	42,951	5,977,271
Debentures	5,601,956	(548,790)	-	-	11,829	2,921	-	5,067,916
Lease liabilities	955,422	(330,581)	-	468,262	(663)	2,477	1,318	1,096,235
Other payables	48,048	-	-	-	3,355	-	-	51,403
Total	10,935,023	673,682	1,447	468,262	64,744	5,398	44,269	12,192,825

					2021				
					Effects of oth	ner changes			
(in millions of Korean won)	At January 1	Net cash flows from financing activities	Business combination	Addition and others	Exchange differences _(profit/loss)_	Amortization	Transfer of business	Effects of exchange rate changes	At December 31
Borrowings	4,278,889	(71,494)	-	-	39,596	58	-	82,548	4,329,597
Debentures	5,640,866	(84,487)	-	-	42,602	2,975	-	-	5,601,956
Lease liabilities	862,060	(308,015)	-	359,916	705	7,325	(400)	33,831	955,422
Other payables	-		48,048				-	-	48,048
Total	10,781,815	(463,996)	48,048	359,916	82,903	10,358	(400)	116,379	10,935,023

(c) Significant non-cash transactions:

(in millions of Korean won)	2022	2021
Reclassification of construction-in-progress to property, plant and equipment	2,304,516	1,933,328
Reclassification of construction-in-progress to intangible assets	479,361	387,622
Reclassification of current portion of borrowings and debentures	1,249,740	1,400,628
Other payables to acquire property, plant and equipment	526,680	408,667
Other payables to acquire intangible assets	39,407	36,050
Acquisition of right-of-use assets	592,760	402,687

- (d) Assets and liabilities arising from the transfer of business
 - Transfer of in-vehicle wireless charging business
 - i) On October 4, 2022, in-vehicle wireless charging business was transferred to BH EVS CO.,LTD.
 - ii) Total consideration received and the assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	116,696
Deposits held by financial institutions	20,000
Other payables	(18,745)
Other liabilities	(10,000)
Subtotal	107,951
Assets of the transferred business:	
Property, plant and equipment	57
Intangible assets	12,207
Contract assets	1,677
Subtotal	13,941

- Transfer of CEM(Chemical Electronic Material) business

- i) On November 1, 2021, CEM business was transferred to LG Chem Ltd.
- ii) Total consideration received and the assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	572,356
Other receivables	26,513
Other payables	(1,123)
Subtotal	597,746
Assets of the transferred business:	
Cash and cash equivalents	4,376
Trade receivables	213,565
Other receivables	5,474
Inventories	78,601
Property, plant and equipment	184,443
Intangible assets	1,053
Current tax assets	2
Deferred tax assets	40
Contract assets	73
Other assets	3,093
Subtotal	490,720

(in millions of Korean won)	Amount
Liabilities of the transferred business:	
Trade payables	130,119
Lease liabilities	400
Other payables	32,687
Provisions	2,383
Contract liabilities	81
Other liabilities	6,097
Subtotal	171,767
Foreign currency translation	3,439
Non-controlling interests	9,644

- Transfer of mobile communications production business

- On December 6, 2021, mobile communications production business of Inspur LG Digital Mobile Communications Co., Ltd.(LGEYT) and Qingdao LG Inspur Digital Communication Co., Ltd.(LGEQD)was transferred to Langchao.
- ii) Total consideration received and the assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	9,351
Assets of the transferred business:	
Cash and cash equivalents	8,656
Other receivables	2,599
Property, plant and equipment	2,741
Other assets	34
Subtotal	14,030
Liabilities of the transferred business:	
Other payables	322
Deferred tax liabilities	1,491
Other liabilities	20
Subtotal	1,833
Foreign currency translation	7,799
Non-controlling interests	3,162

37. Contingencies

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

(b) At the end of the reporting period, the Parent Company and domestic subsidiaries are provided with performance guarantees of ₩412,039 million (December 31, 2021: ₩330,670 million) from

Seoul Guarantee Insurance and others relating to the performance guarantees. The Parent Company and LG Innotek Co., Ltd. are provided with guarantee of principal amounting to EUR 100 million and USD 50 million (December 31, 2021: EUR 100 million and USD 50 million) and interests from Shinhan Bank and others for the guaranteed private placement bonds.

(c) At the end of the reporting period, the Parent Company is providing KEB Hana Bank with a subrogation payment obligation for customers up to \forall 46,000 million (December 31, 2021: \forall 46,000 million).

(d) In relation to the Bolt electric vehicle consumers' class action lawsuit filed against General Motors Company(GM) in November 2020, the Group and others were additionally included as defendants in September 2021, and the ultimate outcome of these case cannot be determined at the reporting date.

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

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

38. Commitments

(a) At the end of the reporting period, the Group has borrowing agreements, such as overdraft facility agreements, trade financing and others, with various banks, including Shinhan Bank, with a limit of \Im 7,130,413 million (December 31, 2021: \Re 6,061,789 million).

(b) At the end of the reporting period, the Group has sales agreements for receivables with various banks including KEB Hana Bank amounting to \$5,792,793 million (December 31, 2021: \$5,187,180 million).

(c) At the end of the reporting period, the Group has corporate electronic settlement services contracts and vendor prepayment services contracts with various banks including Shinhan Bank for up to #1,409,200 million (December 31, 2021: #1,408,000 million) in connection with the payment of trade payables.

(d) At the end of the reporting period, the Group has commercial paper agreements with Shinhan Bank and others for ₩68,000 million (December 31, 2021: ₩90,000 million).

