HD Hyundai Infracore Co., Ltd. and its subsidiaries

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

HD Hyundai Infracore Co., Ltd.
and its subsidiaries

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Independent auditor's report

(English translation of a report originally issued in Korean)

The Shareholders and Board of Directors
HD Hyundai Infracore Co.,Ltd.

Opinion

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

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

We have audited the Group's internal control over financial reporting ("ICFR") as of December 31, 2024 based on the *Conceptual Framework for Design and Operation of ICFR* established by the Operating Committee of ICFR in Korea, in accordance with Korean Standards on Auditing ("KSA"), and our report dated March 14, 2025, expressed an unqualified opinion thereon.

Basis for opinion

We conducted our audit in accordance with KSA. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit 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. For each matter below, our description of how our audit addressed the matter is provided in that context.

(1) Impairment assessment on capitalized development costs

As described in Note 16 to the consolidated financial statements, the carrying amount of capitalized development costs recognized as intangible assets in the consolidated statement of financial position as of December 31, 2024 is ₩ 106,220 million.

The Group operates R&D centers in Korea, Europe, and other regions and has made significant investments to diversify its product portfolio through new product development and future technology advancements. The amount of invested fund thereafter is recognized as development costs incurred from the product development stage to the stage before mass production.

Since the impairment assessment on capitalized development costs requires management's estimates and judgments, the impact of the assessment on the Group's consolidated financial statements is considered material.

The key audit procedures we performed regarding the recognition and impairment assessment of the Group's development costs are as follows:

- Understand the process and accounting policies related to the recognition and impairment assessment of development costs, and perform tests on the effectiveness of design and operation of relevant internal controls.
- Obtain the detailed schedule of capitalized development projects and reconcile the amounts with the general ledger.
- Review supporting documents to corroborate whether newly recognized development costs meet the capitalization criteria.
- Corroborate the occurrence of capitalized expenditures and test the accuracy of aggregation and allocation of capitalized expenditures by project.
- Obtain internal and external source information for impairment indicator assessment on the selected ongoing projects and test the key assumptions and data applied to each project.
- Perform the independent recalculation on the recoverable amounts of the cash-generating units (CGUs) presented by the Group.

(2) Evaluation of provision for sales warranty

As explained in Note 24 to the consolidated financial statements, the carrying amount of the provision for sales warranties recognized in the consolidated statement of financial position as of December 31, 2024, is ₩ 119,853 million.

The Group provides the free warranty services to customers for a certain period after the sale of products, and in relation to this, the Group estimates the future warranty repair costs for the period of the implied obligation and establishes the provision for sales warranties.
Given the diversity in the nature and scope of warranties provided by the Group depending on the products or regions and the complexity of the data and calculation methods used for the experience rate, significant estimates for management are involved in the measurement of provisions for sales warranties, thereby ending up with the conclusion that the valuation of provisions for sales warranties has a material impact on the Group's consolidated financial statements.

The key audit procedures we performed regarding the evaluation of provisions for sales warranties are as follows:

- Understand the process and accounting policies related to the evaluation of provisions for sales warranties, and perform tests on the effectiveness of design and operation of relevant internal controls.
- Assess the key underlying data used by management in accounting estimates.
- Compare the key assumptions used by management in measuring provisions for sales warranties with actual results for the current period and perform the trend analysis.
- Perform the independent recalculation on the balances of provisions for sales warranties.

Other matters

The consolidated financial statement for the ended December 31, 2023 have been audited by other auditors, whose audit report dated March 15, 2024 expressed an unqualified opinion thereon.

Responsibilities of management and those charged with governance for the consolidated financial statements

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

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

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

Auditor's responsibilities for the audit of the consolidated financial statements

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than 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.
- 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.

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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 Min-Sung Kim.

Ernst & Young Han Young

Seoul, Korea

March 14, 2025

This audit report is effective as of March 14, 2025, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

HD Hyundai Infracore Co., Ltd. and its subsidiaries

Consolidated financial statements
for each of the two years in the period ended December 31, 2024
with the independent auditor's report

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

Cho Young Cheul
Chief Executive Officer
HD Hyundai Infracore Co., Ltd.

HD Hyundai Infracore Co., Ltd. and its subsidiaries
Consolidated statements of financial position
as of December 31, 2024 and 2023

(in Korean won)	**Notes**		**December 31, 2024**		**December 31, 2023**
Assets					
Current assets					
Cash and cash equivalents	4,5,39,40,41	₩	258,756,708,047	₩	239,481,457,874
Short-term financial assets	4,6,7,40,41		49,247,628,325		45,097,137,017
Trade and other receivables	8,9,40,41		869,420,609,154		1,058,744,283,062
Contract assets	8,30,40,41		3,190,352,819		2,117,570,483
Derivative assets	25,40,41		7,345,819,458		21,118,259,018
Inventories	10		1,364,320,837,795		1,425,467,665,614
Other current assets	11		44,020,289,944		41,384,771,275
			2,596,302,245,542		2,833,411,144,343
Non-current assets					
Investments in associates and joint ventures	12,44		-		244,797,296
Long-term financial assets	4,6,7,40,41		4,210,846,264		3,371,178,538
Long-term trade and other receivables	8,9,40,41		75,830,274,750		20,521,975,854
Investment properties	13		8,570,730,332		9,048,443,505
Property, plant and equipment	14,18		1,227,505,451,531		1,187,873,518,787
Intangible assets	16,17		160,893,264,319		160,463,080,875
Right-of-use assets	15		88,192,276,795		64,406,879,210
Deferred tax assets	36		84,684,761,128		86,811,994,941
Non-current derivative assets	25,40,41		-		1,920,261,742
Defined benefit assets	23		31,625,053,202		44,679,222,379
Other non-current assets	11		9,382,863,403		5,673,315,866
			1,690,895,521,724		1,585,014,668,993
Total assets		₩	4,287,197,767,266	₩	4,418,425,813,336
Liabilities					
Current liabilities					
Short-term financial liabilities	4,18,19,22,40,41,42	₩	548,518,319,339	₩	651,502,195,240
Current lease liabilities	15,40,41		21,999,341,361		15,972,921,832
Trade and other payables	20,40,41		797,404,594,404		826,323,966,085
Current contract liabilities	30		164,509,732,345		185,653,464,985
Current derivative liabilities	25,40,41		64,545,737,900		483,334,480
Current tax liabilities	36		10,036,388,716		57,692,582,220
Current provisions	24		67,710,850,239		65,674,255,714
Other current liabilities	21		53,362,897		98,301,799
			1,674,778,327,201		1,803,401,022,355
Non-current liabilities					
Long-term financial liabilities	4,18,19,22,40,41,42		565,378,070,264		603,499,674,436
Non-current lease liabilities	15,40,41		56,041,220,793		37,475,511,157
Long-term trade and other payables	20,40,41		15,760,002,647		11,032,519,280
Non-current contract liabilities	30		17,595,126,928		17,575,393,512
Defined benefit liabilities	23		407,641,017		224,307,025
Non-current provisions	24		53,811,156,345		50,914,301,138
Non-current derivative liabilities	25,40,41		9,117,803,112		1,407,546,355
Deferred tax liabilities	36		47,010,697,952		79,579,536,051
Other non-current liabilities	21		72,928,631		-
			765,194,647,689		801,708,788,954
Total liabilities			2,439,972,974,890		2,605,109,811,309
Equity					
Issued capital	1,26		199,603,453,000		199,603,453,000
Capital surplus	26		340,240,247,620		340,025,772,339
Capital adjustments	27		(1,580,691,923,329)		(1,580,679,334,513)
Accumulated other comprehensive income	28		264,752,901,565		251,140,457,052
Retained earnings	29		2,625,370,158,842		2,605,058,998,379
Equity attributable to the owners of the Parent Company			1,849,274,837,698		1,815,149,346,257
Non-controlling interest			(2,050,045,322)		(1,833,344,230)
Total equity			1,847,224,792,376		1,813,316,002,027
Total liabilities and equity		₩	4,287,197,767,266	₩	4,418,425,813,336

The accompanying notes are an integral part of the consoldiated financial statements.

HD Hyundai Infracore Co., Ltd. and its subsidiaries
Consolidated statements of profit or loss
for each of the two years in the period ended December 31, 2024

(in Korean won)	**Notes**		**2024**		**2023**
Revenue	30,32	₩	4,114,189,991,329	₩	4,659,604,596,066
Cost of goods sold	33		(3,185,444,601,218)		(3,536,020,180,302)
Gross profit			928,745,390,111		1,123,584,415,764
Selling and administrative expenses	31,33		(744,583,413,077)		(705,320,047,899)
Operating profit	4,32		184,161,977,034		418,264,367,865
Finance income	34		142,367,307,985		109,145,845,357
Finance costs	4,34		(159,988,442,147)		(192,887,010,763)
Other non-operating income	35		4,971,717,939		12,179,740,868
Other non-operating expenses	35		(10,469,228,488)		(4,276,629,693)
Investment income under equity method	12		(265,668,996)		(50,991,031)
Profit before income tax			160,777,663,327		342,375,322,603
Income tax expense	36		(52,361,925,935)		(111,662,878,105)
Profit for the year	32	₩	108,415,737,392	₩	230,712,444,498
Owners of the Parent Company		₩	108,372,372,823	₩	230,719,941,999
Non-controlling interest			43,364,569		(7,497,501)
Earnings per share	37				
Basic earnings per share		₩	556	₩	1,159
Diluted earnings per share			556		1,158

The accompanying notes are an integral part of the consoldiated financial statements.

HD Hyundai Infracore Co., Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for each of the two years in the period ended December 31, 2024

(in Korean won)	**Notes**		**2024**		**2023**
Profit for the year		₩	108,415,737,392	₩	230,712,444,498
Other comprehensive income					
Other comprehensive income, net of tax, that will not be reclassified to profit or loss :					
Remeasurements of net defined benefit liabilities	23		(10,111,958,070)		(9,087,600,526)
Revaluation surplus of property, plant and equipment	14, 28		-		203,007,883
Other comprehensive income, net of tax, that will be reclassified to profit or loss :					
Gains on translation of foreign operations	28		83,388,091,996		9,280,464,103
Changes in equity uner equity method	28		20,837,517		(42,826)
Losses on valuation of derivatives for cash flow hedges	25, 28		(70,056,550,661)		(14,716,864,918)
Other comprehensive income (loss) for the year, net of tax			3,240,420,782		(14,321,036,284)
Total comprehensive income for the year		₩	111,656,158,174	₩	216,391,408,214
Total comprehensive income for the year is attributable to:					
Owners of the Parent Company		₩	111,872,859,266	₩	216,422,927,747
Non-controlling interest			(216,701,092)		(31,519,533)
		₩	111,656,158,174	₩	216,391,408,214

The accompanying notes are an integral part of the consoldiated financial statements.

HD Hyundai Infracore Co., Ltd. and its subsidiaries

Consolidated statements of changes in equity

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

(in Korean won)	Notes	Attributable to the owners of the Parent Company: Share capital	Capital surplus	Capital adjustments	Accumulated other comprehensive income	Retained earnings	Subtotal	Non-controlling Interest	Total
Balance as of January 1, 2023		₩ 197,763,411,000	₩ 330,734,345,311	₩ (1,580,526,916,708)	₩ 256,351,254,019	₩ 2,431,314,541,985	₩ 1,635,636,635,607	₩ (595,677,741)	₩ 1,635,040,957,866
Total comprehensive income:									
Profit for the year		-	-	-	-	230,719,941,999	230,719,941,999	(7,497,501)	230,712,444,498
Remeasurements of net defined benefit liabilities	23,29	-	-	-	-	(9,087,600,526)	(9,087,600,526)	-	(9,087,600,526)
Revaluation surplus of property, plant and equipment	14	-	-	-	201,624,642	1,383,241	203,007,883	-	203,007,883
Gains (losses) on translation of foreign operations	28	-	-	-	9,304,486,135	-	9,304,486,135	(24,022,032)	9,280,464,103
Changes in equity under equity method	12,28	-	-	-	(42,826)	-	(42,826)	-	(42,826)
Losses on valuation derivatives for cash flow hedges	25,28	-	-	-	(14,716,864,918)	-	(14,716,864,918)	-	(14,716,864,918)
Total comprehensive income for the period		-	-	-	(5,210,796,967)	221,633,724,714	216,422,927,747	(31,519,533)	216,391,408,214
Transactions with owners directly recognized in equity :									
Dividends paid	29	-	-	-	-	(47,889,268,320)	(47,889,268,320)	-	(47,889,268,320)
Cancellation and redemption of share options	27	-	38,741,789	(38,741,789)	-	-	-	-	-
Exercise of conversion rights on convertible bonds	22,26	1,840,042,000	9,252,685,239	-	-	-	11,092,727,239	-	11,092,727,239
Disposal of shares of subsidiaries		-	-	(113,676,016)	-	-	(113,676,016)	(1,206,146,956)	(1,319,822,972)
Total transactions with owners		1,840,042,000	9,291,427,028	(152,417,805)	- -	(47,889,268,320)	(36,910,217,097)	(1,206,146,956)	(38,116,364,053)
Balance as of December 31, 2023		₩ 199,603,453,000	₩ 340,025,772,339	₩ (1,580,679,334,513)	₩ 251,140,457,052	₩ 2,605,058,998,379	₩ 1,815,149,346,257	₩ (1,833,344,230)	₩ 1,813,316,002,027
Balance as of January 1, 2024		₩ 199,603,453,000	₩ 340,025,772,339	₩ (1,580,679,334,513)	₩ 251,140,457,052	₩ 2,605,058,998,379	₩ 1,815,149,346,257	₩ (1,833,344,230)	₩ 1,813,316,002,027
Total comprehensive income:									
Profit for the year		-	-	-	-	108,372,372,823	108,372,372,823	43,364,569	108,415,737,392
Remeasurements of net defined benefit liabilities	23,29	-	-	-	-	(10,111,958,070)	(10,111,958,070)	-	(10,111,958,070)
Gains on translation of foreign operations	28	-	-	-	83,648,157,657	-	83,648,157,657	(260,065,661)	83,388,091,996
Changes in equity under equity method	12,28	-	-	-	20,837,517	-	20,837,517	-	20,837,517
Losses on valuation of derivatives for cash flow hedges	25,28	-	-	-	(70,056,550,661)	-	(70,056,550,661)	-	(70,056,550,661)
Total comprehensive income for the period		-	-	-	13,612,444,513	98,260,414,753	111,872,859,266	(216,701,092)	111,656,158,174
Transactions with owners directly recognized in equity:									
Dividends paid	29,38	-	-	-	-	(21,949,247,980)	(21,949,247,980)	-	(21,949,247,980)
Cancellation and redemption of share options	26,27	-	12,588,816	(12,588,816)	-	-	-	-	-
Acquisition of treasury shares	26,27	-	-	(56,000,006,310)	-	-	(56,000,006,310)	-	(56,000,006,310)
Retirement of treasury shares	26,29	-	-	56,000,006,310	-	(56,000,006,310)	-	-	-
Transfer of a business under common control	26,44	-	201,886,465	-	-	-	201,886,465	-	201,886,465
Total transactions with owners		-	- 214,475,281	- (12,588,816)	- -	- (77,949,254,290)	- (77,747,367,825)	- -	- (77,747,367,825)
Balance as of December 31, 2024		₩ 199,603,453,000	₩ 340,240,247,620	₩ (1,580,691,923,329)	₩ 264,752,901,565	₩ 2,625,370,158,842	₩ 1,849,274,837,698	₩ (2,050,045,322)	₩ 1,847,224,792,376

The accompanying notes are an integral part of the consoldiated financial statements.

HD Hyundai Infracore Co., Ltd. and its subsidiaries
Consolidated statements of cash flows
for each of the two years in the period ended December 31, 2024

(in Korean won)	Note		2024		2023
Cash flows from operating activities					
Net cash generated from operations:					
Profit for the year		₩	108,415,737,392	₩	230,712,444,498
Adjustments	39		339,325,409,188		407,761,042,196
Changes in operating assets and liabilities	39		141,726,709,989		(104,420,529,937)
Interest received			17,857,542,226		24,618,171,086
Interest paid			(59,072,059,359)		(69,368,630,835)
Dividends received			70,000,000		114,517,430
Income tax paid			(105,044,125,240)		(41,882,906,508)
Net cash inflows from operating activities			443,279,214,196		447,534,107,930
Cash flows from investing activities					
Decrease in short-term financial assets			2,231,600,450		15,076,405,168
Decrease in long-term financial assets			28,978,637		1,007,266,518
Disposal of property, plant and equipment	14		5,136,332,297		5,259,275,309
Disposal of investment properties	13		-		624,761,899
Disposal of intangible assets	16		1,252,887,955		2,144,603,425
Decrease in guarantee deposits			389,993,891		780,510,040
Changes in the consolidation scope (loss of control)			-		389,270,674
Cash inflows from business transfer			1,638,072,938		-
Increase in short-term financial assets			(6,372,090,471)		(454,517,543)
Increase in long-term financial assets			(1,022,169,072)		(45,025,000)
Increase in short-term loans			(3,200,000,000)		-
Increase in long-term loans			(300,000,000)		-
Acquisition of property, plant and equipment	14		(131,730,728,666)		(116,467,142,749)
Acquisition of intangible assets	16		(39,701,355,725)		(30,091,437,374)
Increase in guarantee deposits			(387,585,689)		-
Net cash outflows from investing activities			(172,036,063,455)		(121,776,029,633)
Cash flows from financing activities					
Net increase in short-term borrowings	22		-		9,308,838,955
Increase in long-term borrowings	22		1,319,428,500,000		382,669,572,197
Issuance of bonds	22		149,331,991,766		99,570,068,400
Net decrease in short-term borrowings	22		(89,593,930,056)		-
Decrease in long-term borrowings	22		(1,376,459,600,636)		(446,470,523,934)
Repayment of bonds	22		(177,000,000,000)		(366,000,000,000)
Repayment of lease liabilities	15		(22,021,087,719)		(18,639,180,750)
Transaction costs on issue of shares			-		(17,374,620)
Dividends paid	38		(21,949,247,980)		(47,889,268,320)
Acquisition of treasury shares	27		(56,000,006,310)		-
Net cash outflows from financing activities			(274,263,380,935)		(387,467,868,072)
Effects of exchange rate changes on cash and cash equivalents			22,295,480,367		2,816,563,663
Net increase (decrease) in cash and cash equivalents			19,275,250,173		(58,893,226,112)
Cash and cash equivalents at the beginning of the year			239,481,457,874		298,374,683,986
Cash and cash equivalents at the end of the year		₩	258,756,708,047	₩	239,481,457,874

The accompanying notes are an integral part of the consoldiated financial statements.

1. General information

(1) The Parent Company

HD Hyundai Infracore Co.,Ltd. (the “Parent Company”) was incorporated on October 23, 2000, through a spin-off from machinery business segment of Daewoo Heavy Industries Ltd. (“DHI”). The Parent Company is mainly engaged in manufacturing and sales of industrial machinery and equipment.

On February 2, 2001, the Parent Company listed its stock on the Korea Exchange, and changed its name to Doosan Infracore Co., Ltd. from Daewoo Heavy Industries & Machinery Ltd. on April 29, 2005, and changed its name to Hyundai Doosan Infracore Co.,Ltd. from Doosan Infracore Co., Ltd. on September 10, 2021 and changed its name to HD Hyundai Infracore Co.,Ltd. from Hyundai Doosan Infracore Co., Ltd. on March 27, 2023.

On July 1, 2021, the investment business segment including business of Doosan Bobcat Co., Ltd. and others was spun off.

The Parent Company’s share capital as of December 31, 2024 amounts to ₩ 199,603 million through capital reduction without consideration (reduction in par value) and paid-in capital increases after the spin-off. As of December 31, 2024, 34.17% of shares in the Parent Company is owned by HD Hyundai XiteSolution., Ltd.

(2) Consolidated subsidiaries

1) Details of the Group's consolidated subsidiaries as of December 31, 2024 and 2023 are as follows:

			Ownership interest held by the Group[1] (%)		Ownership interest held by non-controlling interests[1] (%)		
Subsidiary	Main business	Location	Dec. 31, 2024	Dec. 31, 2023	Dec. 31, 2024	Dec. 31, 2023	Fiscal year end
HD Hyundai Infracore China Co., Ltd.[2]	Manufacturing and sales of construction equipment	China	100.00	100.00	-	-	December 31
HD Hyundai Infracore China Investment Co., Ltd.[2]	Holding Company	China	100.00	100.00	-	-	December 31
HD Hyundai Infracore North America LLC.[2]	Sales of construction equipment	USA	100.00	100.00	-	-	December 31
HD Hyundai Infracore (Beijing) Financial Leasing Corp.[2]	Finance	China	100.00	100.00	-	-	December 31
HD Hyundai Infracore Chile S.A.[2]	Sales of construction equipment	Chile	100.00	100.00	-	-	December 31
HD Hyundai Infracore (Shandong) Co., Ltd.[2]	Sales of construction equipment	China	100.00	100.00	-	-	December 31
HD Hyundai Infracore Norway AS.[2]	Manufacturing and sales of construction equipment	Norway	100.00	100.00	-	-	December 31
HD Hyundai Infracore South America IND.E Com. DE [2]	Sales of construction equipment	Brazil	99.99	99.99	0.01	0.01	December 31
HD Hyundai Infracore India Private Ltd. [3]	Sales of construction equipment	India	100.00	100.00	-	-	March 31
Clue Insights Inc.	Development and sales of software	USA	71.62	72.21	28.38	27.79	December 31
HD Hyundai Infracore Europe s.r.o.[2]	Sales of construction equipment	Czech	100.00	100.00	-	-	December 31
HD Hyundai Infracore (Hunan) Corp.[2]	Sales of construction equipment	China	-	100.00	-	-	December 31
HD Hyundai Infracore (Beijing) Corp.[2]	Sales of construction equipment	China	100.00	100.00	-	-	December 31
HD Hyundai Infracore Engine (Tianjin) Co., Ltd.[2]	Manufacturing and sales of construction equipment	China	100.00	100.00	-	-	December 31
HD Hyundai Infracore Deutschland GmbH [2]	Sales of construction equipment	Germany	100.00	100.00	-	-	December 31
PT HD Hyundai Infracore Asia[4]	Sales of construction equipment	Indonesia	100.00	100.00	-	-	December 31
HD Hyundai Infracore Mexico [5]	Sales of construction equipment	Mexico	100.00	-	-	-	December 31

[1] The ownership interests held by the Group refers to the simply aggregated portion of ownership interests directly held by the Parent Company and its consolidated subsidiaries. The ownership interests held by non-controlling interests refers to the portion of ownership interests that are not attributable to the owners of the Parent Company, directly or indirectly. The ownership interests held by non-controlling interests may differ from the portion of interests calculated by subtracting the aggregated total portion of interests directly held by the entities within the Group from 100% (In other words, it is calculated by subtracting the effective ownership interest held by the entities within the Group from 100%).

