HYUNDAI HEAVY INDUSTRIES CO., LTD.

Separate Financial Statements

December 31, 2022

(With Independent Auditors' Report Thereon)

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KPMG SAMJONG Accounting Corp.

152, Teheran-ro, Gangnam-gu, Seoul 06236 (Yeoksam-dong, Gangnam Finance Center 27th Floor) Republic of Korea

Tel +82 (2) 2112 0100 Fax +82 (2) 2112 0101 www.kr.kpmg.com

Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Stockholders Hyundai Heavy Industries Co., Ltd.:

Opinion

We have audited the separate financial statements of Hyundai Heavy Industries Co., Ltd. (the "Company"), which comprise the separate statement of financial position as of December 31, 2022, and the separate statement of comprehensive loss, changes in equity and cash flows for the year then ended, and notes to the separate financial statements, including significant accounting policies and other explanatory information.

In our opinion, the accompanying separate financial statements present fairly, in all material respects, the separate financial position of the Company as of December 31, 2022, and its separate financial performance and its separate cash flows for the year then ended in accordance with Korean International Financial Reporting Standards ("K-IFRS").

We also have audited, in accordance with Korean Standards on Auditing (KSAs), the Company's Internal Control over Financial Reporting ("ICFR") as of December 31, 2022, based on the criteria established in Conceptual Framework for Designing and Operating ICFR issued by the Operating Committee of Internal Control over Financial Reporting in the Republic of Korea, and our report dated March 20, 2023, expressed an unmodified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

We conducted our audit in accordance with Korean Standards on Auditing (KSAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Separate Financial Statements* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the separate 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 separate financial statements as of and for the year ended December 31, 2022. These matters were addressed in the context of our audit of the separate financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(1) Overview

An overview of key audit matters described in this audit report is as follows:

As described in Note 4 to the separate financial statements, the Company produces the customization goods on orders from the customers and recognizes revenue over time by the input method when having the following characteristics.

(i) the Company's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or

(ii) the Company's performance does not create an asset with an alternative use to the Company and the Company has an enforceable right to payment for performance completed to date



The percentage-of-completion is calculated based on the ratio of contract costs incurred for work performed to estimated total contract costs except contract costs that do not reflect the progress of completion. The contract assets are presented for all contracts in which contract costs incurred plus recognized profits (less recognized losses) exceeded progress billings. The contract liabilities are presented for all contracts in which progress billings exceed contract costs incurred plus recognized profits (less recognized losses).

(2) Assessment of the percentage-of-completion

As described in the Note 30 to the separate financial statements, the Company should include only generated contract costs incurred to date for work performed to estimated total contract costs in case the percentage-of-completion is calculated based on estimated total contract costs. There is a risk that the factors of change in contract costs incurred to date include construction inefficiency costs. Therefore, we identified assessment of the percentage-of-completion as a significant risk, considering the impact of uncertainty on earnings volatility.

We performed the following audit procedures with respect to the estimated total contract costs and accumulated costs which have effect on calculating the construction percentage-of-completion as of December 31, 2022:

- Inquiries and analytical review procedures on items of the contract costs incurred to date in each reporting period
- For selected major projects, comparing the progress of construction with the percentage-of-completion
- Inspecting the documents on existence of material costs incurred for selected samples
- Engaging our IT specialists to assist us in assessing the appropriateness of aggregation and allocation of overhead costs by each project
- Engaging our IT specialists to assist us in testing risk scenarios including verification on whether the costs are allocated appropriately to each project

(3) Assessment of recoverability of contract assets

As described in Note 30 to the separate financial statements, Heavy-Tail payment plan is a major collection terms of the Company. Since Heavy-Tail payment plan is able to result in significant losses if contract is cancelled, we identified the collectability of contract assets as a significant risk.

We performed the following audit procedures with respect to the assessment of collectability of contract assets as of and for the year ended December 31, 2022:

- Testing certain internal controls over identification and assessment of impairment indicators on contract assets
- For contracts with significant increases in contract assets, inquiries and inspection of documents on payment terms, liquidated damages, delivery time, and other obligations of contracts for significantly increased contract assets
- Inspection of the terms of the contracts for ongoing construction to assess the appropriateness of the Company's payment conditions
- Assessing management's estimate basis for the collectability of contract assets
- Inspecting the documents regarding completion of construction (Delivery protocol, etc.) for completion work to assess existence of contract asset amounts
- For selected major customers, obtaining external confirmation letters

(4) Accounting for the variations in contract work

As described in Note 30 to the separate financial statements, although contract revenue is measured as the initial amount agreed in the contract, it is possible to be increased by claims and incentive payments and decreased by penalties due to delay of construction completion by reason attributable to the Company. Variations in contract work, such as specification or design change by clients, have been occurring frequently in the shipbuilding sector due to characteristics of the industry, and they cause a possibility of variations in contract work as a significant risk.