(e) Contractual commitments for the acquisition of assets

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

(in millions of Korean won)	December 31, 2022	December 31, 2021
Property, plant and equipment	674,211	747,738
Intangible assets	27,539	48,265
Investments in associates and joint ventures	68,871	101,441
Total	770,621	897,444

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. At the end of the reporting period, 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. At the end of the reporting period, the Group recognized this commitment as 'other payables' and 'other financial liabilities' (Note 41).

- (f) Operating lease commitments the Group as a lessor
 - The Group has non-cancellable operating lease agreements regarding home appliance rental business that lends water purifiers and others to customers, and real estate rentals business. The future aggregate lease receipts under operating leases at the end of the reporting period, are as follows:

		December 31, 2022					
(in millions of Korean won)	Within 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	Total lease payments	
Home appliance rental	322,508	194,557	75,871	13,103	-	606,039	
Real estate rental	5,516	5,516	5,516	5,514	5,489	27,551	
Total	328,024	200,073	81,387	18,617	5,489	633,590	

- ii) The Group recognized ₩590,049 million (2021: ₩615,542 million) in lease income for the year ended December 31, 2022.
- iii) Details of assets subject to operating lease are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Acquisition cost	1,019,786	939,807
Accumulated depreciation	(493,235)	(457,003)
Accumulated impairment losses	(61,283)	(6,703)
Net book amount	465,268	476,101

iv) Changes in net book amount of assets subject to operating lease for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021

56	220
(76,449)	(15,203)
(197,971)	(189,983)
(120)	(11,043)
161,798	-
101,853	158,221
476,101	533,889
	101,853 161,798 (120) (197,971) (76,449)

(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 at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 3	31, 2022	December 31, 2021		
	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	34,976	25,768	4,983	3,999	
Between 1 and 2 years	35,453	27,832	5,015	4,716	
Between 2 and 3 years	34,943	29,016	5,007	4,531	
Between 3 and 4 years	34,337	30,147	5,027	4,378	
Later than 4 years	56,137	53,336	9,935	8,166	
Total	195,846	166,099	29,967	25,790	

¹ There are no remaining useful life without guarantee reflected on gross investment in the lease.

ii) Unrealized interest income of financial lease as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Total lease investments	195,846	29,967
Net lease investments	166,099	25,790
Unrealized interest income	29,747	4,177

- iii) For the year ended December 31, 2022, the Group recognized income amounting to ₩144,437 million (2021: ₩ 24,550 million) in relation to financial lease contract, and financial income of net lease investment amounting to ₩5,024 million (2021: ₩188 million) is included.
- (h) License agreements including patent and trademark

At the end of the reporting period, 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.

39. Related Party

- (a) Major transactions for the years ended December 31, 2022 and 2021, and balances of receivables and payables from transaction with related parties as at December 31, 2022 and 2021, are as follows:
 - i) Major income and expense transactions with related parties

(in millions of K	orean won)	2022					
		Inco	me transactio	ons	Expense transactions		
Classification	Name	Sales	Others	Total	Purchases	Others⁵	Total
Significantly							
influencing the	LG Corp.						
Group		1,173	-	1,173	-	175,897	175,897
• • • •	LG Display Co., Ltd. and its						
Associates	subsidiaries	777,452	72,604	850,056	4,206,374	25,857	4,232,231
	Hitachi-LG Data Storage Inc.						
	(HLDS) and its subsidiaries	340	-	340	86,345	14,099	100,444
	Acryl Inc.	-	-	-	-	1,545	1,545
	ROBOTIS Co., Ltd.	-	-	-	-	2	2
	Robostar Co., Ltd. and its						
	subsidiaries	102	-	102	25,621	2,235	27,856
	Subtotal	777,894	72,604	850,498	4,318,340	43,738	4,362,078
	Arcelik-LG Klima Sanayi ve			i		<u>.</u>	
Joint ventures	Ticaret A.S.(LGEAT)	66,854	-	66,854	167,235	14	167,249
	EIC PROPERTIES PTE LTD.	-	-	-	-	837	837
	LG-MRI LLC	-	-	-	40,999	-	40,999
	Subtotal	66,854	_	66,854	208,234	851	209,085
Other related	LG CNS Co., Ltd. and its	<u>, </u>		· · · · · ·			
parties	subsidiaries	139,968	1,245	141,213	184,897	877,407	1,062,304
•	D&O Corp., LTDand its			,		,	
	subsidiaries ²	2,077	186	2,263	3,307	59,788	63,095
	LG Management Development	,		,		,	
	Institute	849	-	849	98	67,173	67,271
	LG SPORTS Ltd.	27	21	48	280	12,967	13,247
	LG Holdings Japan Co., Ltd.	35	-	35	-	6,450	6,450
	Subtotal	142,956	1,452	144,408	188,582	1,023,785	1,212,367
	LG Chem Ltd., its subsidiaries						
Others ¹	and joint ventures	905,241	6,272	911,513	1,566,968	620	1,567,588
	LX INTERNATIONAL CORP	,	*		, ,		, , ,
	and its subsidiaries and						
	associates ³	8,451	1,179	9,630	1,711,058	2,015,882	3,726,940
	LG Uplus Corp and its	.,	, -	- ,	, ,	, -,	, .,
	subsidiaries	31,462	590	32,052	42,499	5,642	48,141
		- ,		- ,	,	-,	- ,

(in millions of K	orean won)	2022					
		Inco	me transacti	ons	Expe	nse transac	tions
Classification	Name	Sales	Others	Total	Purchases	Others⁵	Total
	LX HAUSYS,LTD., its						
	subsidiaries and associates ³	2,665	372	3,037	1,670	385	2,055
	LX Semicon Co., Ltd.⁵	25,905	2,012	27,917	9,664	719	10,383
	LG HOUSEHOLD & HEALTH						
	CARE LTD and its						
	subsidiaries	2,959	566	3,525	613	177	790
	$G {\rm I\hspace{1em}I} R$ Inc. and its subsidiaries	8,104	-	8,104	37	535,541	535,578
	LX MMA Corporation ³	29	-	29	-	-	-
	XI C&A Co., Ltd. and its						
	subsidiaries ⁴	10,061	20	10,081	17,366	223,316	240,682
	S&I Corp. and its subsidiaries ⁴	22,388	319	22,707	3,757	73,687	77,444
	Subtotal	1,017,265	11,330	1,028,595	3,353,632	2,855,969	6,209,601
	Total	2,006,142	85,386	2,091,528	8,068,788	4,100,240	12,169,028