(2) Consolidated subsidiaries (cont'd)

[2] For the year ended December 31, 2023, the subsidiaries that changed their names are as follows:

Before	After
Doosan Infracore North America LLC.	HD Hyundai Infracore North America LLC
Doosan Infracore Norway AS.	HD Hyundai Infracore Norway AS
Doosan Infracore Europe s.r.o.	HD Hyundai Infracore Europe s.r.o.
Doosan Infracore Deutschland GmbH	HD Hyundai Infracore Deutschland GmbH
Hyundai Doosan Infracore Chile S.A.	HD Hyundai Infracore Chile S.A.
Doosan Infracore China Co., Ltd.	HD Hyundai Infracore China Co., Ltd.
Doosan Infracore (China) Investment Co., Ltd.	HD Hyundai Infracore China Investment Co., Ltd.
Doosan (China) Financial Leasing Corp.	HD Hyundai Infracore (Beijing) Financial Leasing Corp.
Doosan Infracore (Shandong) Co., Ltd.	HD Hyundai Infracore (Shandong) Co., Ltd.
Doosan Infracore South America Industria E Comercio De Maquinas De Construcao LTDA	HD Hyundai Infracore South America IND.E Com. DE
Doosan Infracore Hunan Corp.	HD Hyundai Infracore (Hunan) Corp.
Doosan Infracore Beijing Corp.	HD Hyundai Infracore (Beijing) Corp.
Tianjin Hyundai Doosan Engine Co.,Ltd.	HD Hyundai Infracore Engine (Tianjin) Co., Ltd.

[3] For the year ended December 31, 2024, Doosan Infracore Construction Equipment India Private Ltd. changed its name to HD Hyundai Infracore India Private Ltd.
[4] For the year ended December 31, 2023, the Group newly established PT Hyundai Infracore Asia as a wholly owned subsidiary of the Group, and changed its name to PT HD Hyundai Infracore Asia.
[5] For the year ended December 31, 2024, the Group newly established HD Hyundai Infracore Mexico as a wholly owned subsidiary of the Group.

2) The summarized financial information on major consolidated subsidiaries as of and for the year ended December 31, 2024 is as follows:

(in millions of Korean won)

	Assets	Liabilities	Sales	Profit for the year	Total comprehensive income
HD Hyundai Infracore China Co., Ltd.	₩ 768,854	₩ 310,334	₩ 588,790	₩ 35,757	₩ 82,798
HD Hyundai Infracore China Investment Co., Ltd.	138,946	3,233	31,390	1,051	14,780
HD Hyundai Infracore North America LLC.	407,170	308,695	430,099	2,650	14,603
HD Hyundai Infracore (Beijing) Financial Leasing Corp.	277,947	38,051	27,691	11,268	36,246
HD Hyundai Infracore Europe s.r.o.	390,483	346,779	685,721	3,180	5,922

(3) Changes in the scope of consolidation

1) Changes in the scope of consolidation for the year ended December 31, 2024 are as follows:

Subsidiary	Description	Reason
HD Hyundai Infracore Mexico	Newly included in consolidation	New establishment
HD Hyundai Infracore (Hunan) Corp.	Excluded from consolidation	Liquidation

2) Changes in the scope of consolidation for the year ended December 31, 2023 are as follows:

Subsidiary	Description	Reason
ECUBE Solution Co., Ltd.	Excluded from consolidation	Disposal of the shares
PT Hyundai Infracore Asia	Newly included in consolidation	New establishment

2. Basis of preparation and summary of material accounting policy information

2.1 Basis of preparation

The Group prepares its statutory financial statements in Korean in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS"), enacted by the *Act on External Audit of Stock Companies*. The accompanying consolidated financial statements have been translated into English from Korean financial statements. In the event of any differences in interpreting the financial statements or the independent auditor's report thereon, Korean version, which is used for regulatory reporting purposes, shall prevail.

The consolidated financial statements have been prepared on a historical cost basis, except for the following:

- certain financial assets and liabilities (including derivative instruments), certain classes of property, plant and equipment and investment property measured at fair value; and

- defined benefit pension plans and plan assets measured at fair value

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

2.1 Basis of preparation (cont'd)

(1) New and amended standards adopted by the Group

The Group applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2024. The Group has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.
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Amendments to KIFRS 1116 - *Lease Liability in a Sale and Leaseback*

The amendments to KIFRS 1116 specify the requirements that a seller-lessee uses in measuring the lease liability arising in a sale and leaseback transaction, to ensure the seller-lessee does not recognize any amount of the gain or loss that relates to the right of use it retains.
The amendments had no impact on the Group's consolidated financial statements.

Amendments to KIFRS 1001 - *Classification of Liabilities as Current or Non-current*

The amendments to KIFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

• what is meant by a right to defer settlement;

• that a right to defer must exist at the end of the reporting period;

• that classification is unaffected by the likelihood that an entity will exercise its deferral right; and

• that terms of a liability that could result in its settlement by the transfer of the entity's own equity instruments do not affect its classification as current or non-current if the entity classifies the option as an equity instrument, recognising it separately from the liability as an equity component of a compound financial instrument.

In addition, an entity is required to disclose when a liability arising from a loan agreement is classified as non-current and the entity's right to defer settlement is contingent on compliance with future covenants within twelve months.
The amendments have resulted in additional disclosures in Note 41.2, but have not had an impact on the classification of the Group's liabilities.

Amendments to KIFRS 1007 and KIFRS 1107 - *Supplier Finance Arrangements*

The amendments to KIFRS 1007 *Statement of Cash Flows* and KIFRS 1107 *Financial Instruments: Disclosures* clarify the characteristics of supplier finance arrangements and require additional disclosure of such arrangements. The disclosure requirements in the amendments are intended to assist users of financial statements in understanding the effects of supplier finance arrangements on an entity's liabilities, cash flows and exposure to liquidity risk.
As a result of implementing the amendments, the Group has provided additional disclosures about its supplier finance arrangement. Please refer to Note 41.(2).

2.1 Basis of preparation (cont'd)

(2) Standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below. The Group intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

Amendments to KIFRS 1021 - *Lack of exchangeability*

The amendments to KIFRS 1021 *The Effects of Changes in Foreign Exchange Rates* specify how an entity should assess whether a currency is exchangeable and how it should determine a spot exchange rate when exchangeability is lacking. The amendments also require disclosure of information that enables users of its financial statements to understand how the currency not being exchangeable into the other currency affects, or is expected to affect, the entity's financial performance, financial position and cash flows.

The amendments will be effective for annual reporting periods beginning on or after January 1, 2025. Early adoption is permitted, but will need to be disclosed. When applying the amendments, an entity cannot restate comparative information. The amendments are not expected to have a material impact on the Group's consolidated financial statements.

Amendments to KIFRS 1109 *Financial Instruments* and KIFRS 1107 *Financial Instruments: Disclosures – Classification and Measurement of Financial Instruments*

The amendments to KIFRS 1109 *Financial Instruments* and KIFRS 1107 *Financial Instruments: Disclosures – Classification and Measurement of Financial Instruments* include the following:

• clarifying that a financial liability is derecognized on the settlement date and introducing an accounting policy choice to derecognize financial liabilities that are settled by using electronic payment system before the settlement date (if specific criteria are met);
• providing additional guidance as to how to assess contractual cash flows of financial assets that include environmental, social and governance (ESG)-linked features and similar features;
• clarifying what constitutes non-recourse features and the characteristics of contractually linked financial instruments; and
• introducing new disclosures for financial instruments with contingent features and adding a disclosure requirements for equity instruments measured at fair value through other comprehensive income.

The amendments will be effective for annual periods beginning on or after January 1, 2026. Earlier adoption is permitted, but only for the amendments for the classification of financial assets and related disclosures. The Group does not plan to early apply the amendments.

In relation to the derecognition of financial liabilities that are settled via electronic payment systems, the Group is performing assessment on all the major electronic payment systems used in various jurisdictions in which the Group operates. The Group is assessing whether the amendments will have a material impact on the current practices and whether the criteria for the accounting policy choice to derecognize financial liabilities are met. In order to assess if a financial asset is derecognized on the date on which the contractual rights to the cash flows expire, and if a financial liability is derecognized on the settlement date, the Group is currently assessing all payment systems such as cheques, credit cards, and debit cards.

Furthermore, the Group is assessing the impact of the amendments on financial assets with ESG-linked and similar contingent features, financial instruments with non-recourse features, and contractually linked financial instruments. The amendments are not expected to have a material impact on its consolidated financial statements based on the initial assessment performed but the assessment has not been completed.

2.1 Basis of preparation (cont'd)

Annual Improvements to KIFRS - Volume 11

Annual Improvements to KIFRS - Volume 11 have been announced for the purpose of improving consistency of requirements set out in each standard, enhancing clarity, and providing better understanding of the amendments.

· Amendments to KIFRS 1101 *First-time adoption of KIFRS: Hedge accounting by a first-time adopter*
· Amendments to KIFRS 1107 *Financial Instruments: Disclosures: Gain or loss on derecognition, Guidance for application of amendments in practice*
· Amendments to KIFRS 1109 *Financial Instruments: Accounting for derecognition of lease liabilities and definition of transaction prices*
· Amendments to KIFRS 1110 *Consolidated Financial Statements: Determination of a 'de facto agent'*
· Amendments to KIFRS 1007 *Statement of Cash Flows: Cost Method*

The amendments will be effective for annual periods beginning on or after January 1, 2026. Earlier adoption is permitted, but will need to be disclosed. The amendments are not expected to have a material impact on the consolidated financial statements.

(3) Reclassification of financial statements for the comparative year

In order to facilitate comparison with the current period, some accounts in the consolidated financial statements for the prior year are reclassified according to the category of accounts in the consolidated financial statements for the current year. This reclassification does not affect the net profit or loss or net asset value reported in the prior year.

2.2 Consolidation

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

1) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Power can generally be assessed by considering the voting rights of the shares held, but several factors, such as past voting patterns and contractual arrangements, should be taken into consideration. If the profits of the Group are likely to vary depending on the performance of investees, it will be exposed to or have the right to variable profits.

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 acquisition method of accounting is used to account for business combinations by the Group. 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 measured initially at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquired entity on an acquisition-by-acquisition basis either at fair value or at the non-controlling interest's proportionate share of the acquired entity's net identifiable assets. All other non-controlling interests are measured at fair values, unless otherwise required by other standards. 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.

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A changed in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interest to reflect their relative interest in the subsidiary. Any difference between the amount of the adjustment to non-controlling interest and any consideration paid or received is recognized in a separate reserve within equity attributable to owners of the Parent Company. 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.

2.2 Consolidation (cont'd)

2) Investments in associates and joint ventures

Associates are entities over which the Group has significant influence but not control or joint control, where the Group in general holds 20% or more and 50% or less of the voting rights. Investments in joint ventures are investees sharing control over its economic activities with the Group based on a contractual agreement. The contractually agreed sharing of control of an arrangement only exist when financial and operating policy decisions of the investee require the unanimous consent of the parties sharing control.

Investments in associates and joint ventures (collectively referred to as the "associates, etc.") are accounted for using the equity method of accounting, after initially being recognized at cost. The carrying amount of the investments contains the goodwill identified on initial recognition and is presented at the amount less accumulated impairment losses.

The Group's proportionate interest of the investee's profit or loss and changes in other comprehensive income after the date of acquisition is respectively recognized in the Group's profit or loss and other comprehensive income. Cumulative changes after acquisition are adjusted from the carrying amount of the investment. If the Group's share of losses of the associates, etc. is greater than or equal to the investment in the associate, etc., including other unsecured notes, the Group discontinues to recognize further losses, except where it is obligated or required to be paid on behalf of the associates, etc. If there is an objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss. If an associate uses accounting policies other than those of the Group for like transactions and events in similar circumstances, if necessary, adjustments shall be made to make the associate's accounting policies conform to those of the Group when the associate's financial statements are used by the Group in applying the equity method.

Unrealized gains on transactions between the Group and its associates, etc. are eliminated to the extent of the Group's interest in the associates. If there is an objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss.

Accounting policies of associate, etc. are changed if necessary for consistency with those of the Group.

For overseas investees whose financial statements are prepared in foreign currencies, the equity method is applied to financial statements translated in accordance with the accounting treatments of the translation of the financial statements of overseas' subsidiaries. The amount of difference between the translated amount of assets less liabilities and translated amount of equity is recognized as changes in the investee's equity (accumulated other comprehensive income) to the extent equivalent to the Group's interest.

2.3 Foreign currency translation

1) Functional and presentation currency

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

2) Foreign currency transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. 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 at year end exchange rates are generally recognized in profit or loss. They are deferred in other comprehensive income if they relate to qualifying cash flow hedges and qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

3) Translation to the presentation currency

The financial performance and financial position of foreign operations that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

① assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period;

② income and expenses for each statement of profit or loss are translated at average exchange rates, unless this average is not reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rates on the dates of the transactions; and

③ all resulting exchange differences are recognized in other comprehensive income.

Exchange differences from the net investment in the foreign operation and from other foreign currency instruments designated as hedging instrument for such investment are recognized in other comprehensive income. On disposal of part or all foreign operation, which leads to the loss of control, all of the accumulated exchange differences in respect of that operation are reclassified to profit or loss. Goodwill and fair value adjustments arising from the acquisition of a foreign operation are recognized as assets and liabilities of the foreign operation and translated at the closing exchange rate.

2.4 Cash and cash equivalents

Cash and cash equivalents include cash on hand, cash in bank, and other short-term highly liquid investments that are readily convertible to a known amount of cash. Bank overdraft is classified as short-term financial liabilities in the consolidated statements of financial position.

2.5 Financial assets

1) Classification

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

- financial assets measured at fair value through profit or loss ("FVPL")
- financial assets measured at fair value through other comprehensive income ("FVOCI"); and
- financial assets 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. The changes of fair value of equity investments that are not designated under the fair value option are recorded through profit or loss.

2) Recognition and measurement

The Group measures the financial asset at fair value at initial recognition, and if it is not financial assets at fair value through profit or loss, the transaction costs directly related to the acquisition of the financial asset shall be added to the fair value. The transaction costs of financial assets at fair value through profit or loss are recognized as expenses in profit or loss. A hybrid contract that includes an embedded derivative takes into account the entire hybrid contract when determining whether the contractual cash flows consists of solely principal and interests.

2.5 Financial assets (cont'd)

① *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.

(a) Financial assets at 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. These assets are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

(b) Financial assets at FVOCI

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. These assets are subsequently measured at fair value. Interest income is calculated using the effective interest method, foreign exchange gains and losses and impairment are recognized in profit or loss. Other net gains and losses are recognized in other comprehensive income. On derecognition, gains and losses accumulated in other comprehensive income are reclassified to profit or loss.

(c) Financial assets at FVPL

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. These assets are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in other comprehensive income and are not reclassified to profit or loss.

② *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 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 finance income when the right to receive payments is established.

2.5 Financial assets (cont'd)

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

3) Impairment

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

4) Derecognition

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.

5) Offsetting of financial instruments

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

2.6 Financial liabilities

1) Classification and measurement

The Group's 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 a designated as hedging instruments and an embedded derivative that is separated are also classified as other financial liabilities.

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 and present as trade and other payables, and borrowings in the statement of financial position.

2.6 Financial liabilities (cont'd)

Borrowings are initially recognized at fair value, net of transaction costs incurred. Borrowings are subsequently measured at amortized cost. Any difference between the proceeds (net of transaction costs) and the redemption amount is recognized in profit or loss over the period of the borrowings using the effective interest method. Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

Preferred shares that require mandatory redemption on a specific date are classified as liabilities. Interest expenses on these preferred shares using the effective interest method are recognized in the income statement as finance costs, together with interest expenses recognized from other financial liabilities.

If there is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period, borrowings are classified as current liabilities.

The Group classifies financial liabilities that arise from supplier finance arrangement within trade and other payables in the consolidated statement of financial position if they have a similar nature and function to trade payables. This is the case if the supplier finance arrangement is part of the working capital used in the Group's normal operating cycle, the level of security provided is similar to trade payables and the terms of the liabilities that are part of the supplier finance arrangement are not substantially different from the terms of trade payables that are not part of the arrangement. Cash flows related to liabilities arising from supplier finance arrangements that are classified in trade and other payables in the consolidated statement of financial position are included in operating activities in the consolidated statement of cash flows.

2) Derecognition

Financial liabilities are removed 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.

3) Financial guarantee contract liabilities

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for a loss incurred because a specified debtor fails to make payments when due in accordance with the terms of debt instruments.

2.6 Financial liabilities (cont'd)

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at fair value through profit or loss, are subsequently measured at the higher of:

① the amount determined in accordance with the expected credit loss model under KIFRS 1109 *Financial Instruments;* or

② the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with IFRS 1115 *Revenue from Contracts with Customers*

2.7 Compound financial instruments

The liability component and equity component of compound financial instruments issued by the Group are separately classified based on the substance of the contractual terms. The compound financial instruments issued by the Group are classified and presented separately as the financial liability component and equity conversion option which can be converted into equity instruments at the option of the holder. The liability component of the compound instruments is recognized initially at the fair value of a similar bond that does not have an equity conversion option, and subsequently recognized at amortized cost by applying the effective interest rate until extinguished on conversion or maturity of the bonds. The equity component is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognized and included in equity, net of income tax effects, and is not subsequently remeasured. If it is classified not as equity component but as derivatives, it is regarded as embedded derivatives estimated at the fair value of the same derivatives or calculated from a reasonable valuation model. The subsequent gains or losses arising from its fair value fluctuation are recognized in profit or loss.

2.8 Trade receivables

Trade receivables are amounts owed by customer for products and services provided in the ordinary course of business. Receivables expected to be collected within normal business cycle are classified as current assets. Otherwise, they are classified as non-current assets. Trade receivables are initially measured at fair value and are presented as net of allowance for doubtful accounts, estimated on an individual basis based on past bad debt experience.

2.9 Contract assets and liabilities

Contract assets and liabilities represents the gross unbilled amount expected to be collected from customers for contract work performed to date. It is measured at cost plus profit recognized to date less progress billings and recognized losses. Cost includes all expenditures related directly to specific projects and an allocation of fixed and variable overheads incurred in the Group's contract activities based on normal operating capacity.

2.9 Contract assets and liabilities (cont'd)

If the amount of accumulated incurred costs plus recognized profit exceeds the progress billings, the total amount is presented as contract assets in the consolidated statement of financial position. Conversely, if the progress billings exceed the amount of accumulated incurred costs plus recognized profit, the total amount is presented as contract liabilities in the consolidated statement of financial position.

2.10 Inventories

Inventories are stated at the lower of cost or net realizable value. Cost of inventories includes fixed and variable manufacturing overheads allocated to inventories by the most appropriate method of each category. The cost of inventories is determined by the gross average method (the specific identification method for materials in transit). And during the year, perpetual inventory systems are used to value inventories, which are adjusted to physical inventory counts performed at the end of the year.

The Group periodically reviews changes in net realizable value of inventories (current replacement cost for raw materials) due to damage, obsolescence, decline in selling prices and others and recognizes loss on inventory valuation. Loss on inventory valuation is charged to cost of goods sold when it is ordinary and to other non-operating expense when it is extraordinary. When the previous circumstances that caused the loss on inventory valuation no longer exist and the new market value of inventories subsequently exceeds the carrying amount, the valuation loss is reversed to the extent not exceeding the initial carrying amount, and the reversal is deducted from cost of goods sold or other non-operating expenses.

2.11 Property, plant and equipment

Property, plant and equipment are initially measured at cost and after initial recognition, are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses except for lands to which the revaluation model is applied. When useful life of a certain part of property, plant and equipment is different compared to that of the whole asset, such part is recognized as a separate asset. The historical cost includes expenditure that is directly attributable to the acquisition of the item, including estimated costs of dismantling, removing or restoring the assets at the end of the expected useful life.

Subsequent costs, incurred to replace a part of previously recognized item of property, plant and equipment, are added to the carrying amount of an asset, or recognized as a separate asset, if it is probable that future economic benefits associated with the assets will flow into the Group and the cost of an asset can be measured reliably. In such cases, the carrying amount of what was replaced is derecognized accordingly. Routine maintenance and repairs are expensed as incurred through profit or loss.

Depreciation of all property, plant and equipment, except for land, is calculated using the straight-line method, which reflects the best estimate of the expected consumption pattern of future economic benefits inherent in the asset, to allocate their cost, net of their residual values.

2.11 Property, plant and equipment (cont'd)

The Group depreciates property, plant and equipment with a limited useful life over the following periods:

	Estimated useful life (years)
Buildings	20 – 40
Structures	10 – 20
Machinery	5 – 15
Vehicles	5
Tools and equipment	5
Office equipment	3 – 10

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

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

When the carrying amount of property, plant and equipment is higher than the recoverable amount, the carrying amount is adjusted to the recoverable amount and the difference is recognized as an impairment loss. Meanwhile, when the recoverable amount subsequently exceeds the carrying amount of the impaired asset, the excess is recorded as a reversal of impairment loss to the extent that the reversed asset does not exceed the carrying amount before the previous impairment, as adjusted by depreciation. Upon derecognition of a property, plant and equipment, the difference between the net disposal amount and carrying amount of the item is recognized as other non-operating income or expenses.

2.12 Intangible assets

Intangible assets are initially measured at cost and are carried at cost, less accumulated amortization and accumulated impairment losses. Subsequent expenditure on an intangible asset is capitalized only when it is probable that the expected future economic benefits that are attributable to the asset will increase.

Intangible assets, expect for goodwill and those with indefinite useful lives, are amortized using the straight-line method with no residual value, with amortization beginning when the asset is available for use, over their estimated useful lives as follows. However, Membership rights that have an indefinite useful life are not subject to amortization because there is no foreseeable limit to the period over which the assets are expected to be utilized. Instead of being amortized they are tested for impairment in each reporting period.

2.12 Intangible assets (cont'd)

	Estimated useful life (years)
Industrial rights	5 – 10
Development costs	5 – 7
Other intangible assets	3 – 5

Goodwill acquired through business combinations refers to the consideration paid in excess of the fair value of the Group's share of the identifiable net assets of the subsidiary on the date of acquisition. Goodwill recognized from the acquisition of certain subsidiary, is classified as intangible assets. Goodwill is tested for impairment annually and carried at the historical cost at the date of business acquisition, less accumulated impairment losses. Impairment loss recognized for goodwill is not reversed. For the purpose of impairment testing, goodwill is allocated to each of the Group's cash-generating units (or groups of cash-generating units) that is expected to benefit from the synergies of the combination.

Expenditures relating to development activities are capitalized when the results of development plan were for new product developments or substantial improvement of functions of existing products, there is technical and commercial feasibility of completing the development and the Group has the ability to measure the expenditures attributable to the development with reliability. Capitalized development costs include expenditure on materials, salaries and related overhead cost that is reasonably allocated. Capitalized development costs are presented at the acquisition cost, less accumulated amortization and accumulated impairment losses. Capitalized development costs are amortized using the straight-line method over the estimated useful life and amortization expenses are included in cost of goods and selling and administrative expenses. The expenditure on research and development, which does not meet conditions noted above, is expensed through profit or loss when it is incurred.

The estimated useful life and amortization method for intangible assets with finite useful lives are reviewed at the end of each reporting period. For intangible assets with indefinite useful life, assessment is revisited each period, with the effect of any changes in estimate being accounted for as a change in accounting estimate.

2.13 Investment property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost, including transaction cost incurred in acquiring the asset. An investment property is measured after initial measurement at depreciated cost (less any accumulated impairment losses). After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. The Group depreciates investment properties, except for land, using the straight-line method over their useful lives of 40 years.

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

2.14 Borrowing costs

Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use. Other borrowing costs are expensed in the period in which they are incurred.