(in millions of K	orean won)	2021						
		Inco	me transacti	ons	Expe	nse transact	ransactions	
Classification	Name	Sales	Others	Total	Purchases	Others⁵	Total	
Significantly								
influencing the	EG Corp.							
Group		556		556	259	190,898	191,157	
	LG Display Co., Ltd. and its							
Associates	subsidiaries	570,990	79,644	650,634	4,916,555	3,691	4,920,246	
	Hitachi-LG Data Storage Inc.							
	(HLDS) and its subsidiaries	753	-	753	59,672	291	59,963	
	Acryl Inc.	-	-	-	-	1,380	1,380	
	ROBOTIS Co., Ltd.	-	-	-	-	6	6	
	Robostar Co., Ltd. and its							
	subsidiaries	116	-	116	31,901	4,539	36,440	
	Subtotal	571,859	79,644	651,503	5,008,128	9,907	5,018,035	
	Arcelik-LG Klima Sanayi ve							
Joint ventures	Ticaret A.S.(LGEAT)	63,621	-	63,621	127,652	7	127,659	
	EIC PROPERTIES PTE LTD.	-	-	-	-	414	414	
	LG-MRI LLC	33,966	-	33,966	47,044		47,044	
	Subtotal	97,587	-	97,587	174,696	421	175,117	
Other related	LG CNS Co., Ltd. and its							
parties	subsidiaries	144,942	263	145,205	157,485	763,945	921,430	
	S&I Corp. and its subsidiaries ²	31,781	-	31,781	10,897	255,034	265,931	
	LG Management Development							
	Institute	1,673	21	1,694	799	48,774	49,573	
	LG SPORTS Ltd.	16	17	33	-	13,636	13,636	
	LG MMA Ltd. ³	-	-	-	-	19	19	
	LG Holdings Japan Co., Ltd.	19		19		852	852	
	Subtotal	178,431	301	178,732	169,181	1,082,260	1,251,441	
0 1	LG Chem Ltd., its subsidiaries							
Others ¹	and joint ventures	1,265,838	8,597	1,274,435	1,259,021	131,243	1,390,264	
	LX INTERNATIONAL CORP							
	and its subsidiaries and							
	associates ³	13,435	1,135	14,570	4,557,053	2,922,354	7,479,407	
			, -	, -	. , -			

(in millions of Ke	(in millions of Korean won)		2021						
		Inco	Income transactions			Expense transactions			
Classification	Name	Sales	Others	Total	Purchases	Others⁵	Total		
	LG Uplus Corp and its								
	subsidiaries	48,642	9	48,651	64,756	10,601	75,357		
	LX HAUSYS,LTD., its								
	subsidiaries and associates ³	2,603	1,274	3,877	1,547	583	2,130		
	LX Semicon Co., Ltd. ³	81,277	4,767	86,044	17,152	682	17,834		
	LG HOUSEHOLD & HEALTH								
	CARE LTD and its								
	subsidiaries	8,247	2	8,249	331	272	603		
	$G {\rm I\hspace{1em}I} R$ Inc. and its subsidiaries	5,908	943	6,851	213	459,157	459,370		
	LX Holdings Corp. ³	99	-	99	-	-	-		
	LX MMA Corporation ³	89		89					
	Subtotal	1,426,138	16,727	1,442,865	5,900,073	3,524,892	9,424,965		
	Total	2,274,571	96,672	2,371,243	11,252,337	4,808,378	16,060,715		

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

² The entity changed its name from S&I Corp. to D&O Corp. on April 1, 2022.

³LX Holdings Corp. and its affiliates are separated from the corporate group in accordance with independent management on June 21, 2022.

⁴ Transactions with entities which were excluded from consolidation due to sales of shares in subsidiaries of D&O Corp. during the three-month period ended March 31, 2022 are included.

⁵ Others include acquisition amount of right-of-use assets and interest expense of lease liabilities

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

·		Receivables				r 31, 2022	Paya	bles	
Classification	Name	Trade receivables	Loans	Other receivables	Total	Trade payables	Borrowings	Other	Total
Significantly influencing the Group	LG Corp.	40		25,708	25,748			45,646	45,646
Associates	LG Display Co., Ltd. and its subsidiaries Hitachi-LG Data	125,779		266,815	392,594	315,472		61,835	377,307
	Storage Inc. (HLDS) and its subsidiaries Robostar Co., Ltd. and	-	-	-	-	58,381	-	2,551	60,932
	its subsidiaries	81		<u> </u>	81	2,013		15,034	17,047
	Subtotal	125,860		266,815	392,675	375,866		79,420	455,286
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	8,750	-	-	8,750	14,339	-	3	14,342
	EIC PROPERTIES PTE LTD.	-	-	-	-	-	-	75	75
	LG-MRI LLC			1,608	1,608	4,241		112	4,353
	Subtotal	8,750		1,608	10,358	18,580		190	18,770
Other related parties	LG CNS Co., Ltd. and its subsidiaries	29,380	-	507	29,887	18,361	-	321,330	339,691
	D&O Corp., LTD. and its subsidiaries ²	99	-	1,000	1,099	21	-	8,479	8,500
	LG Management Development Institute	4	-	-	4	-	-	1,360	1,360
	LG SPORTS Ltd. LG Holdings Japan Co.,	1	-	-	1	-	-	1,146	1,146
	Ltd.			5,444	5,444				
	Subtotal	29,484	-	6,951	36,435	18,382	-	332,315	350,697
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures ³	223,885		185,845	409,730	396,213		106,448	502,661
	LG Uplus Corp and its subsidiaries	1,379	-	307	1,686	1,164	-	3,329	4,493
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	484	_	71	555	26	_	286	312
	G II R Inc. and its subsidiaries	81	-	776	857	1,167	-	232,915	234,082
	XI C&A Co., Ltd. and its subsidiaries	7,794	-	-	7,794	-	-	127,582	127,582
	S&I Corp. and its subsidiaries	7,460		18	7,478	384		17,949	18,333
	Subtotal	241,083		187,017	428,100	398,954		488,509	887,463
	Total	405,217		488,099	893,316	811,782		946,080	1,757,862

	orean won)	December 31, 2021 Pecceivables Pavables Pavables							
		Receivables Trade Other			Payables Trade Other				
Classification	Name	receivables	Loans	receivables	Total		Borrowings		Total
Significantly influencing the Group	LG Corp.	45		25,447	25,492			53,538	53,538
Associates	LG Display Co., Ltd. and its subsidiaries	144,286	-	56,336	200,622	753,472		75,527	828,999
	Hitachi-LG Data Storage Inc. (HLDS) and its subsidiaries	110	-	-	110	39,494	-	543	40,037
	Acryl Inc.	-	-	-	-	-	-	120	120
	Robostar Co., Ltd. and its subsidiaries	85			85	343		10,527	10,870
	Subtotal	144,481		56,336	200,817	793,309	-	86,717	880,026
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	20,507			20,507	12,852			12,852
	EIC PROPERTIES PTE LTD.	-	-	-	-	-	-	68	68
	LG-MRI LLC	8,753	-	1,292	10,045	11,015	-	28	11,043
	Subtotal	29,260		1,292	30,552	23,867		96	23,963
Other related parties	LG CNS Co., Ltd. and its subsidiaries	31,234			31,471	22,091		301,526	323,617
	S&I Corp. and its subsidiaries ²	13,296	-	24,802	38,098	604	-	54,557	55,161
	LG Management Development Institute	31	-	15,544	15,575	-	-	1,396	1,396
	LG SPORTS Ltd.	1	-	-	1	-	-	699	699
	LG Holdings Japan Co., Ltd.			5,884	5,884				
	Subtotal	44,562		46,467	91,029	22,695		358,178	380,873
Others ¹	LG Chem Ltd., its subsidiaries and joint ventures ³ LX INTERNATIONAL CORP.and its	181,175	-	894,909	1,076,084	291,647	-	16,202	307,849
	subsidiaries and associates ⁴	17,718	-	3,523	21,241	182,776	-	413,614	596,390
	LG Uplus Corp and its subsidiaries	4,476	-	161	4,637	3,751	-	983	4,734
	LX HAUSYS, LTD.and its subsidiaries and associates ⁴	695	-	12	707	486	-	1,119	1,605
	LX Semicon Co., Ltd.4	9,021	-	89	9,110	6,486	_	2	6,488
	LG HOUSEHOLD & HEALTH CARE LTD		-				-		
	and its subsidiaries	1,128	-	2,818	3,946	29	-	162	191
	G II R Inc. and its subsidiaries	33	-	345	378	1,009	-	231,831	232,840
	LX MMA Corporation ⁴	81			81				
	Subtotal	214,327		901,857	1,116,184	486,184	-	663,913	1,150,097
	Total	432,675		1,031,399	1,464,074	4 000 055			2,488,497

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

² The entity changed its name from S&I Corp. to D&O Corp. on April 1, 2022.

- ³ The amount agreed to be reimbursed by the related party for provisions to be paid by the Group to a third party is included.
- ⁴ LX Holdings Corp. and its affiliates are separated from the corporate group based on their independent management on June 21, 2022.

⁵ Other payables include lease liabilities.

iii) Significant capital transactions and others with related parties

(in millions of Korean won) 2022 Financing loan Financing borrowing Cash transactions transactions Dividend Dividend distribution income paid (reduction) Loans Collections Borrowings Repayments² Significantly influencing LG Corp. the Group 46,830 27,941 27,747 Associates LG Display Co., Ltd. 88,156 Ericsson-LG Co., Ltd. 8,250 _ . _ LG-MRI LLC 540 _ CCP-LGE OWNER, LLC 121 LG-LHT Aircraft Solutions GmbH 11,359 LG-LHT Passenger Solutions GmbH 12,290 GUANGDONG SMART LIFE **TECHNOLOGY CO.,** LTD 341 Rinse, Inc. 11,153 Mirae Asset-LG **Electronics New** 2,363 Growth Fund I 18,023 FITNESSCANDY CO., LTD. 1,683 Subtotal 99,430 -54,849 ----LG CNS Co., Ltd. and Other related its subsidiaries 204 83 parties D&O Corp. and its subsidiaries¹ 3,219 792 Subtotal 3,423 875 _ ----Total 99,430 46,830 54,849 31,364 28,622 --

(in millions of Korean won)					202	:1		
		Dividend	Dividend	Cash distribution	Financing loan transactions		Financing borrowing transactions	
		income		(reduction)	Loans	Collections	Borrowings	Repayments ²
ignificantly influencing the Group	LG Corp.	-	66,113	-	-	-	27,819	27,633
Associates	Ericsson-LG Co., Ltd.	5,250	-	-	-	-	-	-
	LG-MRI LLC	274	-	-	-	-	-	-
	LG-LHT Aircraft Solutions GmbH	-	-	10,946	-	-	-	-
	LG-LHT Passenger Solutions GmbH GUANGDONG	-	-	9,891	-	-	-	-
	SMART LIFE TECHNOLOGY CO., LTD	-	-	303	-	-	-	-
	Subtotal	5,524	-	21,140	-	-	-	-
Other related parties	S&I Corp. ¹	-	-	-	-	-	-	363
	Total	5,524	66,113	21,140	-	-	27,819	27,996
	S&I Corp. ¹	-	66,113	-	- - -		2	- - 7,819

¹ The entity changed its name from S&I Corp. to D&O Corp. on April 1, 2022.