2.15 Impairment of non-financial assets

Goodwill and intangible assets that have an indefinite useful life are not subject to amortization and are tested annually for impairment. Other assets are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized 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 value in use. For the purposes of impairment test, assets are grouped at the lowest levels which separately generates identifiable cash flows (cash-generating units). Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

2.16 Trade and other payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

2.17 Borrowings

Borrowings are measured initially at fair value, net of transaction costs and subsequently at amortized cost using the effective interest method, with interest expense being recognized on an effective yield basis. The difference between the amount received and the redemption amount is amortized using the effective interest method and recognized in profit or loss. Borrowings are classified as non-current liabilities when the Group has an unconditional right to defer settlement of the liability for at least 12 months after the end of the reporting period. Otherwise, borrowings are classified as current liabilities.

2.18 Post-employment benefits

The Group operates both defined contribution and defined benefit pension plans.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee’s age, periods of service or salary levels. The liability recognized in the consolidated statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets and adjusting unrecognized past service cost. The defined benefit obligation is calculated annually by independent 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 that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income. Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

Contributions to defined contribution plans are recognized as an expense when employees have rendered service that entitles them to the contributions.

2.19 Provisions and contingent liability

Provisions are recognized when 1) the Group has a present obligation (legal or constructive) as a result of a past event; 2) it is probable that the Group will be required to settle the obligation; and 3) and a reliable estimate can be made for the amount of the obligation. The amount of the provision is measured as present value of the prospective cash flows estimated to settle the present obligation when the difference between the face value and present value is material. At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine whether the current best estimate is being recognized. The increase in provision due to passage of time is recognized as interest expense. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period. When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably. In this case, profit from reimbursement is offset against the expense incurred in the recognition of provision through profit or loss.

2.20 Derivative instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within “other non-operating income (expenses)” or “finance income (costs)” based on the nature of transactions:

- hedges of the fair value of recognized assets or liabilities or a firm commitment (fair value hedges);

- hedges of a particular risk associated with the cash flows of recognized assets and liabilities and highly probable forecast transactions (cash flow hedges); or

- hedges of a net investment in a foreign operation (net investment hedges).

At inception of the hedge relationship, the Group documents the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items.

The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining maturity of the hedged item is less than 12 months. A non-derivative financial asset and a non-derivative financial liability is classified as a current or non-current based on its expected maturity and its settlement, respectively.

2.21 Dividend

Dividend payable is recognized as liability when declaration of the dividend is approved at the shareholders’ meeting.

2.22 Share-based payment arrangement

The Group recognizes share options granted to employees at the fair value at the grant date. The fair value determined at the grant date of the share option is expensed on a straight-line basis over the vesting period, reflecting the expected rate of the share option's right extinction.

2.23 Revenue recognition

In accordance with KIFRS 1115, the Group recognizes revenue from all types of the contracts by using the five-step revenue recognition model. The five-step revenue recognition model is as follows:

- identify contracts with customers;
- identify the separate performance obligation;
- determine the transaction price of the contract;
- allocate the transaction price to each of the separate performance obligations; and
- recognize the revenue as each performance obligation is satisfied.

(1) Identify the separate performance obligation

The Group generally separates contracts to recognize revenue from service rendered, apart from sales of goods or products. 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 a customer has the option to purchase an additional warranty separately beyond the standard warranty coverage period, the warranty is considered as a separate performance obligation when revenue is recognized.

(2) Performance obligation satisfied at a point in time

Revenue on sales of goods is recognized when the products have been delivered 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 the customer has accepted the products in accordance with the sales contract or the acceptance provisions have lapsed or the Group has objective evidence that all criteria for acceptance have been satisfied.

(3) Sales with a right of return

In accordance with KIFRS 1115, 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 recognize 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.

2.23 Revenue recognition (cont'd)

(4) Revenue Recognition using percentage of completion method

① A performance obligation satisfied over time

In accordance with KIFRS 1115, the Group recognizes revenue over time 1) if the customer simultaneously receives and consumes the benefits provided by the Group's performance as the Group performs; 2) the Group's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or 3) 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.

② Methods for measuring progress

When measuring the progress of performance obligations satisfied over time, the Group considers the characteristics of the goods or services promised to the customer and determines one of the following methods:

- output methods: Revenue is recognized on the basis of direct measurements of the value to the customer of the goods or services transferred to date relative to the remaining goods or services promised under the contract; and

- input methods: Revenue is recognized on the basis of the entity's efforts or inputs to the satisfaction of a performance obligation relative to the total expected inputs to the satisfaction of that performance obligation.

2.24 Government grants

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

2.25 Current and deferred tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in 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 current income 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. The Group recognizes current income tax on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, 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 profit nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

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

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset when the Group has a legally enforceable right to offset and intends either to settle on a net basis, or to realize the assets and settle the liability simultaneously.

2.26 Earnings per share

Basic earnings per common share are computed by dividing net income attributable to owners of the Group by the weighted-average number of common shares outstanding during the period. Diluted earnings per common share are computed by dividing diluted net income attributable to the owners of the Group, which is adjusted by adding back the after-tax amount of expenses related to dilutive potential ordinary shares, by weighted-average number of common shares and dilutive potential ordinary shares outstanding during the period. Anti-dilutive potential ordinary shares are disregarded in the calculation of diluted earnings per share.

2.27 Assets held for sale

Non-current assets (or disposal group) are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

Non-current assets that are classified either as held for sale or as a part of a disposal group classified as held for sale are not depreciated (or amortized). If the fair value, less costs to sell, of the non-current assets, or disposal groups, held for sale decreases, impairment loss is recognized immediately through profit or loss. When it increases subsequently, the gain is recognized at the amount not exceeding the accumulated impairment loss.

2.28 Lease

Group as a lessor

At commencement or on modification of a contract that contains a lease component, the Group allocated the consideration in the contract to each lease component on the basis of its relative stand-alone price.

As a lessor, the Group determines whether the lease is a finance lease or an operating lease at the inception of the lease. To classify each lease, the Group generally determines whether the lease transfers most of the risks and rewards incidental to ownership of the underlying asset. If most of the risks and rewards incidental to ownership of the underlying asset are transferred to the lessee, the lease is classified as a finance lease, otherwise the lease is classified as an operating lease. As part of this assessment, the Group considers whether the lease term is for the major part of the economic life of the underlying asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sublease separately. In addition, the classification of a lease is determined by the right-of-use asset arising from the head lease, not the underlying asset. If a head lease is a short-term lease to which the Group applies the recognition exemption, then the sub-lease is classified as an operating lease.

The Group has applied KIFRS 1115 *Revenue from Contracts with Customers* to allocate consideration in the contract to each lease and non-lease components.

The Group applies the KIFRS 1109 *Derecognition and Impairment* in relation to net investment in the lease (see Note 2.5). The Group regularly reviews the estimated unguaranteed residual values used in computing the lessor’s gross investment in the lease.

Lease income from operating leases where the Group is a lessor is recognized in other income on a straight-line basis over the lease term.

2.28 Lease (cont'd)

Group as a lessee

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, for leases of real estate for which the Group is lessee, the Group applies the practical expedient to elect not to separate lease and non-lease components and instead accounts for these as a single lease component.

Lease terms 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.

The Group determines the lease term as the non-cancellable period of a lease, together with both (a) periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option; and (b) periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option. When the lessee and the lessor each has the right to terminate the lease without permission from the other party, the Group should consider a termination penalty in determining the period for which the contract is enforceable.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

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

In addition, lease liabilities are measured including lease payments to be paid in accordance with an extension option which is reasonably certain to exercise.

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.

2.28 Lease (cont'd)

To determine the incremental borrowing rate, the Group:

- where possible, uses recent third-party financing received by the individual lessee as a starting point, adjusted to reflect changes in financing conditions since third party financing was received; and

- makes adjustments specific to the lease, for example term, country, currency and security.

If a readily observable amortizing loan rate is available to the individual lessee (through recent financing or market data) which has a similar payment profile to the lease, then the Group uses that rate as a starting point to determine the incremental borrowing rate.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Each lease payment is allocated between the 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 liability for each period.

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

- restoration costs and estimates.

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. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. The Group elected not to apply that revaluation model to right-of-use assets held by the Group, but apply cost model.

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.

2.29 Segment reporting

The information on each operating segment is reported in a manner consistent with the internal business segment reporting provided to the chief operating decision-maker. The chief operating decision-maker is responsible for allocating resources and assessing performance of the operating segments.

2.30 Accounting treatment related to the emission rights cap and trade scheme

The Group classifies the emission rights as intangible assets. The allowance received free of charge from the government are measured at zero, while those purchased are measured at acquisition cost. Also, if the emission rights granted free of charge by the government in relation to certain implementation year are sufficient to fulfill the obligation under the emission liability of current period, the emission liability is measured as zero. However, if there is a shortage, Emissions obligations are measured as the sum of the carrying amount of the allocated allowances that will be the best estimate of expenditure required to settle the obligation at the end of reporting period for any excess emission.

2.31 Events after the reporting period

If the Group receives the information after the reporting period, but prior to the date of authorization for issue, about conditions that existed at the end of the reporting period, it will assess whether the information affects the amounts that it recognizes in its consolidated financial statements. The Group will adjust the amounts recognized in its financial statements to reflect any adjusting events after the reporting period and update the disclosures that relate to those conditions in light of the new information. For non-adjusting events after the reporting period, the Group will not change the amounts recognized in its consolidated financial statements, but will disclose the nature of the non-adjusting event and an estimate of its financial effect, or a statement that such an estimate cannot be made, if applicable.

2.32 Approval on issuance of the consolidated financial statements

The consolidated financial statements for the year ended December 31, 2024 were approved for issue by the Board of Directors on February 4, 2025 and are subject to change with the approval of shareholders at the Annual General Meeting on March 25, 2025.

3. Critical accounting estimates and assumptions

The preparation of the consolidated financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group’s accounting policies. 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. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

(1) Provisions for sales warranty

The Group provides warranty for products when the related revenue is recognized. At the end of each reporting period, provisions are recorded at the best estimated costs to settle current and future warranty obligations. The Group continuously introduces new products using advanced complex technology, and accordingly, these estimates may change in future due to additional provisions required under local legislation and practice.

(2) Allowance for doubtful accounts of trade and other receivables

In order to calculate the impairment of trade and other receivables, the management of the Group estimates an expected bad debt considering the aging of receivables, past experience of bad debt and economic and industrial factors.

(3) Impairment of capitalized development cost

The Group performs an assessment for impairment of capitalized development costs at the end of each reporting period by reviewing project’s business forecast, technical feasibility and future economic benefit. The assessment on indication of impairment or calculation of recoverable amount of capitalized development costs involves management's estimates and judgments.

4. Risk management

The purpose of the Group’s financial risk management is to improve financial structure and efficiency of fund management to create stable and sustainable management performance even under various financial risks such as market risk, credit risk and liquidity risk.

Financial risk management activities are mainly managed by the finance department, and, in close cooperation with the relevant departments, the department is engaged in activities such as identification, valuation and hedging of financial risks, and focusing on minimizing the impact of financial risks through regular monitoring.

4. Risk management (cont'd)

(1) Market risk

1) Foreign exchange risk

The Group is exposed to foreign exchange risk as it makes international transactions in foreign currencies. Foreign exchange risk arises from forecast transactions, recognized assets and liabilities and net investments in foreign operations.

Foreign exchange risk is managed by the Group's Regulation on foreign currencies. The Group's basis for foreign currency management is to reduce the volatility of profit or loss. The Group reduces exposure to foreign exchange risk by matching the inflow and the outflow of foreign currencies (natural hedge), and manages foreign exchange risk by using currency derivatives, such as currency forwards, for the remaining exposures.

2) Interest rate risk

The Group's interest rate risk is related to borrowings and bank deposits with floating interest rates, and the related interest income and expense are exposed to interest rate risk. Borrowings and bank deposits with fixed interest rates do not have influence on current profit or loss and equity due to the changes in market interest rates.

To manage the Group's interest rate risk in advance, the Group tries to minimize external borrowings by using internal funds, reducing borrowings with high interest rates, improving the structure of long-term and short-term borrowings, maintaining the appropriate balance between borrowings with floating interest rate and fixed interest rate, and regularly monitoring domestic and international interest rate changes with action plans.

3) Price risk

The Group is exposed to equity securities price risk arises from investments held by the Group that are classified as fair value in the consolidated statement of financial position.

(2) Credit risk

Credit risk arises during the normal course of transactions and investing activities where customers or other parties are unable to comply with contractual obligations. The Group sets out and monitors credit limits for its customers and counterparts on a periodic basis considering financial conditions, historical experiences and other factors.

Credit risk arises from cash and cash equivalents, derivatives and deposits with banks and financial institutions, as well as credit exposures to major customers, including receivables and definite term contracts.

4. Risk management (cont'd)

Main objectives of credit risk management are to efficiently manage credit risk based on the Group's credit policies, to promptly support decision-making processes and to minimize financial losses through safeguarding receivables. Where default is expected for receivables that represents impairment indicators or are past due at the end of reporting period, the Group assesses related credit risk and reflects it on allowances in its consolidated statement of financial position.

Receivables with specific impairment indicators such as insolvency and bankruptcy are individually assessed using appropriate allowance rates. A group of financial assets with similar credit risk natures that are not individually significant is assessed on a collective basis based on aging analysis and the Group's historical experience on collection.

(3) Liquidity risk

Liquidity risk represents the risk that the Group may encounter difficulties in fulfilling its obligations to repay financial liabilities or in being not able to have additional funding for its normal business operations due to liquidity shortage.

The Group prepares cash flow budgets for a three-month period as well as annual fiscal year to forecast cash flows from operating, investing and financing activities. Through these forecasts, the Group secures and maintains an appropriate level of liquidity volume and accordingly manages liquidity risk in advance.

(4) Capital risk

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt. Consistent with others in the industry, the Group monitors capital on the basis of the gearing ratio. This ratio is calculated as total debt divided by total equity.

Details of the gearing ratios and net borrowing to equity ratio as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Debt	₩ 2,439,973	₩ 2,605,110
Equity	1,847,225	1,813,316
Savings[1]	309,644	284,680
Borrowings[2]	1,113,404	1,253,918
Debt-to-equity ratio	132.09%	143.67%
Net borrowing-to-equity ratio[3]	43.51%	53.45%

4. Risk Management (cont'd)

[1] It consists of cash and cash equivalents and short-term and long-term financial instruments.
[2] For bonds, discounts on bonds are deducted from the face value of bonds. And for borrowings, the present values of discount are deducted from the face value of borrowings.
[3] (borrowings-deposits)/equity

The interest coverage ratio and basis of its calculation for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
1. Operating profit	₩	184,162	₩	418,264
2. Interest expenses		56,969		69,446
3. Interest coverage ratio (1/2)		3.23		6.02

5. Cash and cash equivalents

Details of cash and cash equivalents as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Cash	₩	1	₩	1
Current deposits		26,453		12,365
Others (MMDA and others)		232,303		227,115
Total	₩	258,757	₩	239,481

6. Short-term and long-term financial instruments

The composition of short-term and long-term financial investments as of December 31, 2024 and 2023 is as follows:

(in millions of Korean won)	December 31, 2024				December 31, 2023			
	Current		Non-current		Current		Non-current	
Financial assets at amortized cost	₩	49,248	₩	1,639	₩	45,097	₩	584
Financial assets at FVPL		-		1,637		-		1,853
Financial assets at FVOCI		-		935		-		935
Total	₩	49,248	₩	4,211	₩	45,097	₩	3,372

7. Restricted financial instruments

Details of financial instruments restricted in use as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024		December 31, 2023		Description
Short-term financial assets	₩	49,248	₩	44,616	Win-win Growth Fund and others
Long-term financial assets		1,639		583	Debt deposits and others
Total	₩	50,887	₩	45,199	

The Group separately deposited cash and cash equivalents of ₩ 19,529 million in financial institutions for the execution of government projects.

8. Trade and other receivables and contract assets

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

(in millions of Korean won)	December 31, 2024				December 31, 2023			
	Current		Non-current		Current		Non-current	
Trade receivables:								
Trade receivables	₩	685,270	₩	580	₩	697,166	₩	3,525
Allowance for doubtful accounts		(104,497)		(1)		(98,040)		-
Finance lease receivables		148,888		60,663		324,850		-
Allowance for doubtful accounts		(2,036)		(801)		(14,157)		-
Subtotal		727,625		60,441		909,819		3,525
Other receivables:								
Other receivables[1]		184,712		13,554		192,857		7,401
Allowance for doubtful accounts		(51,691)		(6,975)		(49,236)		(4,746)
Accrued income		3,995		-		5,301		-
Loans		3,200		300		-		-
Guarantee deposits		1,580		8,621		3		14,442
Allowance for doubtful accounts		-		(111)		-		(100)
Subtotal		141,796		15,389		148,925		16,997
Total	₩	869,421	₩	75,830	₩	1,058,744	₩	20,522

[1] As of December 31, 2024, third-party reimbursable assets of ₩ 4,289 million (2023: ₩ 5,301 million) are recognized in relation to the payment of provisions for sales warranties.

8. Trade and other receivables and contract assets (cont'd)

(2) Details of contract assets as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024		December 31, 2023	
	Current	Non-current	Current	Non-current
Contract assets	₩ 3,190	₩ -	₩ 2,118	₩ -

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

(in millions of Korean won)	2024				
	Beginning	(Reversal of) Provision for allowance	Write-off	Others[1]	Ending
Trade receivables	₩ 98,040	₩ (848)	₩ (729)	₩ 8,035	₩ 104,498
Finance lease receivables	14,157	(6,173)	(6,392)	1,245	2,837
Other receivables	49,236	(585)	(168)	3,208	51,691
Long-term other receivables	4,746	2,229	-	-	6,975
Long-term guarantee deposits	100	-	-	11	111
Total	₩ 166,279	₩ (5,377)	₩ (7,289)	₩ 12,499	₩ 166,112

[1] Including gains or losses arising from changes in foreign exchange rates.

(in millions of Korean won)	2023				
	Beginning balance	(Reversal of) Provision for allowance	Write-off	Others[1]	Ending balance
Trade receivables	₩ 99,779	₩ (3,258)	₩ (911)	₩ 2,430	₩ 98,040
Finance lease receivables	14,303	315	(377)	(84)	14,157
Other receivables	54,043	(4,322)	(206)	(279)	49,236
Long-term other receivables	4,746	-	-	-	4,746
Long-term guarantee deposits	152	-	-	(52)	100
Total	₩ 173,023	₩ (7,265)	₩ (1,494)	₩ 2,015	₩ 166,279

[1] Including gains or losses arising from changes in foreign exchange rates.

9. Finance lease

(1) Gross investments in finance lease and the present values of minimum lease payments as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Within one year	₩	153,270	₩	265,894
Later than one year but not later than five years		62,047		66,088
Total	₩	215,317	₩	331,982
Present value of minimum lease payments	₩	209,551	₩	324,850

(2) Details of unearned finance income of finance lease as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Gross investments in leases	₩	215,317	₩	331,982
Net investments in leases[1]		209,551		324,850
Unearned finance income	₩	5,766	₩	7,132

[1] In relation to the above leases, there are no unguaranteed residual values as of December 31, 2024, and there are no adjusted lease payments incurred for the year ended December 31, 2024.

(3) Gains or losses related to finance leases for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Interest income from finance lease	₩	9,116	₩	15,302
Commissions received from finance lease		8,637		16,204
Total	₩	17,753	₩	31,506

10. Inventories

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

(in millions of Korean won)

	December 31, 2024			December 31, 2023		
	Acquisition cost	Valuation allowance	Carrying amount	Acquisition cost	Valuation allowance	Carrying amount
Merchandise	₩ 218,230	₩ (17,569)	₩ 200,661	₩ 207,646	₩ (16,602)	₩ 191,044
Finished goods	606,599	(22,294)	584,305	641,937	(15,448)	626,489
Semi-finished goods	142,455	(979)	141,476	156,778	(1,202)	155,576
Work in progress	48,617	-	48,617	40,715	-	40,715
Raw materials	350,887	(12,804)	338,083	349,029	(8,725)	340,304
Supplies	1,886	(2)	1,884	2,531	(1)	2,530
Materials in transit	49,295	-	49,295	68,810	-	68,810
Total	₩ 1,417,969	₩ (53,648)	₩ 1,364,321	₩ 1,467,446	₩ (41,978)	₩ 1,425,468

The loss on valuation of inventories added to cost of goods sold amounts to ₩ 8,125 million for the year ended December 31, 2024 (2023: ₩ 3,701 million).

11. Other assets

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

(in millions of Korean won)

	December 31, 2024		December 31, 2023	
	Current	Non-current	Current	Non-current
Prepayments	₩ 9,240	₩ 8,724	₩ 5,957	₩ 5,547
Prepaid expenses	20,392	659	17,889	126
Prepaid tax	9,990	-	11,329	-
Right of return asset	4,196	-	4,462	-
Others	202	-	1,748	-
Total	₩ 44,020	₩ 9,383	₩ 41,385	₩ 5,673

12. Interests in associates and joint ventures

(1) Details of investments in the associate and joint venture as of December 31, 2024 and 2023 are summarized as follows:

(in millions of Korean won)

Name of entity	Location	Closing month	Type of business	December 31, 2024 Percentage of ownership (%)	December 31, 2024 Carrying amount	December 31, 2023 Percentage of ownership (%)	December 31, 2023 Carrying amount
Associates:							
Potenit Co.,Ltd.	Korea	December	Manufacturing of industrial robots	21.21	₩ -	22.86	₩ -
Joint ventures:							
Doosan Infracore Liaoning Machinery Sales Co., Ltd.[1]	China	December	Sales of excavators	43.00	₩ -	43.00	₩ 245
Total					₩ -		₩ 245

[1] It has been fully impaired for the year ended December 31, 2024.

12. Interests in associates and joint ventures (cont'd)

(2) The tables below provide the summarized financial information on the joint venture as of and for the years ended December 31, 2024 and 2023:

(in millions of Korean won)	As of and for the year ended December 31, 2024							
	Current assets	Non-current assets	Current liabilities	Equity	Sales	Operating loss	Loss for the year	Total comprehensive loss
Doosan Infracore Liaoning Machinery Sales Co., Ltd.	₩ 1,244	₩ 10	₩ 896	₩ 358	₩ 3,854	₩ (242)	₩ (249)	₩ (249)

(in millions of Korean won)	As of and for the year ended December 31, 2024			
	Cash and cash equivalents	Current financial liabilities	Depreciation	Interest expenses
Doosan Infracore Liaoning Machinery Sales Co., Ltd.	₩ 50	₩ 896	₩ 9	₩ 5

(in millions of Korean won)	As of and for the year ended December 31, 2023							
	Current assets	Non-current assets	Current liabilities	Equity	Sales	Operating loss	Loss for the year	Total comprehensive loss
Doosan Infracore Liaoning Machinery Sales Co., Ltd.	₩ 2,486	₩ 17	₩ 1,944	₩ 559	₩ 3,674	₩ (256)	₩ (249)	₩ (249)

(in millions of Korean won)	December 31, 2023			
	Cash and cash equivalents	Current financial liabilities	Depreciation	Interest expenses
Doosan Infracore Liaoning Machinery Sales Co., Ltd.	₩ 122	₩ 886	₩ 16	₩ 36

12. Interests in associates and joint ventures (cont'd)

(3) Changes in the Group's investment in the joint venture using the equity method for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024					
	Valuation method	**Beginning**	**Investment loss under equity method**	**Impairment**	**Other changes in equity**	**Ending**
Doosan Infracore Liaoning Machinery Sales Co., Ltd	Equity method	₩ 245	₩ (107)	₩ (159)	₩ 21	₩ -

(in millions of Korean won)	2023				
	Valuation method	**Beginning**	**Investment loss under equity method**	**Other changes in equity**	**Ending**
Doosan Infracore Liaoning Machinery Sales Co., Ltd	Equity method	₩ 296	₩ (51)	₩ -	₩ 245

(4) The tables below provide a reconciliation of the summarized financial information presented to the carrying amount of its interest in the joint venture as of December 31, 2024 and 2023:

(in millions of Korean won)	December 31, 2024					
	Net assets at the end of the year (a)	**Group's share in % (b)**	**Group's share in KRW(a*b)**	**Adjustments**		**Carrying amount**
				Intergroup transaction	**Impairment**	
Doosan Infracore Liaoning Machinery Sales Co., Ltd	₩ 358	43.00	₩ 154	₩ 5	₩ (159)	₩ -

(in millions of Korean won)	December 31, 2023					
	Net assets at the end of the year (a)	**Group's share in % (b)**	**Group's share in KRW(a*b)**	**Adjustments**		**Carrying amount**
				Intergroup transaction	**Others**	
Doosan Infracore Liaoning Machinery Sales Co., Ltd	₩ 559	43.00	₩ 241	₩ 4	₩ -	₩ 245

13. Investment properties

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

(in millions of Korean won)	December 31, 2024			December 31, 2023		
	Land	Buildings	Total	Land	Buildings	Total
Acquisition cost	₩ 25,045	₩ 1,764	₩ 26,809	₩ 25,341	₩ 1,764	₩ 27,105
Accumulated depreciation	-	(310)	(310)	-	(281)	(281)
Accumulated impairment losses	(17,195)	(733)	(17,928)	(17,043)	(733)	(17,776)
Ending	₩ 7,850	₩ 721	₩ 8,571	₩ 8,298	₩ 750	₩ 9,048

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

(in millions of Korean won)	2024			2023		
	Land	Buildings	Total	Land	Buildings	Total
Beginning	₩ 8,298	₩ 750	₩ 9,048	₩ 9,039	₩ 780	₩ 9,819
Disposals	-	-	-	(1,176)	-	(1,176)
Depreciation	-	(29)	(29)	-	(30)	(30)
Impairment losses	(406)	-	(406)	(29)	-	(29)
Reversal of impairment losses	-	-	-	423	-	423
Others[1]	(42)	-	(42)	41	-	41
Ending	₩ 7,850	₩ 721	₩ 8,571	₩ 8,298	₩ 750	₩ 9,048

[1] Including gains or losses arising from changes in foreign exchange rates and others.

13. Investment properties (cont'd)

(3) Rental income and expenses from investment properties for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Rental income	₩	123	₩	52
Operating/repair and maintenance expenses (generated from rental income)		13		13
Operating/repair and maintenance expenses (not generated from rental income)		17		17

(4) The fair values of investment properties as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Land	₩	7,850	₩	8,298

The Group appraised the fair value of its investment property through a qualified and independent appraisal firm in November, 2024. The appraisal firm has appropriate qualifications and experience in relation to the assessment of real estate, and the assessment was conducted using a comparative method, which is a method of obtaining economic value based on the marketability of the property.

As of December 31, 2024, the difference between the fair value and the carrying amount of the building is not considered material.

14. Property, plant and equipment

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

(in millions of Korean won)	December 31, 2024								
	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Office equipment	Construction in progress	Total
Acquisition cost	₩ 658,532	₩ 439,158	₩ 113,706	₩ 784,574	₩ 13,784	₩ 437,045	₩ 72,601	₩ 25,200	₩ 2,544,600
Government grants	-	(3,334)	-	(531)	-	-	(156)	-	(4,021)
Accumulated depreciation	-	(200,276)	(59,670)	(577,641)	(9,826)	(332,301)	(53,551)	-	(1,233,265)
Accumulated impairment losses	(1,510)	(45,456)	(5,666)	(17,639)	(204)	(7,766)	(1,568)	-	(79,809)
Ending book value	₩ 657,022	₩ 190,092	₩ 48,370	₩ 188,763	₩ 3,754	₩ 96,978	₩ 17,326	₩ 25,200	₩ 1,227,505

(in millions of Korean won)	December 31, 2023								
	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Office equipment	Construction in progress	Total
Acquisition cost	₩ 654,520	₩ 428,051	₩ 105,625	₩ 717,471	₩ 12,316	₩ 408,378	₩ 65,484	₩ 34,471	₩ 2,426,316
Government grants	-	(3,467)	-	(530)	-	-	(224)	-	(4,221)
Accumulated depreciation	-	(183,101)	(54,533)	(549,103)	(8,305)	(308,767)	(49,172)	-	(1,152,981)
Accumulated impairment losses	(1,510)	(46,083)	(5,135)	(18,800)	(436)	(7,696)	(1,580)	-	(81,240)
Ending book value	₩ 653,010	₩ 195,400	₩ 45,957	₩ 149,038	₩ 3,575	₩ 91,915	₩ 14,508	₩ 34,471	₩ 1,187,874

Land, after initial recognition, is measured using a revaluation model. As of December 31, 2024, the carrying amount of land is ₩ 412,932 million if measured based on a cost model.

As of December 31, 2024, the committed amount for the acquisition of property, plant and equipment is ₩ 73,798 million, which may differ from the actual acquisition amount.

Certain land, buildings and machinery are pledged as collaterals as of December 31, 2024, in connection with the borrowings from Korea Development Bank and others (see Note 18).

14. Property, plant and equipment (cont'd)

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

(in millions of Korean won)	2024								
	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Office equipment	Construction in progress	Total
Beginning	₩ 653,010	₩ 195,400	₩ 45,957	₩ 149,038	₩ 3,575	₩ 91,915	₩ 14,508	₩ 34,471	₩ 1,187,874
Acquisitions / Capital expenditure	4,478	935	3,432	31,350	1,204	38,332	7,552	41,213	128,496
Transfers[1]	-	2,899	2,734	37,863	112	487	1,029	(50,819)	(5,695)
Disposals	-	(1,292)	(258)	(2,719)	(55)	(531)	(175)	-	(5,030)
Transfer of a business under common control	-	-	-	(1,096)	-	-	(205)	(31)	(1,332)
Depreciation	-	(10,580)	(4,109)	(30,397)	(1,359)	(34,472)	(5,696)	-	(86,613)
Others[2]	(466)	2,730	614	4,724	277	1,247	313	366	9,805
Ending	₩ 657,022	₩ 190,092	₩ 48,370	₩ 188,763	₩ 3,754	₩ 96,978	₩ 17,326	₩ 25,200	₩ 1,227,505

[1] Including transfers of construction in progress to property, plant and equipment and transfer of other accounts.
[2] Including gains or losses arising from changes in foreign exchange rates and others.

(in millions of Korean won)	2023								
	Land	Buildings	Structures	Machinery	Vehicles	Tools and equipment	Office equipment	Construction in progress	Total
Beginning	₩ 652,211	₩ 202,581	₩ 37,742	₩ 143,603	₩ 3,006	₩ 79,947	₩ 12,350	₩ 24,964	₩ 1,156,404
Acquisitions / Capital expenditure	-	1,327	1,706	24,219	1,968	42,618	4,936	54,317	131,091
Transfers[1]	-	2,227	10,229	11,904	-	1,593	4,070	(44,837)	(14,814)
Disposals	-	(172)	(47)	(1,808)	(73)	(327)	(1,713)	-	(4,140)
Depreciation	-	(10,489)	(3,662)	(29,050)	(1,313)	(31,902)	(5,141)	-	(81,557)
Changes in the scope of consolidation	-	-	-	-	-	-	(3)	-	(3)
Others[2]	799	(74)	(11)	170	(13)	(14)	9	27	893
Ending	₩ 653,010	₩ 195,400	₩ 45,957	₩ 149,038	₩ 3,575	₩ 91,915	₩ 14,508	₩ 34,471	₩ 1,187,874

[1] Including transfers of construction in progress to property, plant and equipment and transfer of other accounts.
[2] Including gains or losses arising from changes in foreign exchange rates and others.

14. Property, plant and equipment (cont'd)

(3) The Group revalued its land assets as follows:

For the year ended December 31, 2013, the Group initially remeasured all land assets using fair value at the date of the revaluation. As of December 31, 2024, the fair values of land assets are determined from appraisal that is undertaken by independently qualified valuators, Mirae & Saehan Appraisal Co., ltd. ("Mirae & Saehan") and others on September 23, 2021. Mirae & Saehan and others are members of Korea Association of Property Appraisers and comprise certified professionals that have a significant amount of industry experience.

The fair value of land is determined by reference to Officially Assessed Reference Land Price ("OARLP"), announced by the Ministry of Land, Infrastructure, and Transport of Korea, and recent market transactions of similar and recently sold parcels nearby the subject land in order to derive an indication of the most probable sales price (or value) of the land.

(4) The fair value measurements of land by fair value hierarchy level as of December 31, 2024 are as follows:

(in millions of Korean won)

Type	Level 1	Level 2	Level 3	Total
Land	₩ -	₩ -	₩ 657,022	₩ 657,022

(5) Valuation methodologies and inputs used for fair value measurements of land are as follows:

Valuation methodology	Input variables that are significant but not observable	Correlation between unobservable inputs and fair value measurements
Officially Assessed Reference Land Price	Fluctuation rate of land price and others	Fair value increases (decreases) if rate of land price increases (decreases)
OARLP of similar parcels nearby the subject land, reflating corrections necessary for differences between the subject and the comparable	Parcel conditions and others	Fair value increases (decrease) if corrections of parcel conditions and others increase (decrease)
	Land conditions affecting the sales price and others	Fair value increases (decreases) if correction of land conditions affecting the sales price increases (decreases)

14. Property, plant and equipment (cont'd)

(6) Details of borrowing costs added to the costs of property, plant and equipment for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Borrowing costs capitalized	₩	563	₩	90
Capitalization interest rate		4.44%		4.52%

(7) Details of depreciation of property, plant and equipment by account for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Cost of goods sold	₩	63,545	₩	61,601
Selling and administrative expenses		12,135		9,155
Research and development expenses, etc.		10,933		10,801
Total	₩	86,613	₩	81,557

15. Right-of-use assets and lease liabilities

(1) Details of right-of-use assets as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024									
	Land		Buildings		Vehicles		Office equipment		Total	
Acquisition cost	₩	15,189	₩	89,813	₩	12,487	₩	4,887	₩	122,376
Accumulated depreciation		(3,287)		(23,780)		(6,510)		(607)		(34,184)
Ending book value	₩	11,902	₩	66,033	₩	5,977	₩	4,280	₩	88,192

15. Right-of-use assets and lease liabilities (cont'd)

(in millions of Korean won)	December 31, 2023									
	Land		Buildings		Vehicles		Office equipment		Total	
Acquisition cost	₩	13,901	₩	68,565	₩	11,226	₩	445	₩	94,137
Accumulated depreciation		(2,758)		(21,663)		(5,044)		(265)		(29,730)
Ending book value	₩	11,143	₩	46,902	₩	6,182	₩	180	₩	64,407

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

(in millions of Korean won)	2024									
	Land		Buildings		Vehicles		Office equipment		Total	
Beginning	₩	11,143	₩	46,902	₩	6,182	₩	180	₩	64,407
Acquisition / adjustment		775		35,404		3,483		4,385		44,047
Depreciation		(1,185)		(19,230)		(3,422)		(446)		(24,283)
Termination / cancellation		(55)		(578)		(520)		-		(1,153)
Transfer of a business under common control		-		(73)		-		-		(73)
Others[1]		1,224		3,608		254		161		5,247
Ending	₩	11,902	₩	66,033	₩	5,977	₩	4,280	₩	88,192

[1] Including gains or losses arising from changes in foreign exchange rates and others.

15. Right-of-use assets and lease liabilities (cont'd)

(in millions of Korean won)	2023									
	Land		Buildings		Vehicles		Office equipment		Total	
Beginning	₩	11,721	₩	53,399	₩	7,045	₩	60	₩	72,225
Acquisition / adjustment		976		15,625		2,525		200		19,326
Depreciation		(1,392)		(16,005)		(3,101)		(80)		(20,578)
Termination / cancellation		(132)		(6,413)		(381)		-		(6,926)
Changes in the scope of consolidation		-		(5)		-		-		(5)
Others[1]		(30)		301		94		-		365
Ending	₩	11,143	₩	46,902	₩	6,182	₩	180	₩	64,407

[1] Including gains or losses arising from changes in foreign exchange rates and others.

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

(in millions of Korean won)	Lease liabilities			
	2024		2023	
Beginning	₩	53,448	₩	60,268
Lease modification		(1,612)		(1,758)
Payment for leases		(25,744)		(22,040)
Acquisition of lease assets[1]		44,923		19,710
Termination of lease agreement		(1,130)		(6,543)
Interest expenses		3,723		3,401
Changes in the scope of consolidation		-		(6)
Transfer of a business under common control		(74)		-
Others[2]		4,507		416
Ending	₩	78,041	₩	53,448

[1] The lessee's incremental borrowing rates applied to the measurement of lease liabilities are newly acquired for the year ended December 31, 2024 range from 4.09% to 7.60%.

[2] Including gains or losses arising from changes in foreign exchange rates and others.

15. Right-of-use assets and lease liabilities (cont'd)

(4) Details of depreciation of right-of-use assets by account for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Cost of goods sold	₩	3,865	₩	3,726
Selling and administrative expenses		18,260		14,634
Research and development cost, etc.		2,158		2,218
Total	₩	24,283	₩	20,578

(5) Details of the Group's maturity analysis on lease liabilities as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024					
	Nominal cash flows					
	Carrying amount	Contractual cash flows	Less than 1 year	Less than 2 years	Less than 5 years	More than 5 years
Lease liabilities	₩ 78,041	₩ 89,069	₩ 25,377	₩ 27,906	₩ 27,094	₩ 8,692

(in millions of Korean won)	December 31, 2023					
	Nominal cash flows					
	Carrying amount	Contractual cash flows	Less than 1 year	Less than 2 years	Less than 5 years	More than 5 years
Lease liabilities	₩ 53,448	₩ 61,117	₩ 18,131	₩ 12,771	₩ 18,248	₩ 11,967

(6) Expenditures on short-term leases or leases of low-value assets for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Cost of goods sold	₩	924	₩	1,148
Selling and administrative expenses		2,335		2,318
Research and development cost, etc.		216		198
Total	₩	3,475	₩	3,664

15. Right-of-use assets and lease liabilities (cont’d)

(7) The consolidated statements of profit or loss shows the following amounts relating to leases:

(in millions of Korean won)		2024		2023
Depreciation of right-of-use assets	₩	24,283	₩	20,578
Interest expense relating to lease liabilities		3,723		3,401
Expense relating to short-term leases		2,818		3,246
Expense relating to leases of low-value assets that are not short-term leases		657		418
Total	₩	31,481	₩	27,643

(8) The total cash outflows for leases for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Lease liabilities	₩	25,744	₩	22,040
Expense relating to short-term leases and leases of low-value assets		3,475		3,664
Total	₩	29,219	₩	25,704

16. Intangible assets

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

(in millions of Korean won)	December 31, 2024											
		Goodwill		Industrial rights		Development cost		Greenhouse gas emission rights		Other intangible assets		Total
Acquisition cost	₩	37,520	₩	25,482	₩	719,522	₩	81	₩	427,584	₩	1,210,189
Accumulated amortization		-		(22,472)		(489,390)		-		(358,625)		(870,487)
Accumulated impairment loss		(34,808)		-		(123,912)		-		(20,089)		(178,809)
Ending book value	₩	2,712	₩	3,010	₩	106,220	₩	81	₩	48,870	₩	160,893

16. Intangible assets (cont'd)

(in millions of Korean won)	December 31, 2023					
	Goodwill	Industrial rights	Development cost	Greenhouse gas emission rights	Other intangible assets	Total
Acquisition cost	₩ 36,591	₩ 24,110	₩ 682,468	₩ 5	₩ 414,678	₩ 1,157,852
Accumulated amortization	-	(20,896)	(462,997)	-	(336,487)	(820,380)
Accumulated impairment loss	(33,946)	-	(119,430)	-	(23,633)	(177,009)
Ending book value	₩ 2,645	₩ 3,214	₩ 100,041	₩ 5	₩ 54,558	₩ 160,463

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

(in millions of Korean won)	2024					
	Goodwill	Industrial rights	Development cost	Greenhouse gas emission rights	Other intangible assets	Total
Beginning	₩ 2,645	₩ 3,214	₩ 100,041	₩ 5	₩ 54,558	₩ 160,463
Additions – internal development	-	-	36,712	-	-	36,712
Acquired separately	-	-	-	87	2,902	2,989
Transfers[1]	-	507	-	-	11,060	11,567
Disposals	-	(44)	-	(11)	(1,174)	(1,229)
Transfer of a business under common control	-	(25)	-	-	(13)	(38)
Amortization	-	(642)	(26,131)	-	(18,907)	(45,680)
Impairment	-	-	(4,482)	-	(104)	(4,586)
Reversal of impairment loss	-	-	-	-	68	68
Others[2]	67	-	80	-	480	627
Ending	₩ 2,712	₩ 3,010	₩ 106,220	₩ 81	₩ 48,870	₩ 160,893

[1] Including transfers of construction in progress to property, plant and equipment and transfers of other accounts.
[2] Including gains or losses arising from changes in foreign exchange rates and others.

16. Intangible assets (cont'd)

(in millions of Korean won)	2023					
	Goodwill	**Industrial rights**	**Development cost**	**Greenhouse gas emission rights**	**Other intangible assets**	**Total**
Beginning	₩ 2,681	₩ 3,513	₩ 100,985	₩ -	₩ 60,570	₩ 167,749
Additions – internal development	-	-	28,891	-	-	28,891
Acquired separately	-	4	-	23	2,677	2,704
Transfers[1]	-	632	-	-	11,852	12,484
Disposals	-	(237)	-	(18)	(1,983)	(2,238)
Amortization	-	(698)	(29,786)	-	(18,927)	(49,411)
Reversal of impairment loss	-	-	-	-	352	352
Others[2]	(36)	-	(49)	-	17	(68)
Ending	₩ 2,645	₩ 3,214	₩ 100,041	₩ 5	₩ 54,558	₩ 160,463

[1] Including transfers of construction in progress to property, plant and equipment and transfers of other accounts.
[2] Including gains or losses arising from changes in foreign exchange rates and others.

The aggregated carrying amount of goodwill and others with indefinite useful lives in other intangible assets is ₩ 7,852 million and ₩ 8,644 million as of December 31, 2024 and 2023, respectively.

(3) Details of major development costs as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	**Name of development project**	**Carrying amount**	**Remaining amortization period [1]**
Development costs in development	Development project for engine (construction machinery), etc.	₩ 66,958	-
	Development project for construction machinery (excavator, wheel loader), etc.	7,641	-
Amortized development costs	Development project for Stage 5 construction machinery, etc.	16,364	4~60 months
	Development project for Stage 5 engine, etc.	11,964	4~26 months

[1] The remaining amortization period is presented only when amortization began. Otherwise, the remaining amortization period is presented as "-".

16. Intangible assets (cont'd)

(4) Details of impairment losses (reversal) on intangible assets for the year ended December 31, 2024 are as follows:

(in millions of Korean won)

Related account	Separate asset	Acquisition cost	Carrying amount after amortization	Impairment loss		Carrying amount	Valuation method for recoverable amounts
				2024	Accumulated		
Development costs	2.7t electric excavator [1]	₩ 697	₩ 697	₩ 697	₩ 697	₩ -	Value in use
	BC05 battery pack [1]	5,824	3,785	3,785	3,785	-	Value in use
Other intangible assets	Golf membership[2]	358	358	104	110	248	Fair value less costs to sell
	Total	₩ 6,879	₩ 4,840	₩ 4,586	₩ 4,592	₩ 248	

[1] As the value in use has decreased compared to the initial estimates at the time of development, the related carrying amount has been fully impaired.
[2] The recoverable amount was estimated to reflect the fair value less costs to sell of individual assets.

(5) The following intangible assets have been recognized as a reversal of impairment losses by the Group for the year ended December 31, 2024:

Related account	Separate asset	Acquisition cost	carrying amount after amortization	Impairment loss		Carrying amount	Valuation method for recoverable amounts
				2024	Accumulated		
Other intangible assets	Golf membership[1]	₩ 7,068	₩ 7,068	₩ (68)	₩ 2,176	₩ 4,892	Fair value less costs to sell

[1] The recoverable amount was estimated to reflect the fair value less costs of individual assets.
Sold

16. Intangible assets (cont'd)

(6) The classification of impairment losses (reversal) for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)		**2024**		**2023**
Non-operating expenses	₩	4,586	₩	-
Non-operating income		(68)		(352)

(7) Details of borrowing costs added to the cost of intangible assets for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		**2024**		**2023**
Borrowing costs capitalized	₩	2,545	₩	1,503
Capitalization interest rate		4.44%		4.52%

(8) The classification of amortization expenses for intangible assets by account for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)		**2024**		**2023**
Cost of goods sold	₩	25,858	₩	29,249
Selling and administrative expenses		19,822		20,162
Total	₩	45,680	₩	49,411

(9) The Group recognized the total research and development costs of ₩ 177,535 million (2023: ₩ 168,753 million) as expenses in selling and administration expenses.

16. Intangible assets (cont'd)

(10) Impairment test of goodwill

The carrying amount of Goodwill as of December 31, 2024 is as follows:

(in millions of Korean won)

Classification		December 31, 2024
Goodwill	₩	2,712

The Group uses cash flow projections based on its financial budgets approved by its executives covering five-year periods for a value-in-use calculation. The financial budgets are determined based on the historical results and expectation of market growth. The assumptions for the calculation of value-in-use, as of December 31, 2024 are as follows:

Classification	December 31, 2024
Growth rate	1.00%
Discount rate	9.50%

The growth rate is considered to calculate cash flows after the estimated period, and this growth rate does not exceed the average long-term market growth rate. The discount rate is the one reflecting the inherent risk of the relevant cash generating units.

The Group calculated recoverable amount for each cash-generating unit based on value-in-use, and concluded that there was no impairment loss to recognize for the year ended December 31, 2024, since the total carrying amount did not exceed the recoverable amount.