² Repayments of financing borrowing transactions include repayment of principal elements of lease liabilities.

(b) The compensation paid or payable to key management personnel for the years ended December 31, 2022 and 2021, consist of:

(in millions of Korean won)	2022	2021	
Salaries and other short-term benefits	12,526	13,707	
Post-employment benefits	1,547	1,879	
Other long-term benefits	2	44	
Total	14,075	15,630	

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

- (c) There is no collateral provided by the Group for the financial support of related parties at the end of the reporting period.
- (d) The Group has not recognized any bad debt expense or allowance for trade receivables from related parties at the end of the reporting period.
- (e) The Group transferred CEM (Chemical Electronic Material) business to LG Chem, Ltd. on November 1, 2021 (Note 36).

40. Risk Management

40.1 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 effective cash management.

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

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

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

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

- (a) Market risk
 - i) Foreign exchange risk

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

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

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

As at December 31, 2022 and 2021, 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, 2022	December 31, 2021		
(in millions of Korean won)	10% increase	10% decrease	10% increase	10% decrease	
USD/KRW	20,926	(20,926)	(3,521)	3,521	
EUR/KRW	(18,480)	18,480	(2,378)	2,378	

ii) Interest rate risk

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

The Group minimizes its borrowings from others and optimizes its deposits by expanding internal finance sharing. The Group periodically 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 the years ended December 31, 2022 and 2021, are as follows:

	20	22	2021			
(in millions of Korean won)	1%p increase	1%p decrease	1%p increase	1%p decrease		
Interest income	63,172	(63,172)	59,613	(59,613)		
Interest expense	13,399	(13,399)	5,371	(5,371)		

iii) Details of derivatives contracts are as follows:

Derivatives for hedging purposes

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

		Contracted amount	Contracted currency	Interest rate	Types of			Book a (in mill Koreai	ions of
	Contractor	(in millions)	rate	(paid) (%)	hedging	Starting date	Expiration date	Assets	Liabilities
	Woori Bank and	USD 764	1,067.9	1.88 ~	Cash flow	2017. 10.23	2025. 4.23		
Cross-	others	(USD/KRW)	~ 1,309	4.26	hedge	~ 2022. 12.7	~ 2031. 7.28	130,596	4,184
currency	CITI Bank	EUR 95 (EUR/KRW)	1,312	3.84	Cash flow hedge	2022. 7. 15	2028. 1. 14	_	2,173
swap	DBS	SGD 140 (SGD/KRW)	859.3	1.21	Cash flow hedge	2020. 7. 9	2024. 1. 9	17,093	
Interest rate swap	Woori Bank and others	KRW 971,607 / EUR 100 / USD 231	-	1.00 ~ 4.53	Cash flow hedge	2014. 1. 3 ~ 2022.11.16	2023. 2.24 ~ 2032.11.16	40,638	806
Currency forward	ING Bank	USD 65 (USD/KRW)	1,302.9	-	Fair value hedge	2022.12.12	2023.02.27	-	2,600

Details of hedging instruments are as follows:

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

Details of hedged items are as follows:

(in millions of Korean				Changes in
won)	Types of hedging	Hedged items	Book amount	fair value (net of tax)
Currency forward	Cash flow hedge	Forecast transactions	-	(547)
Cross-currency swap	Cash flow hedge	Borrowings	1,227,533	(75,916)
Interest rate swap	Cash flow hedge	Borrowings	1,398,948	(59,450)

(in millions of Korean				Changes in
won)	Types of hedging	Hedged items	Book amount	fair value (before tax)
Currency forward	Fair value hedge	Borrowings	82,375	2,554

The results of hedge accounting are as follows:

(in millions of Korean won)	Types of hedging	Changes in fair value of derivatives (net of tax)	Line items inprofit or loss	Reclassified to profit or loss (net of tax)	Other comprehensive loss (net of tax)	Accumulated other comprehensive income (loss)
Currency forward	Cash flow hedge	547	Exchange differences	(1,082)	(535)	(452)
Cross-currency swap	Cash flow hedge	75.916	Interest expense and exchange differences	(39,271)	36.645	35.646
Interest rate swap	Cash flow hedge	59,450	Interest expense	5,172	64,622	30,412

(in millions of Korean won)	Types of hedging	Changes in fair value of derivatives (before tax)	Line items in profit or loss	Effective hedge (before tax)	Ineffective hedge (before tax)
Currency forward	Fair value hedge	(2,600)	Exchange differences	(2,554)	(46)

Derivatives for non-hedging purposes

Currency forward and interest rate swap contracts

The Group entered into the currency forward, the cross-currency swap and the interest rate swap contracts to manage the risk against possible future changes in foreign exchange rates and interest rates. Details of currency forward contracts of subsidiaries and the interest rate swap contracts as at December 31, 2022, and related profit or loss for the year ended December 31, 2022, are as follows:

(in millions of Korean won)	Purchase	Sale	Gain (Loss) on valuation	Gain (Loss) on transaction
Currency forward	410,899	418,336	1,038	(52,624)
Interest rate swap	-	-	7,913	-

Stock purchase contracts

According to the put options granted to employees to whom stock options of Cybellum Technologies Ltd. were granted, the Group recognized $\forall 4,151$ million of derivative liabilities and $\forall 795$ million of gain on derivatives valuation during the year ended December 31, 2022.

iv) Hedging relationship affected by interest rate benchmark reform

The book amount of hedged item and hedging instrument related to the Group's interest rate benchmark reform as at December 31, 2022, are as follows:

(in millions of Korean won)	Book amount ¹		•	ition to alternative nark rate ²
	Hedged item	Hedging instrument	Hedged item	Hedging instrument
USD LIBOR				
- Long-term borrowings - Derivative financial assets	1,119,890	-	1,119,890	-
(liabilities)	-	149,170	-	149,170

¹ Includes financial instruments which will expire prior to transitioning to an alternative benchmark rate.