17. Greenhouse gas emission rights and obligation

(1) The quantity of emission permits which are allocated free of charge for the 3rd commitment period (compliance year 2021~2025) are as follows:

(in tCO2-eq)	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**
Emission permits allocated free of charge	101,677	101,677	101,677	100,725	100,725	506,481

(2) Changes in emission permits quantities and the carrying amounts are as follows:

(in tCO2-eq, in millions of Korean won)	**Total**		**2021**		**2022**		**2023**		**2024**		**2025**	
	Quantity	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
Beginning	506,481	₩ -	101,677	₩ -	101,677	₩ -	101,677	₩ -	100,725	₩ -	100,725	₩ -
Emission permits allocated free of charge (cancellation of allocation)	(4,175)	-	(210)	-	(211)	-	(2,010)	-	(872)	-	(872)	-
Borrowing carried forward	5,000	-	4,076	-	924	-	(3,912)	-	3,912	-	-	-
Purchase (disposal)	2,589	109	(420)	-	1,830	18	(825)	10	2,004	81	-	-
Submission to the government	(304,273)	(28)	(105,123)	-	(104,220)	(18)	(94,930)	(10)	-	-	-	-
Ending	205,622	₩ 81	-	₩ -	-	₩ -	-	₩ -	105,769	₩ 81	99,853	₩ -

(3) No emission obligations were recognized in the consolidated financial statements for each of the two years in the period ended December 31, 2024.

(4) Emission obligations for the compliance year ended December 31, 2024 are estimated at 89,571 tons (tCO2-eq).

18. Pledged assets

The Group's assets pledged as collaterals for long-term and short-term borrowings as of December 31, 2024 are as follows:

(in thousands of USD, DM and NOK, in millions of Korean won)

Collateralized asset	Carrying amount		Collateralized amount		Classification	Amounts of borrowings		Pledgee
Land and buildings[1]	KRW	740,621	KRW	371,112	Long-term borrowings	KRW	260,000	Korea Development Bank
			USD	95,025	Current portion of long-term borrowings	KRW	20,000	
			DEM	84,000				
Buildings, machinery and others	NOK	372,757	NOK	372,757	-	NOK	-	DNB Bank AS

[1] The Group's rights to comprehensive insurance on property, plant and equipment are pledged as collaterals to the Korea Development Bank.

19. Long-term and short-term financial liabilities

Details of long-term and short-term financial liabilities as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024				December 31, 2023			
	Current		Non-current		Current		Non-current	
Borrowings	₩	440,988	₩	415,864	₩	474,672	₩	501,049
Bonds		107,035		149,517		176,830		101,367
Financial guarantee liabilities		491		-		-		1,084
Total	₩	548,514	₩	565,381	₩	651,502	₩	603,500

20. Trade and other payables

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

(in millions of Korean won)	December 31, 2024		December 31, 2023	
	Current	Non-current	Current	Non-current
Trade payables	₩ 438,053	₩ -	₩ 419,568	₩ -
Other payables	177,816	-	191,434	-
Accrued expenses	93,373	15,760	131,411	11,033
Others	88,163	-	83,911	-
Total	₩ 797,405	₩ 15,760	₩ 826,324	₩ 11,033

21. Other liabilities

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

(in millions of Korean won)	December 31, 2024		December 31, 2023	
	Current	Non-current	Current	Non-current
Advances	₩ 52	₩ -	₩ 69	₩ -
Others	1	73	29	-
Total	₩ 53	₩ 73	₩ 98	₩ -

22. Borrowings and bonds

(1) Details of the carrying amounts of long-term and short-term borrowings as of December 31, 2024 and 2023 are as follows:

1) Short-term borrowings

(in millions of Korean won)

Category	Creditor	Annual interest rate (%) as of December 31, 2024	December 31, 2024	December 31, 2023
Domestic consolidated company:				
Usance L/C	Nonghyup Bank and others	0.54~4.26	₩ 123,660	₩ 141,646
Overseas consolidated company:				
Borrowings in foreign currencies	Woori Bank and others	2.99~3M EURIBOR+1.30	83,444	146,917
Total short-term borrowings			207,104	288,563
Current portion of long-term borrowings			233,884	186,109
Total			₩ 440,988	₩ 474,672

22. Borrowings and bonds (cont'd)

2) Long-term borrowings

(in millions of Korean won)

Category	Creditor	Annual interest rate (%) as of December 31, 2024	December 31, 2024	December 31, 2023
Domestic consolidated company:				
Borrowings in Korean Won	Korea Development Bank	4.76	₩ 100,000	₩ 100,000
	Korea Development Bank	4.70	20,000	20,000
	Korea Development Bank	-	-	50,000
	Korea Development Bank	-	-	90,000
	Korea Development Bank	CD + 0.90[1]	110,000	-
	Korea Development Bank	CD + 1.38	50,000	-
	Bank of China	CD + 1.00	30,000	30,000
	Agricultural Bank of China	-	-	30,000
	Agricultural Bank of China	CD + 0.90	20,000	-
	China Construction Bank	CD + 0.90	10,000	30,000
	Export-Import Bank of Korea	3.80	55,000	45,000
	Shinhan Bank	-	-	40,000
	Shinhan Bank	4.97	40,000	-
Borrowings in foreign currencies	KEB Hana Bank	1.70	99,367	92,728
	KEB Hana Bank	3M Euribor + 1.40	45,862	42,798
	Subtotal		580,229	570,526
Overseas consolidated company:				
Borrowings in foreign currencies	Innovasjon Norge and 1 other	-	-	958
	China Construction Bank	-	-	25,318
	KEB Hana Bank	4.30	4,349	10,615
	Korea Development Bank	4.00~4.20	39,046	43,402
	China Minsheng Bank	-	-	10,308
	Industrial and Commercial Bank of China	3.50	8,051	9,042
	China Merchants Bank Co Ltd	3.60	8,051	17,180
	Agricultural Bank of China	2.98	10,063	-
	Subtotal		69,560	116,823
	Total long-term borrowings		649,789	687,349
	Less: present value of discount		(41)	(191)
	Less: current portion		(233,884)	(186,109)
	Total		₩ 415,864	₩ 501,049

22. Borrowings and bonds (cont'd)

[1] The Group has entered into a contract to pay fixed interest rate (3.84%) in Korean won on future interest and principal payment date to avoid the risk of cash flow fluctuations due to exchange rate and interest rate fluctuations (see Note 25).

(2) Details of the carrying amounts of bonds as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)

Category	Date of issue	Maturity date	Annual interest rate (%) as of December 31, 2024	December 31, 2024	December 31, 2023	Whether the bonds are guaranteed
78th	May 4, 2021	May 3, 2024	-	₩ -	₩ 60,000	Non-guarantee bonds
79th	Jul. 29, 2021	Jul. 29, 2024	-	-	80,000	Non-guarantee bonds
FRN	Apr. 6, 2022	Apr. 3, 2025	3M compounded SOFR + 0.95[2]	44,100	38,682	Guarantee bonds[1]
80-1st	Mar. 15, 2023	Sep. 13, 2024	-	-	37,000	Non-guarantee bonds
80-2nd	Mar. 15, 2023	Mar. 14, 2025	5.04	63,000	63,000	Non-guarantee bonds
81-1st	Mar. 8, 2024	Mar. 6, 2026	4.04	23,000	-	Non-guarantee bonds
81-2nd	Mar. 8, 2024	Mar. 8, 2027	4.40	107,000	-	Non-guarantee bonds
81-3rd	Mar. 8, 2024	Mar. 8, 2029	4.48	20,000	-	Non-guarantee bonds
Subtotal				257,100	278,682	
Less: present value of discount on bonds				(548)	(485)	
Less: current portion (including present value of discount)				(107,035)	(176,830)	
Total				₩ 149,517	₩ 101,367	

[1] The Group has been provided with guarantees by the financial institutions that issued the guaranteed bonds (see Note 42).
[2] The Group has entered into a contract to pay fixed interest rate (3.63%) in Korean won on future interest and principal payment date to avoid the risk of cash flow fluctuations due to exchange rate and interest rate fluctuations (see Note 25).

22. Borrowings and bonds (cont'd)

(3) The repayment schedule of the Group's borrowings and debentures as of December 31, 2024 and 2023 is summarized as follows:

(in millions of Korean won)	December 31, 2024		
	Borrowings	Bonds	Total
Within one year	₩ 440,988	₩ 107,100	₩ 548,088
Between 1 and 5 years	415,905	150,000	565,905
Total	₩ 856,893	₩ 257,100	₩ 1,113,993

(in millions of Korean won)	December 31, 2023		
	Borrowings	Bonds	Total
Within one year	₩ 474,672	₩ 177,000	₩ 651,672
Between 1 and 5 years	501,240	101,682	602,922
Total	₩ 975,912	₩ 278,682	₩ 1,254,594

(4) Changes in liabilities arising from financing activities for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		
		Liabilities		
		Borrowings	Bonds	Total
Beginning		₩ 975,721	₩ 278,197	₩ 1,253,918
Cash flows from financing activities	Borrowing	1,319,429	149,332	1,468,761
	Repayments	(1,466,054)	(177,000)	(1,643,054)
Non-cash flows	Effects of exchange rate changes	12,971	5,418	18,389
	Amortization of present value discount	150	-	150
	Amortization of discount on bonds	-	605	605
	Others	14,635	-	14,635
Ending		₩ 856,852	₩ 256,552	₩ 1,113,404

22. Borrowings and bonds (cont'd)

(in millions of Korean won)		2023					
		Liabilities					
		Borrowings		Bonds		Total	
Beginning		₩	1,017,811	₩	554,388	₩	1,572,199
Cash flows from financing activities	Borrowing		391,978		99,570		491,548
	Repayments		(446,471)		(366,000)		(812,471)
Non-cash flows	Effects of exchange rate changes		9,818		663		10,481
	Amortization of present value discount		169		-		169
	Amortization of discount on bonds		-		686		686
	Others		2,416		(11,110)		(8,694)
Ending		₩	975,721	₩	278,197	₩	1,253,918

23. Employee benefits

(1) Due to the operation of the defined contribution plans, the contributions paid to financial institutions are recognized as expenses. The expense recognized in profit or loss in relation to the defined contribution plans amounts to ₩ 4,227 million for the year ended December 31, 2024 (2023: ₩ 4,140 million).

(2) Details of net defined benefit assets (liabilities) recognized in the consolidated statements of financial position as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024		December 31, 2023	
Present value of defined benefit obligations	₩	(131,362)	₩	(125,310)
Fair value of plan assets [1]		162,579		169,765
Net defined benefit liabilities	₩	(408)	₩	(224)
Net defined benefit assets		31,625		44,679

[1] The contributions to the National Pension Fund of ₩ 83 million are included in the fair value of plan assets as of December 31, 2024 (2023: ₩ 91 million).

23. Employee benefits (cont'd)

(3) Plan assets as of December 31, 2024 and 2023 consist of:

(in millions of Korean won)		**December 31, 2024**		**December 31, 2023**
Time deposits	₩	158,433	₩	165,999
Others		4,146		3,766
Total	₩	162,579	₩	169,765

(4) The composition of post-employment benefits in relation with defined benefit plans recognized in the consolidated statements of profit or loss for each of the two years in the period ended December 31, 2023 is as follows:

(in millions of Korean won)		**2024**		**2023**
Current service cost	₩	15,413	₩	13,339
Past service cost		1		-
Interest expense		4,784		4,862
Interest income		(7,313)		(7,938)
Total	₩	12,885	₩	10,263

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

(in millions of Korean won)		**2024**		**2023**
Beginning	₩	125,310	₩	109,192
Current service cost		15,413		13,339
Past service cost		1		-
Transfer in		871		1,871
Interest expense		4,784		4,862
Remeasurements:				
Actuarial loss from change in demographic assumptions		(5)		(1)
Actuarial gain from change in financial assumptions		9,802		10,306
Actuarial gain from others		2,564		982
Changes in the consolidation scope		-		(38)
Payments from the plans		(27,625)		(15,733)
Exchange differences		286		180
Transfer of a business under common control		(51)		-
Others		12		350
Ending	₩	131,362	₩	125,310

23. Employee benefits (cont'd)

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

(in millions of Korean won)		2024		2023
Beginning	₩	169,765	₩	158,302
Expected return on plan assets		7,313		7,938
Remeasurements:		(786)		(529)
Contributions by the Employer		2,000		11,000
Payments from the plans:		(15,972)		(7,430)
Change in the contributions to the National Pension Service		(8)		(11)
Exchange differences		267		172
Others		-		323
Ending	₩	162,579	₩	169,765

Actual gains or losses on plan assets are recognized as ₩ 6,527 million (gains) and ₩ 7,409 million (gains) for the years ended December 31, 2024 and 2023, respectively. The Group plans to contribute ₩ 12,543 million to the defined benefit plans in 2025.

(7) The significant actuarial assumptions for each of the two years in the period ended December 31, 2024 are as follows:

(in percentage, %)	2024	2023
Discount rate	3.10 ~ 7.11	4.20 ~ 4.60
Salary increase rate	3.00 ~ 6.00	2.50 ~ 3.68

(8) The weighted average duration for defined benefit obligation as of December 31, 2024 and 2023 is as follows:

(in year)	December 31, 2024	December 31, 2023
Weighted average duration	13.75	13.20

23. Employee benefits (cont'd)

(9) The sensitivity analysis on defined benefit obligation to changes in the principal assumptions as of December 31, 2024 and 2023 is as follows:

(in millions of Korean won)	December 31, 2024			December 31, 2023		
		Amount	Rate		Amount	Rate
Discount rate:						
1% increase	₩	(14,116)	(10.75%)	₩	(12,615)	(10.07%)
1% decrease		16,820	12.80%		15,049	12.01%
Salary increase rate:						
1% increase		16,057	12.22%		14,471	11.55%
1% decrease		(13,756)	(10.47%)		(12,368)	(9.87%)

24. Provisions

(1) Details of provisions as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024					
	Provisions for sales warranty		Others		Total	
Current	₩	66,234	₩	1,477	₩	67,711
Non-current		53,619		192		53,811
Total	₩	119,853	₩	1,669	₩	121,522

(in millions of Korean won)	December 31, 2023					
	Provisions for sales warranty		Others		Total	
Current	₩	64,293	₩	1,382	₩	65,675
Non-current		50,724		190		50,914
Total	₩	115,017	₩	1,572	₩	116,589

24. Provisions (cont'd)

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

(in millions of Korean won)	2024					
	Provisions for sales warranty		**Others**		**Total**	
Beginning	₩	115,017	₩	1,572	₩	116,589
Additional provisions		79,305		104		79,409
Offset		(78,790)		(105)		(78,895)
Effect of exchange rate changes		4,321		98		4,419
Ending balance	₩	119,853	₩	1,669	₩	121,522

(in millions of Korean won)	2023					
	Product warranties		**Others**		**Total**	
Beginning balance	₩	142,829	₩	1,095	₩	143,924
Additional provisions		52,842		427		53,269
Offset		(83,734)		(9)		(83,743)
Effect of exchange rate changes		3,102		59		3,161
Changes in the consolidation scope		(22)		-		(22)
Ending balance	₩	115,017	₩	1,572	₩	116,589

The Group recognizes provision by estimating expected expenses in relation to product warranty, defect repair services and others on the basis of the warranty period and historical experience and etc.

25. Derivative instruments

The Group has entered into derivative contracts with financial institutions to hedge foreign exchange fluctuation risk expected with future receipts of receivables. The fair value of derivatives is assessed based on information of forward exchange rate and interest rate from banks. Details of the valuation as of December 31, 2024 are as follows:

(1) Details of derivative instruments and hedge accounting are as follows:

Purpose	Type of derivative instruments	Description
Cash flow hedge	Foreign currency forward	A contract to avoid cash flow risk arising from forecasted sales in foreign currencies and forecasted expenses in foreign currencies related to the introduction of foreign materials.
	Foreign currency swap	A contract to avoid cash flow risk arising from changes in interest rate and currency exchange rate for foreign currency bonds and foreign currency borrowings.
	Interest rate swap	Hedging the cash flow risk associated with interest rate fluctuations on borrowings in Korean won.

(2) Details of valuation of derivative instruments as of December 31, 2024 are as follows:

(in thousands of foreign currencies and millions of Korean won)

Purpose	Cash flow hedge	Sell	Buy	Notional amount	Weighted average forward rate	Average maturity	Number of contracts
Cash flow hedge	Foreign currency forward	EUR	KRW	163,760	1,439.13(EUR/KRW)	2026-04-14	93
	Foreign currency forward	KRW	JPY	822	9.13(JPY/KRW)	2025-02-07	3
	Foreign currency forward	USD	KRW	460,000	1,337.08(USD/KRW)	2025-05-27	108
	Foreign currency swap	KRW 3.63%	USD 3M Compounded SOFR + 0.95%	37,107	1,236.90(USD/KRW)	2025-04-03	1
	Interest rate swap	3.84%	CD 91days + 0.90%	110,000	-	2027-08-16	2

(*) Settlement method: gross settlement
(*) The currency unit of the notional amount is based on the selling currency.

25. Derivative instruments (cont'd)

(3) The carrying amounts of derivatives as of December 31, 2024 are as follows:

(in millions of Korean won)		Assets		Liabilities	
Purpose	**Type**	**Current**	**Non-current**	**Current**	**Non-current**
Cash flow hedge	Foreign currency forward	₩ 29	₩ -	₩ 64,546	₩ 8,535
	Foreign currency swap	7,317	-	-	-
	Interest rate swap	-	-	-	583
	Total	₩ 7,346	₩ -	₩ 64,546	₩ 9,118

(4) Gains or losses related to derivative instruments for the year ended at December 31, 2024 are as follows:

(in millions of Korean won)		2024			
Purpose	**Type**	**Revenue**	**Cost of goods sold**	**Finance expenses (income)**	**Other comprehensive income (loss) before income tax**
Cash flow hedge	Foreign currency forward	₩ (54,499)	₩ 615	₩ (227)	₩ (90,483)
	Foreign currency swap	-	-	7,553	21
	Interest rate swap	-	-	206	(643)
	Total	₩ (54,499)	₩ 615	₩ 7,532	₩ (91,105)

For the years ended December 31, 2024, the Group has recognized the loss on valuation of derivatives for cash flow hedges amounting to ₩ 70,057 million after deducting deferred tax amounting to ₩ 21,048 million as other comprehensive income.

In relation to cash flow hedges, the expected maximum period of exposure to cash flow risk from the hedged item transactions is less than 40 months from December 31, 2024.

26. Share capital and capital surplus

Changes in share capital and capital surplus for the year ended December 31, 2024 are as follows:
(in millions of Korean won except for share data)

Description	Number of common stocks issued		Share capital		Capital surplus		Other capital surplus
Beginning	199,603,453	₩	199,603	₩	371,571	₩	(31,545)
Cancellation of share options	-		-		-		12
Transfer of a business under common control	-		-		-		202
Retirement of treasury shares	(6,947,586)		-		-		-
Ending	192,655,867	₩	199,603	₩	371,571	₩	(31,331)

Meanwhile, the Parent Company's total number of authorized shares is 400,000,000 shares and the total number of ordinary shares issued is 192,655,867 shares (2023: 199,603,453 shares) with a par value of ₩ 1,000 per share. As of December 31, 2024, the number of non-voting shares based on the *Commercial Act* is 64,835 shares (2023: 64,835 shares).

On August 13, 2024, the Parent Company retired 6,947,586 shares of common stock through earnings cancellation. As a result, the total par value of issued shares differs from the paid-in capital.

27. Capital adjustments

(1) Details of capital adjustments as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Treasury share	₩	(1,096)	₩	(1,096)
Loss on disposal of treasury share		(7,908)		(7,908)
Share options		-		12
Other capital adjustments		(1,571,687)		(1,571,687)
Total	₩	(1,580,691)	₩	(1,580,679)

(2) Details of treasury shares held by the Group as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won except for share data)	December 31, 2024			December 31, 2023		
	Number of Shares		Book amount	Number of Shares		Book amount
Treasury share[1]	64,835	₩	1,096	64,835	₩	1,096

[1] As of December 31, 2024, the fair value of treasury shares held by the Parent Company is ₩ 447 million (2023 : ₩ 526 million).

27. Capital adjustments (cont'd)

(3) Share-based payments

The Group granted share options number of times to its executives. Methods to grant share options, issuance of new shares, issuance of treasury shares or cash settlement are decided by the Board of Directors at their meeting to be held on stock exercise date. These share options carry a two-year service vesting condition, subsequent to the resolution made at the shareholders' meeting. As of December 31, 2024, the Group has no authorized shares to be issued.
Changes in share option for the year ended December 31, 2024 are as follows:

	Number of common stocks to be issued (in shares)			Valuation amount (in millions of Korean won)		
	Beginning	Cancelled	Ending	Beginning	Decrease	Ending
10th grant	1,956	(1,956)	-	₩ 12	₩ (12)	₩ -

There is no expense recognized due to share option granted for the year ended December 31, 2023. In addition, there is no compensation cost to be recognized for the year ended December 31, 2024, and for the subsequent year.

The Group calculated the compensation costs by applying the fair value approach. Assumptions used in determining fair value of share options are as follows:

	Risk-free interest rate [1]	Expected exercisable period	Expected volatility	Expected dividend yield ratio
10th grant	3.27%	6.5 years	42.29%	0.00%

[1] Risk-free interest rate is based on 5-year and 10-year treasury bond yield rate.

28. Accumulated other comprehensive income

(1) Details of accumulated other comprehensive income as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024	December 31, 2023
Gain (loss) on valuation of derivatives	₩ (56,637)	₩ 13,419
Gain on translation of foreign operations	152,073	68,424
Changes in equity under equity method	56	36
Gain on revaluation of property, plant and equipment	169,261	169,261
Total	₩ 264,753	₩ 251,140

28. Accumulated other comprehensive income (cont'd)

(2) Changes in accumulated other comprehensive income for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024		
	Other comprehensive income	**Owners of the Parent Company**	**Non-controlling interest**
Loss on valuation of derivatives	₩ (70,057)	₩ (70,057)	₩ -
Gain (loss) on translation of foreign operations	83,388	83,648	(260)
Changes in equity under equity method	21	21	-
Remeasurements of defined benefit plans	(10,112)	(10,112)	-
Total	₩ 3,240	₩ 3,500	₩ (260)

(in millions of Korean won)	2023			
	Other comprehensive income	**Transfer to retained earnings**	**Owners of the Parent Company**	**Non-controlling Interest**
Loss on valuation of derivatives	₩ (14,717)	₩ -	₩ (14,717)	₩ -
Gain (loss) on translation of foreign operations	9,275	-	9,299	(24)
Changes in equity under equity method	5	-	5	-
Gain on revaluation of property, plant and equipment	203	1	202	-
Remeasurements of defined benefit plans	(9,087)	-	(9,087)	-
Total	₩ (14,321)	₩ 1	₩ (14,298)	₩ (24)

29. Retained earnings

(1) Details of retained earnings as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Legal reserves[1]	₩	6,984	₩	4,789
Retained earnings before appropriation		2,618,386		2,600,270
Total	₩	2,625,370	₩	2,605,059

[1] The *Commercial Act* of the Republic of Korea requires the Parent Company to appropriate for each financial period, 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 cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit.

(2) The appropriation of retained earnings for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)		2024		2023
1. Unappropriated retained earnings carried over from prior year	₩	2,605,059	₩	2,431,315
2. Profit for the year		108,372		230,720
3. Remeasurements of defined benefit plans		(10,112)		(9,088)
4. Transfers of revaluation reserves of property, plant and equipment		-		1
5. Retirement of treasury shares		(56,000)		-
6. Dividends paid		(21,949)		(47,889)
7. Unappropriated retained earnings to be carried forward	₩	2,625,370	₩	2,605,059

30. Revenue

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

(in millions of Korean won)		2024		2023
1. Revenue from contracts with customers				
Type of revenue:				
- Revenue of manufactured products / merchandise	₩	4,065,032	₩	4,527,273
- Other revenue		82,335		108,391
Subtotal		4,147,367		4,635,664
Timing of revenue recognition:				
- At a point in time		3,873,508		4,303,164
- Over time		273,859		332,500
Subtotal		4,147,367		4,635,664
2. Revenue from other sources				
- Rental income		21,322		22,664
- Profit (loss) from hedge		(54,499)		1,277
Subtotal		(33,177)		23,941
Total	₩	4,114,190	₩	4,659,605

(2) Assets related to contracts with customers

The Group has recognized the following assets related to contracts with customers as of December 31, 2024 and 2023 as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Contracts assets	₩	3,190	₩	2,118

(3) Liabilities related to contracts with customers

The Group has recognized the following liabilities related to contracts with customers as of December 31, 2024 and 2023 as follows:

(in millions of Korean won)	December 31, 2024				December 31, 2023			
		Current		Non-current		Current		Non-current
Refund liabilities	₩	8,997	₩	-	₩	9,344	₩	-
Advances		50,169		-		79,523		-
Extended warranty/Incentive		97,290		17,595		91,518		17,575
Shipping•insurance service		8,054		-		5,269		-
Total	₩	164,510	₩	17,595	₩	185,654	₩	17,575

30. Revenue (cont'd)

The amount recognized as profit for the year ended December 31, 2024 from contract liabilities recognized is ₩ 61,565 million (2023: ₩ 64,721 million).

(4) Revenue recognition using the percentage of completion method

1) Changes in revenue recognition using the percentage of completion method for the year ended December 31, 2024 are as follows:

(in millions of Korean won)		2024
Beginning contract balance	₩	20,834
Increase[1]		4,810
Revenue		(14,215)
Ending contract balance	₩	11,429

[1] New contract amounts, additional contract amounts, changes in the contract amounts and change in foreign currency translation are included.

2) The expected timing of revenue recognition for the contract balance as of December 31, 2024 is as follow:

(in millions of Korean won)	December 31, 2024					
	2025		After 2026		Total	
Expected amount	₩	10,113	₩	1,316	₩	11,429

3) Details of accumulated revenue and others related to revenue measured by the percentage of completion as of December 31, 2024 are as follows:

(in millions of Korean won)

December 31, 2024													
Cumulative revenue		Cumulative cost		Cumulative profit and loss		Receivables from revenue measured by the percentage of completion				Contract liabilities		Provisions for loss	
						Amount charged		Contract assets					
₩	43,489	₩	38,750	₩	4,739	₩	-	₩	3,190	₩	1,728	₩	-

30. Revenue (cont'd)

4) *Impact of changes in the total estimated costs*

Due to the factors causing the rise in costs in 2024, the estimated total costs for contracts in progress as of December 31, 2023 have changed. Details of changes in the total estimated contract costs, profits or loss for the year and the subsequent years, and the impact on due from customers for contract assets and liabilities are as follows:

(in millions of Korean won)

2024						
Changes in total revenue for contracts	Changes in total estimated costs for contracts	Changes in profit and loss			Changes in contract assets	Changes in contract liabilities
		Current year	Subsequent years	Total		
₩ 420	₩ 811	₩ (326)	₩ (65)	₩ (391)	₩ (326)	₩ -

The impact on profit or loss for the year ended December 31, 2024 and the subsequent years is determined based on the total contract costs, which are estimated based on the circumstances for the year ended December 31, 2024, and the total contract revenue. The estimated contract costs and total contract revenue may change in the future.

31. Selling and administrative expenses

Details of selling and administrative expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Salaries	₩	131,713	₩	134,443
Post-employment benefits		6,471		5,226
Employee welfare		46,619		44,053
Printing		767		2,450
Freight and warehousing		3,931		4,122
Communications		2,845		2,882
Utilities		4,383		4,378
Repairs and maintenance		6,325		7,190
Insurance		8,790		7,794
Depreciation		12,164		9,185
Amortization		19,822		20,162
Depreciation of right-of-use assets		18,260		14,634
Research and development		177,535		168,753
Advertisement		25,800		37,120
Sales commission		32,078		19,982
Taxes and dues		6,903		4,833
Travel		15,329		18,148
Commission		82,885		90,191
Entertainment		2,193		2,311
Education and training		1,438		1,989
Bad debt expenses (reversal)		(7,021)		(2,942)
Warranty expenses		104,404		76,514
Others		40,949		31,902
Total	₩	744,583	₩	705,320

32. Segment information

The Group's operating segments are as follows:

Business segment	Main products
Engines ("EG")	Engine of the commercial vehicles and buses, engine parts, and others
Construction Equipment ("CE")	Crawler excavator, excavator parts and others

(1) Profit or loss by each segment

(in millions of Korean won)	2024				
	Revenue	Inter-segment revenue	Operating profit	Profit (loss) for the year	Depreciation[2]
EG	₩ 1,335,861	₩ (193,939)	₩ 156,636	₩ 111,603	₩ 64,059
CE	4,131,913	(1,159,645)	27,526	(3,187)	92,546
Consolidation adjustments[1]	(1,353,584)	1,353,584	-	-	-
Total	₩ 4,114,190	₩ -	₩ 184,162	₩ 108,416	₩ 156,605

[1] Consolidation adjustments include the elimination of intergroup transactions and unrealized gains and losses and others.
[2] Sum of the depreciation of property, plant and equipment, investment properties and right-of-use assets and amortization of intangible assets.

(in millions of Korean won)	2023				
	Revenue	Inter-segment revenue	Operating profit	Profit for the year	Depreciation[2]
EG	₩ 1,354,732	₩ (193,141)	₩ 152,382	₩ 98,453	₩ 65,442
CE	5,203,401	(1,705,387)	265,882	132,259	86,135
Consolidation adjustments[1]	(1,898,528)	1,898,528	-	-	-
Total	₩ 4,659,605	₩ -	₩ 418,264	₩ 230,712	₩ 151,577

[1] Consolidation adjustments include the elimination of intergroup transactions, unrealized gains and losses and others.
[2] Sum of the depreciation of property, plant and equipment, investment properties and right-of-use assets and amortization of intangible assets.

32. Segment information (cont'd)

(2) Assets and liabilities by segment

(in millions of Korean won)	December 31, 2024									
		EG		CE		Common		Consolidation adjustments[1]		Total
Segment assets	₩	1,155,660	₩	3,270,612	₩	1,632,704	₩	(1,771,778)	₩	4,287,198
Segment liabilities		723,773		3,997,673		(1,332,939)		(948,534)		2,439,973

[1] Consolidation adjustments include the elimination of intergroup transactions, unrealized gains and losses and others.

(in millions of Korean won)	December 31, 2023									
		EG		CE		Common		Consolidation adjustments[1]		Total
Segment assets	₩	1,158,885	₩	3,430,688	₩	1,638,483	₩	(1,809,630)	₩	4,418,426
Segment liabilities		823,965		4,017,011		(1,253,110)		(982,756)		2,605,110

[1] Consolidation adjustments include the elimination of intergroup transactions, unrealized gains and losses and others.

32. Segment information (cont'd)

(3) By geography

(in millions of Korean won)	2024						
	Korea	**North America**	**Asia**	**Europe**	**Others**	**Consolidation adjustments[1]**	**Total**
Revenue	₩ 3,405,692	₩ 434,162	₩ 753,344	₩ 800,518	₩ 74,058	₩ (1,353,584)	₩ 4,114,190
Inter-segment revenue	(938,651)	(1,957)	(330,075)	(81,971)	(930)	1,353,584	-
Revenue from external customers	2,467,041	432,205	423,269	718,547	73,128	-	4,114,190

[1] Consolidation adjustments include the elimination of intergroup transactions, unrealized gains and losses and others.

(in millions of Korean won)	2023						
	Korea	**North America**	**Asia**	**Europe**	**Others**	**Consolidation adjustments[1]**	**Total**
Revenue	₩ 4,241,475	₩ 678,837	₩ 656,246	₩ 923,315	₩ 58,260	₩ (1,898,528)	₩ 4,659,605
Inter-segment revenue	(1,444,645)	(494)	(348,855)	(104,534)	-	1,898,528	-
Revenue from external customers	2,796,830	678,343	307,391	818,781	58,260	-	4,659,605

[1] Consolidation adjustments include the elimination of intergroup transactions, unrealized gains and losses and others.

32. Segment information (cont'd)

(4) Non-current assets by geography

(in millions of Korean won)		December 31, 2024		December 31, 2023
Korea	₩	1,275,635	₩	1,261,100
North America		25,759		10,533
Asia		115,738		111,197
Europe		57,211		26,868
Others		10,819		12,094
Total[1]	₩	1,485,162	₩	1,421,792

[1] Sum of property, plant and equipment, investment properties, intangible assets and right-of-use assets.

33. Expenses by nature

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

(in millions of Korean won)		2024		2023
Purchases of inventories (raw materials and merchandise)	₩	2,363,173	₩	2,910,183
Changes in inventories		58,195		(108,342)
Employee benefits		416,546		425,722
Depreciation		86,642		81,587
Depreciation of right-of-use assets		24,283		20,578
Amortization of intangible assets		45,680		49,411
Other expenses		935,509		862,201
Total	₩	3,930,028	₩	4,241,340

34. Finance income and expenses

Details of finance income and expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		**2024**		**2023**
Finance income:				
Interest income	₩	7,774	₩	9,559
Gain on dividends		70		115
Gain on disposal of short-term financial assets		-		444
Gain on valuation of short-term and long-term financial assets		152		117
Gain on disposal of long-term financial assets		-		260
Gain on foreign currency transactions		73,354		69,724
Gain on foreign currency translations		60,228		27,361
Gain on derivative transactions		69		-
Financial guarantee income		720		1,566
Subtotal		142,367		109,146
Finance expenses:				
Interest expenses		(56,969)		(69,446)
Loss on disposal of trade receivables		(19,894)		(24,638)
Loss on valuation of short-term and long-term financial assets		(359)		(365)
Loss on disposal of long-term financial assets		(1)		(11)
Impairment loss on short-term and long-term financial assets		-		(8,068)
Loss on foreign currency transactions		(42,854)		(50,786)
Loss on foreign currency translations		(39,030)		(39,060)
Loss on derivative transactions		(296)		-
Losses from liabilities redeemed		(238)		-
Financial guarantee expenses		(339)		(470)
Other finance expenses		(8)		(43)
Subtotal		(159,988)		(192,887)
Total	₩	(17,621)	₩	(83,741)

35. Other non-operating income and expenses

Details of other non-operating income and expenses for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		**2024**		**2023**
Other non-operating income:				
Gain on disposal of property, plant and equipment	₩	940	₩	3,381
Gain on disposal of other investment assets		773		-
Gain on disposal of intangible assets		68		152
Reversal of impairment loss on investment properties		-		423
Reversal of impairment loss on intangible assets		68		352
Others		3,123		7,872
Subtotal		4,972		12,180
Other non-operating expenses:				
Reversal of impairment loss on other receivables (loss)		(1,644)		4,322
Loss on disposal of property, plant and equipment		(834)		(2,261)
Loss on disposal of intangible assets		(44)		(244)
Loss on disposal of investment properties		-		(551)
Impairment loss on intangible assets		(4,586)		-
Impairment loss on investment properties		(406)		(29)
Donations		(2,920)		(3,040)
Others		(35)		(2,473)
Subtotal		(10,469)		(4,276)
Total	₩	(5,497)	₩	7,904

36. Income tax expense

(1) Details of current and deferred taxes reflected in income tax expense for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		**2024**		**2023**
Current tax:	₩	58,721	₩	90,633
Changes in deferred tax arising from temporary difference		(30,442)		13,638
Total income tax expense	₩	28,279	₩	104,271
Changes in deferred tax charged directly to equity		24,083		7,392
Income tax expense	₩	52,362	₩	111,663

36. Income tax expense (cont'd)

(2) Details of income tax expenses directly recognized in equity for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Remeasurements of defined benefit plans	₩	3,035	₩	2,724
Gain on valuation of derivatives for cash flow hedges		21,048		4,465
Revaluation surplus of property, plant and equipment		-		203
Total	₩	24,083	₩	7,392

(3) The Group offsets deferred tax assets and deferred tax liabilities if the Group has a legally enforceable right to set off current tax assets against current tax liabilities and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority. Changes in deferred tax assets and liabilities for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024					
		Beginning		Increases (decreases)		Ending
Advances from government	₩	1,004	₩	31	₩	1,035
Allowance for doubtful accounts		33,276		(619)		32,657
Provision for product warranties		24,445		(1,075)		23,370
Net defined benefit liabilities (assets)		(5,023)		7,886		2,863
Investments in associates		(5,646)		-		(5,646)
Provision for temporary depreciation		(3,217)		-		(3,217)
Revaluation surplus of land		(105,462)		4,827		(100,635)
Derivative assets (liabilities)		(4,043)		21,056		17,013
Unrealized profit		13,197		(3,016)		10,181
Others		58,701		1,352		60,053
Total	₩	7,232	₩	30,442	₩	37,674

36. Income tax expense (cont'd)

(in millions of Korean won)	2023					
	Beginning		Increases (decreases)		Ending	
Advances from government	₩	1,026	₩	(22)	₩	1,004
Allowance for doubtful accounts		5,382		27,894		33,276
Provision for product warranties		19,577		4,868		24,445
Net defined benefit liabilities (assets)		28,641		(33,664)		(5,023)
Investments in associates		(11,300)		5,654		(5,646)
Provision for temporary depreciation		(3,231)		14		(3,217)
Revaluation surplus of land		(100,924)		(4,538)		(105,462)
Derivative assets (liabilities)		(8,499)		4,456		(4,043)
Unrealized profit		11,940		1,257		13,197
Others		78,258		(19,557)		58,701
Total	₩	20,870	₩	(13,638)	₩	7,232

(4) Deductible temporary differences which have not been recognized as deferred tax assets as of December 31, 2024 and 2023 are as follows (except for investments in subsidiaries and associates):

(in millions of Korean won)	December 31, 2024		December 31, 2023	
Tax loss carryforwards	₩	535,899	₩	441,581
Deemed dividends and others		37,177		35,706

The probability of deferred tax assets being realized depends on the Group's ability to generate taxable income in future years, the economic situation and industry forecast. The Group periodically reviews such matters.

(5) The estimated timing of the reversal of tax loss carryforwards not recognized as deferred tax assets as of December 31, 2024 are as follows:

(in millions of Korean won)	Tax loss carryforwards	
Within one year	₩	10,643
Between 1 and 2 years		9,571
Between 2 and 3 years		86,336
Over 3 years		275,167
No timing of the reversal		154,182
Total	₩	535,899

36. Income tax expense (cont'd)

(6) Temporary differences from investments in subsidiaries, joint ventures and associates, which are not recognized as deferred tax assets (liabilities), as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)		December 31, 2024		December 31, 2023
Subsidiaries and others	₩	471,868	₩	453,076

(7) A reconciliation of income before income taxes at the statutory tax rate of the Republic of Korea to income tax expense at the effective income tax rate of the Group for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)		2024		2023
Profit before income tax expense	₩	160,778	₩	342,375
Tax at the statutory tax rates applicable to profits in the respective jurisdictions		69,005		127,121
Adjustments:				
Non-temporary difference		(35,093)		(43,655)
Effect of change in recognition of deferred income tax		11,606		35,877
Tax credits		(5,495)		(5,733)
Additional income tax and tax refund for prior periods		2,887		(192)
Others		9,452		(1,755)
Income tax expense	₩	52,362	₩	111,663
Average effective tax rate (Income tax expense / Profit before income tax)		32.57%		32.61%

(8) Impact of Pillar Two income taxes

The Group has applied the temporary exception under KIFRS 1012 *Income Taxes* and does not recognize deferred tax assets and liabilities related to the Pillar Two legislation, nor does it disclose information related to deferred taxes.

Under the global minimum tax regulations, the parent company is required to pay additional tax in Republic of Korea on the profits of its subsidiaries that are taxed at an effective tax rate of less than 15%.

Based on the previously issued financial statements, a review was conducted to assess whether each subsidiary's jurisdiction meets the transitional relief exemption criteria under Article 80 of the *National Tax Adjustment Action* of Korea. As a result, the United Kingdom, where a permanent establishment is located, was found not to meet the exemption criteria. However, it has been calculated that no additional tax liability arises on the profits of the permanent establishment in that jurisdiction. Accordingly, the Group's current income tax expense does not include any current tax expense related to Pillar Two taxation.

36. Income tax expense (cont'd)

The estimated annual effective tax rate may change due to various factors, including tax benefits received by subsidiaries and adjustments to accounting profit or loss required by law for the calculation of global minimum tax income in subsequent interim periods. As a result, the estimation of current income tax expense related to Pillar Two taxation will bear uncertainty subsequently until the end of interim and annual reporting period.

37. Earnings per share

(1) Basic earnings per share

Basic earnings per share are calculated by dividing the profit attributable to owners of the Group by the weighted average number of ordinary shares outstanding for the financial year excluding treasury shares.

Basic earnings per share attributable to owners of the Group for each of the two years in the period ended December 31, 2024 are computed as follows:

(in Korean won, shares)		**2024**		**2023**
Profit attributable to the ordinary equity holders of the Parent Company	₩	108,372,372,823	₩	230,719,941,999
Weighted average number of ordinary shares outstanding [(*)]		194,831,073		199,100,033
Basic earnings per share	₩	556	₩	1,159

[(*)] The weighted average number of ordinary shares outstanding is calculated as follows:

(in shares)	**2024**	**2023**
Ordinary shares at the beginning [1]	199,538,618	197,698,576
Acquisition and retirement of treasury shares	(4,707,545)	-
Exercise of conversion rights	-	1,401,457
Weighted average number of ordinary shares outstanding	194,831,073	199,100,033

[1] Treasury shares are excluded.

37. Earnings per share (cont'd)

(2) Diluted earnings per share

Diluted earnings per share for each of the two years in the period ended December 31, 2024 are computed as follows:

(in Korean won, shares)		2024		2023
Profit attributable to ordinary shares before adjustment	₩	108,372,372,823	₩	230,719,941,999
Adjustment:		-		92,189,623
Profit attributable to ordinary shares after adjustment		108,372,372,823		230,812,131,622
Weighted average number of ordinary shares outstanding after adjustment (*)		194,831,073		199,268,690
Diluted earnings per share	₩	556	₩	1,158

(*) Details of the weighted-average number of ordinary shares outstanding after adjustment used to calculate diluted earnings per share are as follows:

(in shares)	2024	2023
Weighted average number of ordinary shares outstanding before adjustment	194,831,073	199,100,033
Exercise of conversion rights	-	168,657
Weighted average number of ordinary shares outstanding after adjustment	194,831,073	199,268,690

Potential ordinary shares that could be used to calculate dilute basic earnings per share in the future, which were not considered in the calculation of diluted earnings per share due to an anti-dilutive effect for each of the two years in the period ended December 31, 2024, are as follows:

(in shares)	2024	2023
Share options	-	1,956

38. Dividends

A dividend in respect of the year ended December 31, 2024, of ₩ 70 per share, amounting to a total dividend of ₩ 13,447 million, is to be proposed to shareholders at the annual general meeting on March 25, 2025. These consolidated financial statements do not reflect this dividend payable.

A dividend in respect of the year ended December 31, 2023, of ₩ 110 per share, amounting to a total dividend of ₩ 21,949 million, were approved by shareholders at the annual general meeting on March 25, 2024. Dividends for ordinary shares amounting to ₩ 21,949 million were paid in April 2024.

39. Consolidated statements of cash flows

(1) Details of adjustments, and changes in operating assets and liabilities in the consolidated statement of cash flows for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		**2024**		**2023**
Adjustments:				
1. Income tax expense	₩	52,362	₩	111,663
2. Finance income		(77,188)		(52,337)
3. Finance expenses		116,947		134,862
4. Post-employment benefits		12,885		10,263
5. Bad debt expenses (reversal)		(7,021)		(2,942)
6. Other bad debt expenses (reversal)		1,644		(4,322)
7. Depreciation of property, plant and equipment		86,613		81,557
8. Amortization		45,680		49,411
9. Investment properties depreciation		29		30
10. Depreciation of right of use asset		24,283		20,578
11. Gain on disposal of property, plant and equipment		(940)		(3,381)
12. Loss on disposal of property, plant and equipment		834		2,261
13. Gain on disposal of intangible assets		(68)		(152)
14. Loss on disposal of intangible assets		44		244
15. Contribution to provision for warranty		79,305		52,842
16. Contribution to other provision		104		427
17. Loss on disposal of investment properties		-		551
18. Impairment loss on intangible assets		4,586		-
19. Impairment loss on investment properties		406		29
20. Reversal of impairment loss on intangible assets		(68)		(352)
21. Reversal of impairment loss on investment properties		-		(423)
22. Gain on valuation of short-term financial assets		(26)		-
23. Loss on valuation of short-term financial assets		16		-
24. Impairment loss on short-term financial assets		-		8,068
25. Gain on valuation of long-term financial assets		(126)		(117)
26. Loss on valuation of long-term financial assets		343		365
27. Gain on disposal of short-term financial assets		-		(444)
28. Gain on disposal of long-term financial assets		-		(260)
29. Loss on disposal of long-term financial assets		1		11
30. Loss on equity method investments		266		51
31. Others		(1,586)		(722)
Total	₩	339,325	₩	407,761

39. Consolidated statements of cash flows (cont'd)

(in millions of Korean won)		**2024**		**2023**
Changes in operating assets and liabilities:				
1. Changes in trade receivables	₩	177,772	₩	303,514
2. Changes in other receivables		9,674		24,391
3. Changes in contracts assets		(1,073)		(2,118)
4. Changes in inventories		88,449		(88,814)
5. Changes in other current assets		(6,060)		(8,226)
6. Changes in other non-current assets		(533)		(126)
7. Changes in trade payables		28,092		(273,443)
8. Changes in other payables		(38,452)		(3,661)
9. Changes in provisions		(78,895)		(83,735)
10. Changes in contract liabilities		(23,909)		45,351
11. Changes in other current liabilities		450		1,239
12. Payment of defined benefit obligations (defined benefit plan)		(27,625)		(15,733)
13. Transfer of post-employment benefits		871		1,871
14. Changes in plan assets		13,980		(3,559)
15. Changes in other non-current liabilities		(1,014)		(1,372)
Total	₩	141,727	₩	(104,421)

(2) The consolidated statements of cash flows are presented using the indirect method. Significant transactions not involving cash inflows and outflows for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		**2024**		**2023**
Changes in non-trade payables related to acquisition of property, plant and equipment	₩	(3,235)	₩	14,534

40. Financial instruments

(1) The carrying amounts and fair values of financial assets and liabilities by category as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	**December 31, 2024**						
	Carrying amount					**Total**	**Fair value**
	Cash flow hedges	**FVPL**	**FVOCI**	**At amortized cost**	**Others**		
Assets recognized at fair value:							
Long-term and short-term financial assets[1]	₩ -	₩ 1,637	₩ 935	₩ -	₩ -	₩ 2,572	₩ 2,572
Derivative assets	7,346	-	-	-	-	7,346	7,346
Long-term and short-term trade and other receivables	-	-	15,411	-	-	15,411	15,411
Subtotal	7,346	1,637	16,346	-	-	25,329	25,329
Financial assets not measured at fair value:							
Cash and cash equivalents	-	-	-	258,757	-	258,757	-
Long-term and short-term financial assets	-	-	-	50,887	-	50,887	-
Long-term and short-term trade and other receivables	-	-	-	929,840	-	929,840	-
Contract assets	-	-	-	3,190	-	3,190	-
Subtotal	-	-	-	1,242,674	-	1,242,674	-
Total	₩ 7,346	₩ 1,637	₩ 16,346	₩ 1,242,674	₩ -	₩ 1,268,003	₩ 25,329
Liabilities recognized at fair value:							
Derivative liabilities	₩ 73,664	₩ -	₩ -	₩ -	₩ -	₩ 73,664	₩ 73,664
Subtotal	73,664	-	-	-	-	73,664	73,664
Financial liabilities not measured at fair value:							
Long-term and short-term borrowings	-	-	-	856,852	-	856,852	-
Long-term and short-term bonds	-	-	-	256,552	-	256,552	-
Long-term and short-term trade and other payables	-	-	-	813,165	-	813,165	-
Long-term and short-term lease liabilities	-	-	-	-	78,041	78,041	-
Long-term and short-term financial guarantee liabilities	-	-	-	-	491	491	-
Subtotal	-	-	-	1,926,569	78,532	2,005,101	-
Total	₩ 73,664	₩ -	₩ -	₩ 1,926,569	₩ 78,532	₩ 2,078,765	₩ 73,664

[1] The amount of financial assets that the Group determined that there would be no significant difference between the carrying amount and the fair value is ₩ 935 million.