² Excludes financial instruments which will expire prior to transitioning to an alternative benchmark rate from disclosure amount subject to transition.

From July 2023, USD LIBOR interest rate is expected to be transferred to SOFR (Secured Overnight Financing Rate) which is based on actual transaction. In relation to such hedging relationship, the Group estimated the spread changing to SOFR in 2023 is expected to be similar to the spread included in interest rate swap used for hedging instrument. The Group did not estimate other changes in consideration.

The KRW CD rate is planned to be transferred to the KOFR(Korea Overnight Financing Repo

Rate) in the long term, but it is not clear which policy measures will be taken to activate the alternative rate or when the CD rate calculation will be stopped.

v) 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 consistent and the listed securities owned by the Group have correlation with the relevant past index.

	December 31, 2022		Decembe	r 31, 2021
(in millions of Korean won)	30% increase	30% decrease	30% increase	30% decrease
KOSDAQ	4,277	(4,277)	6,789	(6,789)
NASDAQ	701	(701)	3,300	(3,300)
NYSE	2,360	(2,360)	3,343	(3,343)
Austrian Traded Index	148	(148)	165	(165)

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

(b) Credit risk

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

In regard to receivables, the Group operates an integrated receivable insurance program with the world top three receivable insurers (Euler Hermes, Atradius and Coface) and Korea Trade Insurance Corporation (K-SURE). 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 quality for trade receivables that are neither past due nor impaired are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Trade receivables with insurance or collateral		
Excellent	1,648,208	2,638,867
Good	996,797	909,792
Fair	1,543,502	1,852,645
Poor ¹	734,550	498,438
Subtotal	4,923,057	5,899,742
Trade receivables without insurance or collateral		
Tier 1	590,492	412,051
Tier 2	462,051	377,740
Tier 3	1,121,822	628,563
Subtotal	2,174,365	1,418,354
Total	7,097,422	7,318,096

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

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

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

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

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

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

Tier 3 - Small debtors without credit history

The credit rating of cash equivalents and deposits held by financial institutions estimated by the Group using external credit rating criteria as at December 31, 2022 and 2021, is as follows:

Category	December 31, 2022	December 31, 2021
Excellent	6,212,593	5,770,896
Good	272,306	244,326
Others	83,143	241,274
Total	6,568,042	6,256,496

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

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

Others: Financial deposit without credit rating

(c) Liquidity risk

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

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

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

i) Cash flow information on maturity of financial liabilities as at December 31, 2022, are as follows:

(in millions of Korean won)	Total	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years
Trade payables	8,212,419	8,212,419	-	-	-
Borrowings	12,305,098	2,599,449	1,868,272	4,235,809	3,601,568
Lease liabilities	1,221,519	332,804	235,118	423,829	229,768
Other payables	4,688,407	4,551,623	581	122,715	13,488
Other financial liabilities	10,993	7,637		3,020	336
Total	26,438,436	15,703,932	2,103,971	4,785,373	3,845,160

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 7,522 million within the less than 1-year time bucket. This is because the contractual

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

ii) The maturity analysis of financial guarantee contracts provided by the Group to third party companies as at December 31, 2022, are as follows:

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

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

40.2 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 at December 31, 2022 and 2021, are as follows:

(in millions of Korean won, except for ratios)	December 31, 2022	December 31, 2021
Liability (A)	32,664,144	33,383,445
Equity (B)	22,491,997	20,098,033
Cash and cash equivalents (C)	6,322,360	6,051,516
Borrowings and lease liabilities (D)	12,141,422	10,886,975
Liability to equity ratio (A/B)	145.2%	166.1%
Net borrowings ratio ((D-C)/B)	25.9%	24.1%

40.3 Fair Value Estimation

(a) The book amounts and fair values of the Group's financial assets and liabilities as at December 31, 2022 and 2021, are as follows:

	December 31, 2022				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Assets at fair value					
Financial assets at fair value through profit or loss					
Other financial assets	2,764	2,764	108,964	108,964	
Financial assets at fair value through other comprehensive income					
Trade receivables	1,241,667	1	-	-	
Other financial assets	-	-	118,926	118,926	
Derivatives for hedging purposes					
Other financial assets	5,059	5,059	183,268	183,268	
Assets at amortized cost					
Financial assets at amortized cost					
Cash and cash equivalents	6,322,360	1	-	-	
Deposits held by financial institutions	171,046	1	75,180	75,180	
Trade receivables	6,947,457	1	4,497	4,497	
Other receivables	602,782	1	787,793	782,537	
Other assets			-		
Trade receivables	27,388	1	138,712	138,712	
Total	15,320,523		1,417,340		

	December 31, 2022				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Liabilities at fair value					
Financial liabilities at fair value through profit or loss					
Other financial liabilities	7,522	7,522	3,265	3,265	
Derivatives for hedging purposes					
Other financial liabilities	2,600	2,600	7,163	7,163	
Liabilities at amortized cost					
Financial liabilities at amortized cost					
Trade payables	8,212,419	1	-	-	
Borrowings	2,287,518	1	8,757,669	7,872,873	
Other payables	4,551,554	1	136,509	134,603	
Other liabilities					
Lease liabilities	303,969	2	792,266	2	
Other financial liabilities	115	3	-	3	
Total	15,365,697		9,696,872		

	December 31, 2021				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Assets at fair value					
Financial assets at fair value through profit or loss					
Other financial assets	7,924	7,924	71,221	71,221	
Financial assets at fair value through other comprehensive income					
Trade receivables	1,567,007	1	-	-	
Other financial assets	-	-	121,222	121,222	
Derivatives for hedging purposes					
Other financial assets	10,352	10,352	31,135	31,135	
Assets at amortized cost		,	,	,	
Financial assets at amortized cost					
Cash and cash equivalents	6.051.516	1	-	-	
Deposits held by financial	0,001,010	1			
institutions	146,456		58,935	58,935	
Trade receivables	6,595,693	1	3,038	3,038	
Other receivables	489,056	1	671,903	645,960	
Other assets					
Trade receivables	3,759	1	22,040	22,040	
Total	14,871,763		979,494		

	December 31, 2021				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Liabilities at fair value					
Financial liabilities at fair value					
through profit or loss					
Other financial liabilities	8,398	8,398	8,695	8,695	
Derivatives for hedging purposes					
Other financial liabilities	-	-	51,095	51,095	
Liabilities at amortized cost					
Financial liabilities at amortized cost					
Trade payables	8,741,937	1	-	-	
Borrowings	1,895,600	1	8,035,953	8,043,340	
Other payables	4,077,421	1	116,330	116,324	
Other liabilities					
Lease liabilities	292,526	2	662,896	2	
Other financial liabilities	114	3		-	
Total	15,015,996		8,874,969		

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

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

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

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

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

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

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

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

- Level 3: When financial instruments are measured by using a discounted cash flow, if one or more of the significant inputs are unobservable market data, the instrument is included in 'level 3'. The assets or liabilities categorized within 'level 3' are unlisted equity securities and debt securities.

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

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

If one or more of the significant inputs are not based on observable market data, the instrument

is included in 'level 3'. Financial instrument included 'level 3' uses other method including discounting cash flow method.

ii) Financial instruments measured at fair value

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value as at December 31, 2022 and 2021, are as follows:

	December 31, 2022			
(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	29,425	-	89,501	118,926
Financial assets at fair value through profit or loss	362	5,722	105,644	111,728
Derivatives for hedging purposes	-	188,327	-	188,327
Liabilities				
Other financial liabilities				
Financial liabilities at fair value through profit or loss	-	10,787	-	10,787
Derivatives for hedging purposes	-	9,763	-	9,763

	December 31, 2021			
(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 Financial assets at fair value through profit or loss	60,441 2,297	- 5,627	60,781 71,221	121,222 79,145
Derivatives for hedging purposes	-	41,487	-	41,487
Liabilities				
Other financial liabilities				
Financial liabilities at fair value through profit or loss	-	17,093	-	17,093
Derivatives for hedging purposes	-	51,095	-	51,095

The above fair value amounts are recurring fair value measurements.

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

Valuation technique and inputs for fair value measurements categorized within 'level 2' as at December 31, 2022 and 2021, are as follows:

	Fair value		Fair value		
(in millions of Korean won)	December 31, 2022	December 31, 2021	Valuation techniques	Inputs	
Assets					
Other financial assets					
Financial assets at fair value through profit or loss	2,402	5,627	Discounted cash flow	Discount rate and exchange rate	
Derivatives for hedging purposes	188,327	41,487	Discounted cash flow	Discount rate and exchange rate	
Liabilities					
Other financial liabilities					
Financial liabilities at fair value through profit or loss	10,787	17,093	Discounted cash flow and binomial model	Discount rate and exchange rate share price and volatility	
Derivatives for hedging purposes	9,763	51,095	Discounted cash flow	Discount rate and exchange rate	

- Fair value measurements categorized within 'level 3'

At the end of the reporting period, financial instruments measured at fair value categorized within 'level 3' comprise unlisted equity securities and debt securities 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 at December 31, 2022 and 2021, are as follows:

		December	31, 2022	
(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Non-current deposits held by financial institutions	-	-	75,180	75,180
Non-current trade receivables	-	-	143,209	143,209
Non-current other receivables	-	-	782,537	782,537
Liabilities				
Non-current borrowings	-	-	7,872,873	7,872,873
Non-current other payables	-	-	134,603	134,603

	December 31, 2021				
(in millions of Korean won)	Level 1	Level 2	Level 3	Total	
Assets					
Non-current deposits held by financial institutions	-	-	58,935	58,935	
Non-current trade receivables	-	-	25,078	25,078	
Non-current other receivables	-	-	645,960	645,960	
Liabilities					
Non-current borrowings	-	-	8,043,340	8,043,340	
Non-current other payables	-	-	116,324	116,324	

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

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

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

Valuation technique, inputs and unobservable inputs of financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within 'level 3' as at December 31, 2022 and 2021, are as follows:

	Decembe	r 31, 2022	December	· 31, 2021			Significant but	Range of significant but
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	Valuation techniques	Inputs	unobservable inputs	unobservable inputs
Assets								
Non-current deposits held by financial institutions	75,180	75,180	58,935	58,935	Discounted cash flow	Discount rate and exchange rate	Discount rate	0.1% ~ 1.8%
Non-current trade receivables	143,209	143,209	25,078	25,078	Discounted cash flow	Discount rate and exchange rate	Discount rate	4.2% ~ 5.9%
Non-current other receivables	787,793	782,537	671,903	645,960	Discounted cash flow	Discount rate and exchange rate	Discount rate	1.3% ~ 10.2%
Liabilities								
Non-current borrowings	8,757,669	7,872,873	8,035,953	8,043,340	Discounted cash flow	Discount rate and exchange rate	Discount rate	4.6% ~ 6.1%
Non-current other payables	136,509	134,603	116,330	116,324	Discounted cash flow	Discount rate and exchange rate	Discount rate	5.0% ~ 5.6%