40. Financial Instruments (cont'd)

(in millions of Korean won)	December 31, 2023						
	Carrying amount					Total	Fair value
	Cash flow hedges	FVPL	FVOCI	At amortized cost	Others		
Assets recognized at fair value:							
Long-term and short-term financial assets[1]	₩ -	₩ 1,853	₩ 935	₩ -	₩ -	₩ 2,788	₩ 2,788
Derivative assets	23,039	-	-	-	-	23,039	23,039
Long-term and short-term trade and other receivables	-	-	5,581	-	-	5,581	5,581
Subtotal	23,039	1,853	6,516	-	-	31,408	31,408
Financial assets not measured at fair value:							
Cash and cash equivalents	-	-	-	239,481	-	239,481	-
Long-term and short-term financial assets	-	-	-	45,681	-	45,681	-
Long-term and short-term trade and other receivables	-	-	-	1,073,685	-	1,073,685	-
Contract assets	-	-	-	2,118	-	2,118	-
Subtotal	-	-	-	1,360,965	-	1,360,965	-
Total	₩ 23,039	₩ 1,853	₩ 6,516	₩ 1,360,965	₩ -	₩ 1,392,373	₩ 31,408
Liabilities recognized at fair value:							
Derivative liabilities	₩ 1,891	₩ -	₩ -	₩ -	₩ -	₩ 1,891	₩ 1,891
Subtotal	1,891	-	-	-	-	1,891	1,891
Financial liabilities not measured at fair value:							
Long-term and short-term borrowings	-	-	-	975,721	-	975,721	-
Long-term and short-term bonds	-	-	-	278,197	-	278,197	-
Long-term and short-term trade and other payables	-	-	-	837,356	-	837,356	-
Long-term and short-term lease liabilities	-	-	-	-	53,448	53,448	-
Long-term and short-term financial guarantee liabilities	-	-	-	-	1,084	1,084	-
Subtotal	-	-	-	2,091,274	54,532	2,145,806	-
Total	₩ 1,891	₩ -	₩ -	₩ 2,091,274	₩ 54,532	₩ 2,147,697	₩ 1,891

[1] The amount of financial assets that the Group determined that there would be no significant difference between the carrying amount and the fair value is ₩ 935 million.

The Group does not present fair value for financial assets and liabilities in case the carrying amount is considered as a reasonable approximation of fair value.

40. Financial instruments (cont'd)

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

(in millions of Korean won)	2024					
	Cash flow hedges	FVPL	FVOCI	At amortized cost	Others	Total
Finance income:						
Interest income	₩ -	₩ 2,262	₩ -	₩ 5,512	₩ -	₩ 7,774
Dividend income	-	-	70	-	-	70
Gain on foreign currency transactions	-	-	-	73,354	-	73,354
Gain on foreign currency translations	-	-	-	60,228	-	60,228
Gain on valuation of short-term and long-term financial assets	-	152	-	-	-	152
Gain on derivative transactions	69	-	-	-	-	69
Financial guarantee income	-	-	-	-	720	720
Subtotal	69	2,414	70	139,094	720	142,367
Finance expenses:						
Interest expenses	-	-	-	(53,246)	(3,723)	(56,969)
Loss on foreign currency transactions	-	-	-	(42,854)	-	(42,854)
Loss on foreign currency translations	-	-	-	(39,030)	-	(39,030)
Loss on disposal of trade receivables	-	-	-	(19,894)	-	(19,894)
Loss on disposal of short-term and long-term financial assets	-	-	-	(1)	-	(1)
Loss on valuation of short-term and long-term financial assets	-	(359)	-	-	-	(359)
Loss on derivative transactions	(296)	-	-	-	-	(296)
Losses from liabilities redeemed	-	-	-	(238)	-	(238)
Financial guarantee expenses	-	-	-	-	(339)	(339)
Other financial expenses	-	-	-	(8)	-	(8)
Subtotal	(296)	(359)	-	(155,271)	(4,062)	(159,988)
Total	₩ (227)	₩ 2,055	₩ 70	₩ (16,177)	₩ (3,342)	₩ (17,621)

40. Financial instruments (cont'd)

(in millions of Korean won)	2023				
	FVPL	FVOCI	At amortized cost	Others	Total
Finance income:					
Interest income	₩ 692	₩ -	₩ 8,867	₩ -	₩ 9,559
Dividend income	-	115	-	-	115
Gain on foreign currency transactions	-	-	69,724	-	69,724
Gain on foreign currency translations	-	-	27,361	-	27,361
Gain on disposal of short-term and long-term financial assets	704	-	-	-	704
Gain on valuation of short-term and long-term financial assets	117	-	-	-	117
Financial guarantee income	-	-	-	1,566	1,566
Subtotal	1,513	115	105,952	1,566	109,146
Finance expenses:					
Interest expenses	-	-	(66,045)	(3,401)	(69,446)
Loss on foreign currency transactions	-	-	(50,786)	-	(50,786)
Loss on foreign currency translations	-	-	(39,060)	-	(39,060)
Loss on disposal of trade receivables	-	-	(24,638)	-	(24,638)
Loss on disposal of short-term and long-term financial assets	-	-	(11)	-	(11)
Loss on valuation of short-term and long-term financial assets	(365)	-	-	-	(365)
Loss on impairment of short-term and long-term financial assets	-	-	(8,068)	-	(8,068)
Financial guarantee expenses	-	-	-	(470)	(470)
Other financial expenses	-	-	(43)	-	(43)
Subtotal	(365)	-	(188,651)	(3,871)	(192,887)
Total	₩ 1,148	₩ 115	₩ (82,699)	₩ (2,305)	₩ (83,741)

(3) Fair value measurement

1) Fair value hierarchy

① The Group classified fair value measurements in accordance with the fair value hierarchy which reflects the significance of the inputs used in fair value measurement. The fair value hierarchy is as follows:

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

40. Financial instruments (cont'd)

② The classification of the fair value hierarchy for financial instruments that are measured at fair value as of December 31, 2024 and 2023 is as follows:

(in millions of Korean won)	December 31, 2024							
	Level 1		Level 2		Level 3		Total	
Financial assets at FVOCI	₩	-	₩	15,411	₩	935	₩	16,346
Financial assets at FVPL		-		-		1,637		1,637
Derivative assets		-		7,346		-		7,346
Derivative liabilities		-		73,664		-		73,664

(in millions of Korean won)	December 31, 2023							
	Level 1		Level 2		Level 3		Total	
Financial assets at FVOCI	₩	-	₩	5,581	₩	935	₩	6,516
Financial assets at FVPL		-		-		1,853		1,853
Derivative assets		-		23,039		-		23,039
Derivative liabilities		-		1,891		-		1,891

The fair value of financial instruments that are traded in an active market is based on quoted market prices at the end of reporting period. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, 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 used for financial assets held by the Group is the current bid price. These instruments are included in Level 1. Instruments included in Level 1 are comprised primarily of listed equity investments.

The fair value of financial instruments that are not traded in an active is determined by using valuation techniques. 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 fairly value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3.

Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments

40. Financial instruments (cont'd)

- The fair value of forward foreign exchange contracts is determined using forward exchange rates at the end of reporting period, with the resulting value discounted back to present value

- Other techniques, such as discounted cash flow analysis, are used to determine fair value for the remaining financial instruments.

Unlisted equity securities, investments in capital and other investments in companies newly established or having no comparative company are excluded from the fair value valuation because their fair value cannot be measured reliably.

2) Valuation techniques and inputs for Level 2 of the fair value hierarchy

① Among the assets and liabilities measured at fair value as of December 31, 2024, the valuation techniques and inputs for assets and liabilities classified as Level 2 of the fair value hierarchy are as follows:

(in millions of Korean won)	**December 31, 2024**	**December 31, 2023**	**Valuation techniques**	**Inputs**
Derivative instruments:				
Derivative assets	₩ 7,346	₩ 23,039	Discounted cash flow models and others	Foreign exchange forward price, discount rate and others
Derivative liabilities	73,664	1,891	Discounted cash flow models and others	Foreign exchange forward price, discount rate and others

Trade and other receivables classified as Level 2 are considered to have a carrying amount that reasonably approximates their fair value. Therefore, valuation techniques and input variables have not been disclosed.

40. Financial instruments (cont'd)

3) Valuation techniques and inputs for Level 3 of the fair value hierarchy

① Changes in assets classified as Level 3 of the fair value hierarchy among the assets and liabilities measured at fair value for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024		2023
Financial assets at FVPL:				
Beginning	₩	1,853	₩	3,328
Transfer		-		(552)
Valuation		(216)		13
Disposal		-		(936)
Ending		1,637		1,853
Financial assets at FVOCI:				
Beginning	₩	935	₩	935
Ending		935		935

② Valuation techniques and inputs for assets classified as level 3 of the fair value hierarchy among the assets and liabilities measured at fair value as of December 31, 2024 are as follows:

(in millions of Korean won)	December 31, 2024			
		Amount	Valuation Techniques	Inputs
Financial assets at FVPL:				
Machinery Financial Cooperative	₩	555	Net asset value method	-
Beneficiary certificates		1,082	Net asset value method	-
Subtotal		1,637		
Financial assets at FVOCI:				
Others[1]		935	-	-
Total	₩	2,572		

[1] The amount of financial assets that the Group determined that there would be no significant difference between the carrying amount and the fair value is ₩ 935 million.

41. Financial risk management

(1) Credit risk

1) Exposure to credit risk

The carrying amounts of financial assets and contract assets represent the maximum exposure to credit risk. Maximum exposures of financial assets of the Group exposed to credit risk as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024		December 31, 2023	
Cash and cash equivalents[1]	₩	258,756	₩	239,480
Short-term and long-term financial instruments (excluding equity securities)		52,524		47,533
Trade and other receivables		869,421		1,058,744
Contract assets		3,190		2,118
Long-term trade receivables and other non-current receivables		75,830		20,522
Derivative assets		7,346		23,039
Total	₩	1,267,067	₩	1,391,436

[1] Cash on hand is excluded.

41. Financial risk management (cont'd)

2) Impairment loss

The aging analysis on the Group's financial assets at amortized cost and impaired losses on receivables by aging as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024						
	Individually impaired receivables	Receivables assessed for impairment on a collective basis					Total
		Within due	0–3 months	3–6 months	6–12 months	Over 12 months	
Trade receivables	₩ 105,045	₩ 511,373	₩ 45,758	₩ 9,696	₩ 3,922	₩ 9,476	₩ 685,270
Contract assets	-	3,190	-	-	-	-	3,190
Financial lease receivables	-	137,715	4,134	4,099	1,494	1,446	148,888
Other receivables	35,371	127,548	3,728	1,379	597	16,089	184,712
Accrued income	-	3,988	7	-	-	-	3,995
Short-term loans	3,200	-	-	-	-	-	3,200
Long-term trade receivables	-	528	-	-	-	52	580
Long-term financial lease receivables	-	56,140	1,674	1,659	605	585	60,663
Long-term other receivables	4,746	8,808	-	-	-	-	13,554
Long-term loans	300	-	-	-	-	-	300
Deposits	-	10,201	-	-	-	-	10,201
Loss allowance provision for trade receivables	(94,390)	(967)	(619)	(458)	(291)	(7,773)	(104,498)
Loss allowance provision for lease	-	(201)	(106)	(415)	(612)	(1,503)	(2,837)
Loss allowance provision for other receivables	(40,116)	(2,377)	(21)	(83)	(392)	(15,678)	(58,667)
Loss allowance provision for guarantee deposits	-	(111)	-	-	-	-	(111)
Total	₩ 14,156	₩ 855,835	₩ 54,555	₩ 15,877	₩ 5,323	₩ 2,694	₩ 948,440

41. Financial risk management (cont'd)

(in millions of Korean won)	December 31, 2023						
	Individually impaired receivables	Receivables assessed for impairment on a collective basis					Total
		Within due	0–3 months	3–6 months	6–12 months	Over 12 months	
Trade receivables	₩ 101,556	₩ 534,223	₩ 39,582	₩ 11,856	₩ 2,247	₩ 7,702	₩ 697,166
Contract assets	-	2,118	-	-	-	-	2,118
Financial lease receivables	-	279,459	15,828	10,917	6,672	11,974	324,850
Other receivables	31,422	113,803	23,581	5,174	955	17,922	192,857
Accrued income	-	5,301	-	-	-	-	5,301
Long-term trade receivables	-	3,478	-	-	-	47	3,525
Long-term other receivables	4,745	2,656	-	-	-	-	7,401
Deposits	-	14,445	-	-	-	-	14,445
Loss allowance provision for trade receivables	(88,141)	(811)	(399)	(615)	(458)	(7,616)	(98,040)
Loss allowance provision for lease	-	(260)	(266)	(1,005)	(1,987)	(10,639)	(14,157)
Loss allowance provision for other receivables	(36,165)	(3)	(150)	(310)	(457)	(16,897)	(53,982)
Loss allowance provision for guarantee deposits	-	(100)	-	-	-	-	(100)
Total	₩ 13,417	₩ 954,309	₩ 78,176	₩ 26,017	₩ 6,972	₩ 2,493	₩ 1,081,384

The allowance accounts in respect of financial assets (include contract assets) at amortized cost is used to record impairment losses until the loans and receivables become uncollectible. At that point, the amounts are considered irrecoverable and are written off against the financial asset directly.

(2) Liquidity risk

1) The contractual maturities of financial liabilities as of December 31, 2024 are as follows. The amount includes interest payments and does not include the effect of offsetting arrangements.

(in millions of Korean won)	December 31, 2024					
	Carrying amount	Nominal cash flows	0–6 months	6–12 months	1–3 years	Over 3 years
Non-derivative liabilities:						
Borrowings	₩ 856,852	₩ 894,128	₩ 333,051	₩ 129,979	₩ 431,098	₩ -
Bonds	256,552	273,309	111,404	3,344	137,521	21,040
Trade and other payables	813,165	813,165	618,595	178,810	14,398	1,362
Lease liabilities	78,041	89,069	13,126	12,251	27,906	35,786
Derivative liabilities:						
Currency forward held for hedging	73,081	74,644	49,378	16,148	7,107	2,011
Interest rate swap held for hedging	583	610	(204)	161	653	-
Total	₩ 2,078,274	₩ 2,144,925	₩ 1,125,350	₩ 340,693	₩ 618,683	₩ 60,199

41. Financial risk management (cont'd)

The maximum amount of the guarantee that can be borne by the Group's financial guarantee contracts as of December 31, 2024 is ₩ 31,443 million (see Note 42).

It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amounts.

2) The Group has established a supplier finance arrangement that is offered to some of the Group's key suppliers. Suppliers that participate in the supplier finance arrangement will receive early payment on invoices sent to the Group from the Group's external finance provider. If suppliers choose to receive early payment, they pay a fee to the finance provider, to which the Group is not party. Payments to suppliers ahead of the invoice due date are processed by the finance provider and, in all cases, the Group settles the original invoice by paying the finance provider in line with the original invoice maturity date described above. Further details regarding the Group's supplier finance arrangements are as follows:

(in millions of Korean won)	Trade and other payables[1]	Short-term borrowings
Carrying amount of financial liabilities under supplier finance arrangements	₩ 175,197	₩ 123,660
Of which suppliers have received payment	28,624	123,660
Payment due range of financial liabilities under supplier finance arrangements	15~90 days	Within 1 year from the obligation arising to the financial institution

[1] The maturity range of comparable trade and other payables not subject to supplier finance arrangements is 30 to 105 days from the invoice date.

3) The contractual maturities of financial liabilities as of December 31, 2023 are as follows. The amount includes interest payments and does not include the effect of offsetting arrangements.

(in millions of Korean won)	December 31, 2023					
	Carrying amount	**Nominal cash flows**	**0–6 months**	**6–12 months**	**1–3 years**	**Over 3 years**
Non-derivative liabilities:						
Borrowings	₩ 975,721	₩ 1,023,820	₩ 383,035	₩ 122,779	₩ 517,716	₩ 290
Bonds	278,197	287,678	5,634	179,483	879	101,682
Trade and other payables	837,357	837,357	614,866	211,458	11,033	-
Lease liabilities	53,448	61,117	9,065	9,066	12,771	30,215
Derivative liabilities:						
Currency forward held for hedging	1,891	2,071	362	176	166	1,367
Total	₩ 2,146,614	₩ 2,212,043	₩ 1,012,962	₩ 522,962	₩ 542,565	₩ 133,554

41. Financial risk management (cont'd)

The maximum amount of the guarantee that can be borne by the Group's financial guarantee contracts as of December 31, 2023 is ₩ 75,057 million

It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amounts.

4) The expected period of cash flow that is expected to be hedged using the cash flow hedging derivatives for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024					
	Carrying amount	**Nominal cash flows (include interest)**	**0–6 months**	**6–12 months**	**1–3 years**	**Over 3 years**
Foreign currency forward:						
Assets (+)	₩ 29	₩ 29	₩ 29	₩ -	₩ -	₩ -
Liabilities (-)	(73,080)	(74,644)	(49,378)	(16,148)	(7,107)	(2,011)
Foreign currency swap:						
Assets (+)	7,317	7,524	7,524	-	-	-
Liabilities (-)	-	-	-	-	-	-
Interest rate swap:						
Assets (+)	-	-	-	-	-	-
Liabilities (-)	(583)	(610)	204	(161)	(653)	-

(in millions of Korean won)	2023					
	Carrying amount	**Nominal cash flows (include interest)**	**0–6 months**	**6–12 months**	**1–3 years**	**Over 3 years**
Foreign currency forward:						
Assets (+)	₩ 19,322	₩ 19,467	₩ 9,766	₩ 9,697	₩ 4	₩ -
Liabilities (-)	(1,891)	(2,071)	(362)	(176)	(166)	(1,367)
Foreign currency swap:						
Assets (+)	3,716	4,984	2,686	436	1,862	-
Liabilities (-)	-	-	-	-	-	-

41. Financial risk management (cont'd)

(3) Foreign exchange risk

1) Exposure to foreign exchange risk

The Group's exposure to foreign exchange risk for each of the two years in the period ended December 31, 2024 is as follows:

(in millions of Korean won)	2024					
	USD	**EUR**	**CNY**	**JPY**	**Others**	**Total**
Cash and cash equivalents	₩ 17,923	₩ 5,577	₩ 10,099	₩ 293	₩ 11,574	₩ 45,466
Trade and other receivables	582,907	249,178	11,203	2	32,019	875,309
Total assets	600,830	254,755	21,302	295	43,593	920,775
Trade and other payables	(107,801)	(19,395)	(209,653)	(1,836)	(7,928)	(346,613)
Borrowings and bonds	-	(279,371)	(913)	(6,952)	-	(287,236)
Total liabilities	(107,801)	(298,766)	(210,566)	(8,788)	(7,928)	(633,849)
Net amounts presented in the consolidated financial statements	493,029	(44,011)	(189,264)	(8,493)	35,665	286,926
Derivative contracts	(676,200)	(250,345)	-	843	-	(925,702)
Net exposure amount	₩ (183,171)	₩ (294,356)	₩ (189,264)	₩ (7,650)	₩ 35,665	₩ (638,776)

(in millions of Korean won)	2023					
	USD	**EUR**	**CNY**	**JPY**	**Others**	**Total**
Cash and cash equivalents	₩ 16,291	₩ 2,212	₩ 7	₩ 213	₩ 5,382	₩ 24,105
Trade and other receivables	574,515	279,679	9,637	3	39,032	902,866
Total assets	590,806	281,891	9,644	216	44,414	926,971
Trade and other payables	(93,722)	(27,815)	(194,234)	(2,393)	(11,534)	(329,698)
Borrowings and bonds	(64,042)	(264,149)	-	(13,023)	-	(341,214)
Total liabilities	(157,764)	(291,964)	(194,234)	(15,416)	(11,534)	(670,912)
Net amounts presented in the consolidated financial statements	433,042	(10,073)	(184,590)	(15,200)	32,880	256,059
Derivative contracts	(740,554)	(337,570)	-	13,718	-	(1,064,406)
Net exposure amount	₩ (307,512)	₩ (347,643)	₩ (184,590)	₩ (1,482)	₩ 32,880	₩ (808,347)

41. Financial risk management (cont'd)

2) The exchange rates used for each of the two years in the period ended December 31, 2024 are as follows:

(in Korean won)	Exchange rates at the end of the reporting period				Average exchange rates			
	2024		2023		2024		2023	
USD	₩	1,470.00	₩	1,289.40	₩	1,363.98	₩	1,305.41
EUR		1,528.73		1,426.59		1,475.05		1,412.36
CNY		201.27		180.84		189.20		184.22
JPY(100)		936.48		912.66		900.36		931.24

3) Sensitivity analysis

As of December 31, 2024, if the exchange rate of the Korean won is higher than USD, EUR, CNY, JPY, or other currencies, the Group's profit or loss would have increased or decreased. This analysis assumes variability that the Group believes is reasonably probable at the end of each period.

Additionally, it was assumed that other variables, such as interest rates, remain unchanged in the sensitivity analysis.

Changes in profit or loss foreach of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		Effect on profit or loss			
	Changes in exchange rates	2024		2023	
USD	3% increase	₩	(5,495)	₩	(9,225)
EUR	3% increase		(8,831)		(10,429)
CNY	3% increase		(5,678)		(5,538)
JPY	3% increase		(230)		(44)
Others	3% increase		1,070		986

If all other variables are held constant, strengthening of won by the same percentage would result in opposite effect by the same amount.

41. Financial risk management (cont'd)

(4) Interest rate risk

1) Details of the Group's interest-bearing financial instruments as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)	December 31, 2024		December 31, 2023	
Fixed interest rates				
Financial assets	₩	227,604	₩	268,829
Financial liabilities		(730,651)		(911,063)
Total	₩	(503,047)	₩	(642,234)
Floating interest rates				
Financial assets	₩	58,708	₩	36,408
Financial liabilities		(383,343)		(343,531)
Total	₩	(324,635)	₩	(307,123)

2) Sensitivity analysis on fair values of fixed rate financial instruments

Interest rate risk arises from savings and borrowings with floating interest rates. The Group properly hedges the risk borrowings with floating interest rates through interest rate swaps.