41. Business Combinations

(a) On October 31, 2022, the Group acquired 60.0% shares of APPLEMANGO CO.,LTD. in order to enter the EV charging business, and the subsidiary acquired EV charging business from Speel Co., Ltd. on December 31, 2022,

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	25,772
Recognized amounts of identifiable assets acquired and liabilities assumed	
Current assets	
Cash and cash equivalents	267
Trade receivables ¹	3,455
Other assets	215
Non-current assets	
Property, plant and equipment	342
Intangible assets	9,133
Other assets	172
Current liabilities	
Trade payables	1,464
Other payables	1,860
Borrowings	830
Non-current liabilities	
Borrowings	617
Other liabilities	230
Deferred tax liabilities	1,909
Fair value of total identifiable net assets	6,674
Non-controlling interests	4,000
Goodwill ²	23,098

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

² Goodwill is incurred from a business combination amounting to \forall 23,098 million due to an increase in sales from integration of business with APPLEMANGO CO.,LTD., which is a non-deductible expense for tax purpose.

The acquisition-related direct costs in relation to business combination amounting to #322 million was recognized as expenses as incurred.

Net sales and loss of APPLEMANGO CO.,LTD. for the period from October 31, 2022, the acquisition date, amounting ₩654 million and ₩353 million, respectively, are included in the consolidated statements of profit or loss. Had APPLEMANGO CO.,LTD. and Speel Co., Ltd. been consolidated from January 1, 2022, the consolidated statement of comprehensive income should have shown the following net sales and profit (loss) for the year.

(in millions of Korean won)	Before adjustments	Adjustments	After adjustments
Net sales	83,467,318	21,284	83,488,602
Profit (Loss) for the year	1,863,123	2,879	1,866,002

(b) On November 1, 2021, the Group acquired 69.6% shares of Cybellum Technologies Ltd. and its subsidiaries in order to secure vehicle security technology.

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	109,558
Other payables ¹	48,048
Other financial liabilities ¹	4,151
Recognized amounts of identifiable assets acquired and liabilities assumed	
Current assets	
Cash and cash equivalents	5,168
Trade receivables ²	237
Other assets	92
Non-current assets	
Property, plant and equipment	1,039
Intangible assets	58,018
Other assets	265
Current liabilities	
Trade and other payables	2,114
Other liabilities	1,216
Non-current liabilities	
Other payables	169
Other liabilities	958
Deferred tax liabilities	13,344
Fair value of total identifiable net assets	47,018
Non-controlling interests ³	4,348
Goodwill ⁴	119,087

¹ According to the non-controlling interest in Cybellum Technologies Ltd. and the put options grant to employees to whom stock options were granted, the Group recognized such obligation as financial liabilities at the acquisition date.

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

³ Non-controlling interests of \forall 4,348 million is the fair value of share options issued by Cybellum Technologies Ltd. measured at the acquisition date.

⁴ Goodwill incurred in a business combination amounting to \forall 119,087 million is due to an increase in sales from integration of business with Cybellum Technologies Ltd. and its subsidiary, which is not allowed to be tax deductible.

The acquisition-related direct costs in relation to business combination amounting to #2,250 million was recognized as expenses as incurred.

42. Assets Classified as Held for Sale

(a) Details of assets classified as held for sale as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022 ¹	December 31, 2021 ²
Assets held for sale		
Cash and cash equivalents	-	58,371
Land	554	35,079
Building	3,106	58,174
Machinery	100	19,280
Other property, plant and equipment	7	773
Intangible assets	-	-
Other assets	9,148	8,403
Total	12,915	180,080

¹ The sale is in progress as at December 31, 2022 and expected to be completed by 2023.

- ² The sale of LED business of LG Innotek Co., Ltd. and its subsidiaries was completed for the year ended December 31, 2022 and the sale of land and buildings held by the Group is in progress.
- (b) Assets held for sale were measured at fair value less costs to sell before the reclassification, and there was no related impairment loss recognized in 2022.
- (c) Details of other components of equity as held for sale as at December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	December 31, 2022	December 31, 2021
Exchange differences on translation of foreign		
operations	838	12,299

43. Discontinued Operation

In 2022 and 2021, the Group discontinued the operations of energy business and MC business, respectively, 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 operation for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Net sales	378,597	2,605,382
Operating profit (loss)	(159,688)	(1,336,644)
Profit (Loss) before income tax ¹	(189,137)	(1,867,260)
Income tax expense (benefit) ¹	(44,756)	(501,113)
Loss for the year, net of tax	(144,381)	(1,366,147)

¹ It includes an impairment loss and loss on disposal of property, plant and equipment and intangible assets amounting to $\forall 9,708$ million due to discontinued operations of MC and energy business, and income tax benefits of $\forall 2,236$ million for the related profit or loss during the year ended December 31, 2022.

Cash flows from discontinued operations for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Net cash inflow (outflow) from operating activities	(258,753)	(1,395,764)
Net cash inflow (outflow) from investing activities	465,517	89,115
Net cash inflow (outflow) from financing activities	(206,764)	1,306,649

44. Approval of the Consolidated Financial Statements

The consolidated financial statements of the Group was approved by the Board of Directors on January 26, 2023, and final approval is expected at the regular general meeting of shareholders to be held on March 27, 2023.