Details of interest rate swap contracts as of December 31, 2024 are as follows:

(in thousands of USD and in millions of Korean won)

Type	Notional amount		Details of contracts		Maturity date
Woori Bank	USD	30,000	Floating interest rate and receipt of foreign currency	3M Compounded SOFR + 0.95%	Apr. 3, 2025
			Fixed interest rate and payment in Korean won	3.63%	
JPMorgan Chase Bank, N.A.	KRW	110,000	Floating interest rate and receipt of foreign currency	CD 91days + 0.90%	Aug. 16, 2027
			Fixed interest rate and payment in Korean won	3.84%	

3) Sensitivity analysis on cash flows for floating rate financial instruments

A change of 100 basis points in interest rates as of December 31, 2024 would have increased (decreased) profit or loss by the amounts shown below. This analysis assumes that all other variables, in particular foreign currency rates, remain constant. The changes profit or loss are as follows:

(in millions of Korean won)	2024				2023			
	100 bp increase		100 bp decrease		100 bp increase		100 bp decrease	
Profit (loss) before income tax expense	₩	(3,246)	₩	3,246	₩	(3,071)	₩	3,071

42. Commitments and contingencies

(1) As of December 31, 2024, the Group has entered into general loan agreements amounting to ₩ 1,778,887 million with various financial institutions.

(2) As of December 31, 2024, the Group has no financial liabilities related to assets that continue to be recognized because the majority of risks and rewards of ownership have not been transferred.

(3) As of December 31, 2024, details of payment guarantees provided by the Group for third parties are as follows:

(in thousands of foreign currencies and millions of Korean won)

Guarantor	Beneficiary	Guaranteed amount		Korean won equivalent	
HD Hyundai Infracore China Co., Ltd.	End User	CNY	156,223	₩	31,443

Meanwhile, as of December 31, 2024, the Group has been provided with guarantees in relation to Floating-Rate Note (FRN) amounting to USD 30,600 thousand by Woori Bank. Also, the Group entered into agreements with various banks for performance guarantees of USD 2,526 thousand regarding exports and others, and with Seoul Guarantee Insurance and Machinery Financial Cooperative for performance and warranty guarantees of ₩ 84,095 million in total. Regarding guarantees provided by Machinery Financial Cooperative, the equity investment of ₩ 100 million in Machinery Financial Cooperative is also pledged as a collateral.

43. Major Lawsuits

As of December 31, 2024, the Group is a defendant in 17 pending lawsuits with a total claim amount of approximately ₩ 41,197 million. The Group has recognized ₩ 1,477 million of provision for litigation in relation to these cases. The outcome of the lawsuit and its effects cannot be reasonably estimated as of December 31, 2024.

44. Related party transactions

(1) Details of the Group's major related parties as of December 31 2024 are as follows:

Type	Name of entity	Type of business
Ultimate parent	HD HYUNDAI CO.,LTD.	Holdings company
Next most senior parent	HD Hyundai XiteSolution.,Ltd.	Manufacture of machinery for construction and mining
Associates and joint ventures	Doosan Infracore Liaoning Machinery Sales Co., Ltd.	Sales of excavators, etc.
	PoteNit Co.,Ltd.	Manufacture of industrial robots, etc.
Other related parties (large-scale business group affiliated company, etc)	HD HYUNDAI HEAVY INDUSTRIES CO.,LTD.	Manufacture of ships, offshore structures, plants and engines
	HD Hyundai Construction Equipment Co.,Ltd.	Manufacturing and sales of construction machinery
	HD KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO., LTD.	Shipbuilding
	HD HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.[1]	Shipbuilding
	HD HYUNDAI OILBANK CO., LTD.	Manufacture of petroleum products
	Changzhou Hyundai Hydraulic Machinery Co., Ltd.	Production and sales of hydraulic cylinders
	HD Hyundai Robotics Co., Ltd	Manufacturing and sales of robots
	HD HYUNDAI ELECTRIC CO.,LTD.	Manufacturing and sales of industrial electrical equipment
	ULSAN HD FOOTBALL CLUB CO.,LTD.	Professional soccer club business
	ECUBE Solution Co., Ltd.	Production and sales of engine aftertreatment devices, etc.
	MEDI PLUS SOLUTION CO.,LTD.	Development and service of health and medical solutions
	Hyundai Heavy Industries (China) Investment Co.,Ltd.	Holdings company
	Hyundai Financial Leasing Co., Ltd.	Financial business-like loan lease
	Hyundai (Jiangsu) Engineering Machinery Co., Ltd.	Manufacturing and sales of construction machinery
	Hyundai Oilbank (Shanghai) Co., Ltd.	Trading of petroleum products
	Hyundai Construction Equipment Europe N.V.	Sales of construction machinery
	Hyundai Construction Equipment Americas.,Inc.	Sales of construction machinery
	Hyundai Construction Equipment Brasil - Manufacturing and Trading of Construction Equipment S.A	Manufacturing and sales of construction machinery
	Palantir Korea LLC	Sales of software
	KDB INVESTMENT 2HO INC. and The Korea Development Bank Group[2]	Special Purpose Company under the *Financial Investment Services and Capital Markets Act.*
	Other related parties	Others

[1] For the year ended December 31, 2024, the entity changed its name to HD HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD. from HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.
[2] In accordance with the exemption provisions for disclosures related to government-related entities under KIFRS 1024 *Related Party Disclosures*, transactions and agreements with government-related entities, including the balances of receivables and payables, are not included in the Group's disclosures.

44. Related party transactions (cont'd)

(2) Significant transactions with the related parties for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)

		2024				
Type	**Name of entity**	**Sales**	**Other sales**[1]	**Purchase**	**Acquisition of property, plant and equipment and intangible assets**	**Other purchases**[2]
Ultimate parent	HD HYUNDAI CO.,LTD.	₩ 15	₩ -	₩ -	₩ -	₩ 10,747
Intermediate parent	HD Hyundai XiteSolution.,Ltd.	7,870	1,734	3,695	-	60,896
Joint ventures and associates	Doosan Infracore Liaoning Machinery Sales Co., Ltd	2,474	-	-	-	-
	HD HYUNDAI HEAVY INDUSTRIES CO.,LTD.	-	-	-	-	700
	HD Hyundai Robotics Co., Ltd	-	-	759	250	550
	HD HYUNDAI ELECTRIC CO.,LTD	-	-	-	-	1,152
	HD Hyundai Construction Equipment Co.,Ltd.	59,455	5,400	10,796	-	5,280
	HD KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO., LTD.	1,302	-	-	-	3,596
	HD HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.	-	-	5,321	-	-
	HD HYUNDAI OILBANK CO., LTD.	17	-	17,784	-	368
	ULSAN HYUNDAI FOOTBALL CLUB CO.,LTD.	-	-	-	-	2,130
Other related parties	MEDI PLUS SOLUTION CO.,LTD.	-	-	-	-	3
	Hyundai Heavy Industries (China) Investment Co.,Ltd.	340	-	110	-	733
	Hyundai (Jiangsu) Engineering Machinery Co., Ltd.	573	-	8,497	-	-
	Changzhou Hyundai Hydraulic Machinery Co., Ltd.	-	-	26,687	-	-
	Palantir Korea LLC	-	-	-	372	620
	Hyundai Financial Leasing Co., Ltd.	200	-	-	-	-
	Hyundai Construction Equipment Europe N.V.	1,129	-	-	-	-
	Hyundai Construction Equipment Americas.,Inc.	29,728	-	-	-	87
	Hyundai Construction Equipment Brasil - Manufacturing and Trading of Construction Equipment S.A	-	19	5,357	-	57
	Total	₩ 103,103	₩ 7,153	₩ 79,006	₩ 622	₩ 86,919

44. Related party transactions (cont'd)

[1] Other revenue includes proceeds from the sale of property, plant and equipment and intangible assets. This includes ₩ 1,638 million from the sale related to the business transfer transaction with HD Hyundai Xite Solutions Co., Ltd., the immediate parent company. As this business transfer is a transaction under common control, the difference of ₩ 202 million between the carrying amount of the transferred net assets, which is ₩ 1,436 million, and the sale proceeds is added to other capital surplus (see Note 26).

[2] Other purchases include lease payments of ₩ 4,696 million.

44. Related party transactions (cont'd)

(in millions of Korean won)		2023				
Type	**Name of entity**	**Sales**	**Other sales[1]**	**Purchase**	**Acquisition of property, plant and equipment and intangible assets**	**Other purchases[2]**
Ultimate parent	HD HYUNDAI CO.,LTD.	₩ -	₩ -	₩ -	₩ -	₩ 12,003
Intermediate parent	HD Hyundai XiteSolution.,Ltd.	4,591	1,631	90	-	49,399
Joint ventures	Doosan Infracore Liaoning Machinery Sales Co., Ltd	2,074	-	-	-	-
Other related parties	HD HYUNDAI HEAVY INDUSTRIES CO.,LTD.	-	-	-	-	1,251
	HD Hyundai Robotics Co., Ltd	-	-	-	100	-
	HD HYUNDAI ELECTRIC CO.,LTD	-	-	-	-	1,680
	HD Hyundai Construction Equipment Co.,Ltd.	30,963	3,269	6,673	-	4,888
	HD KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO., LTD.	-	-	-	-	3,136
	HD HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.	-	-	5,485	-	-
	HD HYUNDAI OILBANK CO., LTD.	-	-	16,611	-	423
	ULSAN HYUNDAI FOOTBALL CLUB CO.,LTD.	-	-	-	-	620
	Changzhou Hyundai Hydraulic Machinery Co., Ltd.	-	-	12,490	-	-
	ECUBE Solution Co., Ltd.	-	-	5,017	-	-
	MEDI PLUS SOLUTION CO.,LTD.	-	-	-	-	12
	Hyundai Heavy Industries (China) Investment Co.,Ltd.	252	-	-	-	417
	Hyundai Financial Leasing Co., Ltd.	122	-	-	-	-
	Hyundai (Jiangsu) Engineering Machinery Co., Ltd.	336	-	2,032	-	-
	Hyundai Construction Equipment Europe N.V.	179	-	-	-	-
	Hyundai Construction Equipment Americas.,Inc.	18,661	-	-	-	-
	Hyundai Construction Equipment Brasil - Manufacturing and Trading of Construction Equipment S.A	-	66	-	-	-
	Total	₩ 57,178	₩ 4,966	₩ 48,398	₩ 100	₩ 73,829

[1] Other sales include the amount of disposal of property, plant and equipment and intangible assets.
[2] Other purchases include lease payments of ₩ 4,950 million.

44. Related party transactions (cont'd)

(3) Outstanding balances of significant receivables from and payables to the related parties as of December 31, 2024 and 2023 are as follows:

(in millions of Korean won)

		December 31, 2024			
Type		Trade receivables	Other receivables	Trade payables	Other payables[1]
Ultimate parent	HD HYUNDAI CO.,LTD.	₩ -	₩ 3,943	₩ -	₩ 8,723
Intermediate parent	HD Hyundai XiteSolution.,Ltd.	3,758	354	5,019	14,433
Joint ventures	Doosan Infracore Liaoning Machinery Sales Co., Ltd	34	-	-	126
Other related parties	HD HYUNDAI HEAVY INDUSTRIES CO.,LTD.	-	-	-	16
	HD Hyundai Robotics Co., Ltd	-	-	550	835
	HD HYUNDAI ELECTRIC CO.,LTD	-	-	-	20
	HD Hyundai Construction Equipment Co.,Ltd.	13,183	1,220	4,778	456
	HD KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO., LTD.	-	208	-	539
	HD HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.	-	-	451	-
	HD HYUNDAI OILBANK CO., LTD.	-	-	4,947	18
	ULSAN HYUNDAI FOOTBALL CLUB CO.,LTD.	-	-	-	143
	MEDI PLUS SOLUTION CO.,LTD.	-	-	-	5
	Hyundai Heavy Industries (China) Investment Co.,Ltd.	1	7	119	69
	Hyundai (Jiangsu) Engineering Machinery Co., Ltd.	34	-	906	-
	Changzhou Hyundai Hydraulic Machinery Co., Ltd.	-	-	3,440	-
	Palantir Korea LLC	-	1,896	-	233
	Hyundai Financial Leasing Co., Ltd.	-	11	-	-
	Hyundai Construction Equipment Europe N.V.	120	-	-	-
	Hyundai Construction Equipment Americas.,Inc.	2,314	-	-	-
	Hyundai Construction Equipment Brasil - Manufacturing and Trading of Construction Equipment S.A	-	-	454	-
Total		₩ 19,444	₩ 7,639	₩ 20,664	₩ 25,616

[1] Other payables include lease liabilities of ₩ 8,627 million.

44. Related party transactions (cont'd)

(in millions of Korean won)

Type		December 31, 2023			
		Trade receivables	Other receivables	Trade payables	Other payables[1]
Ultimate parent	HD HYUNDAI CO.,LTD.	₩ -	₩ 3,874	₩ -	₩ 13,428
Intermediate parent	HD Hyundai XiteSolution.,Ltd.	2,455	1,579	16	13,134
Joint ventures	Doosan Infracore Liaoning Machinery Sales Co., Ltd	130	-	-	47
Other related parties	HD HYUNDAI HEAVY INDUSTRIES CO.,LTD.	-	-	-	392
	HD HYUNDAI ELECTRIC CO.,LTD	-	-	-	382
	HD Hyundai Construction Equipment Co.,Ltd.	2,693	2,691	1,493	903
	HD KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO., LTD.	-	-	-	621
	HD HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.	-	-	506	-
	HD HYUNDAI OILBANK CO., LTD.	-	-	5,531	12
	Changzhou Hyundai Hydraulic Machinery Co., Ltd.	-	-	1,332	-
	MEDI PLUS SOLUTION CO.,LTD.	-	-	-	5
	Hyundai Heavy Industries (China) Investment Co.,Ltd.	-	-	-	29
	Hyundai (Jiangsu) Engineering Machinery Co., Ltd.	14	51	1,995	-
	Hyundai Construction Equipment Europe N.V.	68	-	-	-
	Hyundai Construction Equipment Americas.,Inc.	2,185	-	-	-
	Total	₩ 7,545	₩ 8,195	₩ 10,873	₩ 28,953

[1] Other payables include lease liabilities of ₩ 12,453 million.

44. Related party transactions (cont'd)

(4) Details of fund transactions (including equity transactions) with the related parties for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)		2024	
		Payment of dividends	
Next most senior parent	HD Hyundai XiteSolution.,Ltd.	₩	7,242

As of December 31, 2024, the Group has pledged assets and borrowings to its other related party, Korea Development Bank (see Notes 18 and 22).

(in millions of Korean won)		2023			
		Sale of equity interests		Payment of dividends	
Next most senior parent	HD Hyundai XiteSolution.,Ltd.[1]	₩	1,733	₩	15,801

[1] For the year ended December 31, 2023, the Group disposed of 100% shares in ECUBE Solution Co., Ltd. to HD Hyundai XiteSolution.,Ltd., its intermediate parent company.

(5) There are no collaterals provided to the related parties as of December 31, 2024.

(6) Details of compensations to the key management personnel of the Group for each of the two years in the period ended December 31, 2024 are as follows:

(in millions of Korean won)	2024		2023	
Short-term benefits[1]	₩	1,656	₩	1,805
Post-employment benefits		339		288
Other long-term benefits		147		163
Total	₩	2,142	₩	2,256

[1] Short-term benefits are attributable to the current taxation year pursuant to the Income Tax Act of Korea.

The above key management includes executive directors (include external directors) who have significant authority and responsibility for planning, operation and control on the Group's operation.

45. Events after the reporting period

(1) According to the resolution of the Board of Directors made on February 4, 2025, the Parent Company decided to acquire the treasury shares amounting to ₩ 31.4 billion through a trust agreement after the reporting period, and is scheduled to retire its treasury shares on August 5, 2025.

(2) The Parent Company resolved at its Board of Directors' meeting held on February 24, 2025, to retire the treasury shares (odd lots) acquired during the demerger and merger with Doosan Enerbility Co., Ltd. in 2021. A total of ₩ 1.1 billion of treasury shares is scheduled to be retired on April 30, 2025.

Audit opinion on internal control over financial reporting

The accompanying independent auditor's report on internal control over financial reporting is attached as a result of auditing the internal control over financial reporting of HD Hyundai Infracore Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group") and the consolidated financial statements of the Group for the year ended December 31, 2024 in accordance with the Article 8 of the *Act on External Audit of Stock Companies.*

Attachments:

1. Independent auditor's report on internal control over financial reporting
2. Management's report on the effectiveness of Internal Control over Financial Reporting

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Independent auditor's report on internal control over financial reporting

(English translation of a report originally issued in Korean)

The Shareholders and Board of Directors
HD Hyundai Infracore Co., Ltd.

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting ("ICFR") of HD Hyundai Infracore Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group") based on the *Conceptual Framework for Design and Operation of ICFR* established by the Operating Committee of ICFR in Korea (the "ICFR Committee") as of December 31, 2024.

In our opinion, the Group's ICFR has been effectively designed and operated, in all material respects, as of December 31, 2024 in accordance with the *Conceptual Framework for Design and Operation of ICFR.*

We also have audited, in accordance with Korean Standards on Auditing ("KSA"), the consolidated statement of financial position as of December 31, 2024, and the consolidated statement of profit or loss, consolidated statement of comprehensive income or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including material accounting policy information, of the Group, and our report dated March 14, 2025 expressed an unqualified opinion thereon.

Basis for opinion on ICFR

We conducted our audit in accordance with KSA. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of ICFR section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of ICFR in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibility of management and those charged with governance for ICFR

Management is responsible for designing, implementing and maintaining an effective ICFR, and for assessing the effectiveness of the ICFR included in the accompanying Management's report on the effectiveness of ICFR.

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

Auditor's responsibilities for the audit of ICFR

Our responsibility is to express an opinion of the Group's ICFR based on our audit. We conducted our audit in accordance with KSA. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective ICFR was maintained in all material respects.

An audit of the ICFR involves performing procedures to obtain audit evidence as to whether a material weakness exists. The procedures selected depend on the auditor's judgment, including the assessment of the risks that a material weakness exists. An audit also includes testing and evaluating the design and operation of ICFR based on obtaining an understanding of ICFR and the assessed risk.

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ICFR definition and inherent limitations

An ICFR of a company and its subsidiaries is implemented by those charged with governance, management, and other employees and is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (“KIFRS”). The ICFR of the company and its subsidiaries includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company and its subsidiaries; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with KIFRS, and that receipts and expenditures of the company and its subsidiaries are being made only in accordance with authorizations of management and directors of the company and its subsidiaries; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the assets of the company and its subsidiaries that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, ICFR may not prevent or detect material misstatements of the consolidated financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that ICFR may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The engagement partner on the audit resulting in this independent auditor’s report is Min-Sung Kim.

Ernst & Young Han Young

Seoul, Korea

March 14, 2025

This audit report is effective as of March 14, 2025, the independent auditor’s report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor’s report to the time this report is used. Such events and circumstances could significantly affect the Group’s ICFR and may result in modifications to this report.

Management's Report on the Effectiveness of Internal Control over Financial Reporting for Consolidation Purposes

To the Shareholders, Board of Directors, and Audit Committee of HD HYUNDAI INFRACORE CO., LTD.

We, as the Chief Executive Officer("CEO") and Internal Control over Financial Reporting("ICFR") Manager of HD HYUNDAI INFRACORE CO., LTD. and its subsidiaries(the "Group"), assessed the effectiveness of the design and operation of ICFR for the year ended December 31, 2024.

The design and operation of ICFR is the responsibility of the Group's management, including the CEO and the ICFR Manager.

We assessed whether the Group's ICFR has been effectively designed and operated in order to prevent and detect errors or fraud that may result in a misstatement of the financial statements to ensure preparation and disclosure of reliable financial statements.

We used, as the basis for the design and operation of the Group's ICFR, the *Conceptual Framework for Design and Operation of ICFR* established by the Operating Committee of ICFR. In assessing the design and operation of ICFR, we used, as the criteria for assessment, the Appendix 6 of the *Implementation Guidelines for the Regulation on External Audit and Accounting, etc.*, the *Standard for Evaluation and Reporting of ICFR*.

Based on our assessment, we concluded that the Group's ICFR is effectively designed and operated as of December 31, 2024, in all material respects, in accordance with the *Conceptual Framework for Design and Operation of ICFR*.

We confirm that this report does not contain or present any false statement or omit to state a fact necessary to be presented herein. We also confirm that this report does not contain or present any statement which might cause material misunderstanding to the readers, and we have reviewed and verified this report with due care.

(Attachments) *Internal control activities performed by the Group in response to fund-related fraud risks such as embezzlements, etc.*

February 4, 2025

Chief Executive Officer
Cho, Young Cheul

ICFR Manager
Jeong, Hae Chil

(Attachment)

○ Internal control activities performed by the Group in response to fund-related fraud risks such as embezzlements, etc.

Classification	Control activities performed by the Group	Target Company	Assessment results on design and operation
Entity level controls	<Operation of fraud prevention system> The Group operates the internal whistle-blower system (anonymous reporting channel) to prevent fraud such as embezzlements.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in June 2024 and January 2025.)
	<Assessment on fraud risk> The ICFR Department manages changes in the work processes and appropriately reflects these changes in internal controls.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in June 2024 and January 2025.)
	<Separation of duties> The Group defines the criteria for incompatible duties and periodically reviews whether the corresponding responsibilities are appropriately separated based on the organization or individual in charge.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in June 2024 and January 2025.)
	<Evaluation of effectiveness of design and operation of ICFR> The Group conducts ongoing monitoring as part of routine business procedures and periodically assesses the effectiveness of key control activities through independent evaluations.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in June 2024 and January 2025.)

Financial controls	<Management of status of accounts> The head of the Cash Management Team reviews any changes in the status of accounts.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Opening and closing of accounts> The head of the Cash Management Team reviews and approves appropriate internal reports related to the opening and closing of bank accounts.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Seal management> The department head in charge of corporate and user seals restricts physical access to the seals.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Seal usage> The department head in charge of corporate and user seals verifies the approval and supporting documents from the department head who requested the approval before affixing the seal.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Restriction on transactions with unregistered vendors> The ERP system is configured to restrict financial transactions with vendors that are not registered in the system.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in January 2025.)

	<Separation of duties in payment processing> The person requesting the payment and the person approving the payment are separated.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Preparation and approval of daily cash plans> The head of the Cash Management Team reviews and approves daily cash reports, including planned inflows and outflows for the day and the actual performance of the previous day.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Approval and execution of borrowing transactions> The head of the Cash Management Team approves the borrowing details, and the borrowing officer executes the transaction based on the borrowing proposal approved by the authorized signatory.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)
	<Separation of vendor registration and confirmation> The individuals responsible for registering vendors and confirming vendor information in the ERP system are separated.	HD Hyundai Infracore, and 4 other subsidiaries	As a result of the assessment, no significant weaknesses have been identified. (Conducted by the ICFR Departments and external experts involved by HD Hyundai Infracore and 4 other companies in July 2024, August 2024, December 2024 and January 2025.)