We performed the following audit procedures with respect to the accounting for the variations in contract work as of and for the year ended December 31, 2022:

- Testing certain internal controls over changes in terms of contracts
- Inquiries and analytical review procedures on projects in which significant changes in contract revenue were made
- Inspecting the documents (change order document, etc.) to confirm the appropriateness of the changes in contract amounts
- Comparing the contractual delivery date with expected delivery date as of December 31, 2022
- Assessing the appropriateness of liquidated damages and the estimated amount of compensation

(5) Uncertainty of estimated total contract costs

As described in Note 30 to the separate financial statements, estimated total contract costs are calculated based on estimated costs of materials, labor costs and construction period, and uncertainty risk related to exchange rate fluctuation, changes of steel prices and changes in production hours exists. Accordingly, considering the impacts on profit or loss for the year ended December 31, 2022 and future periods, we identified uncertainty of estimated total contract costs as a significant risk.

We performed the following audit procedures regarding the impact of uncertainty of estimated total contract costs on the separate financial statements as of and for the year ended December 31, 2022:

- Testing certain internal controls over the Company's determination of revenue recognition accounting polices
- Testing certain internal controls over the Company's determination of the estimated total contract costs
- Inquiries and analytical procedures on changes in major items of total contract costs in each reporting period
- Retrospective review of projects with significant changes in estimated total contract cost
- Identify the cause of difference for projects with significant changes in estimated total contract costs and if necessary, inspecting relevant documents
- Comparing estimated total contract costs among similar vessels
- Collecting and inspecting the data of estimated total contract costs managed by production department for major projects
- Comparing details in purchase order issued by purchasing department by projects with estimated total material costs
- Assessment on whether estimated total contract costs were approved by proper authorized person
- Inquiries and analytical review procedures on the causes of increase or decrease in percentage-ofcompletion by each reporting period
- Inquiries on progress and significant changes in major projects
- Visits of ship construction sites

Other Matters

The separate financial statements of the Company for the year ended December 31, 2021, were audited by another auditor, who expressed an unmodified opinion on those statements on March 14, 2022.

The procedures and practices utilized in the Republic of Korea to audit such separate financial statements may differ from those generally accepted and applied in other countries.

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

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



In preparing the separate financial statements, management is responsible for assessing the Company'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 Company or to cease operations, or has no realistic alternative but to do so.

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

Auditors' Responsibilities for the Audit of the Separate Financial Statements

Our objectives are to obtain reasonable assurance about whether the separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' 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 KSAs 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 separate financial statements.

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

- Identify and assess the risks of material misstatement of the separate 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 in the preparation of the separate financial statements 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 Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the separate 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 auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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 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 separate financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' 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 auditors' report is Dong Hyun Chi.

KPMG Samjory Accounting Corp.

Seoul, Korea March 20, 2023

This report is effective as of March 20, 2023, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying separate financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

HYUNDAI HEAVY INDUSTRIES CO., LTD. Separate Statements of Financial Position As of December 31, 2022 and 2021

(In thousands of won)

	Note	2022	2021
Assets			
Cash and cash equivalents	5,6,39,40 W	723,249,202	2,137,125,639
Short-term financial assets	5,7,8,39,40	161,000,000	151,000,000
Trade and other receivables	8,9,30,39,40,43	1,156,122,321	1,032,383,399
Contract assets	30,39,40	3,180,079,663	2,836,359,421
Inventories	10	1,360,377,404	898,666,745
Derivative assets	25,39,40	106,450,664	11,368,268
Firm commitment assets	25	218,541,618	96,769,053
Current tax assets		5,146,866	2,447,046
Non-current assets held for sale	44	-	4,719,315
Other current assets	11	1,077,329,302	714,559,980
Total current assets		7,988,297,040	7,885,398,866
Investments in subsidiary and associate	12,13,43	30,345,757	3,556,200
Long-term financial assets	5,7,8,15,39,40	9,554,272	9,560,272
Long-term trade and other receivables	9,30,39,40,43	176,738,787	38,942,194
Investment property	16	1,457,516	4,108,679
Property, plant and equipment	17	6,216,100,201	5,986,251,939
Intangible assets	19	100,046,843	79,457,817
Right-of-use assets	18	42,416,690	17,906,009
Derivative assets	25,39,40	293,924,052	43,123,042
Firm commitment assets	25	190,170,417	145,688,023
Deferred tax assets	36	893,619,300	837,655,729
Other non-current assets	11,23	340,424,046	27,120,187
Total non-current assets	-	8,294,797,881	7,193,370,091
Total assets	W	16,283,094,921	15,078,768,957

HYUNDAI HEAVY INDUSTRIES CO., LTD. Separate Statements of Financial Position, Continued As of December 31, 2022 and 2021

(In thousands of won)

	Note		2022	2021
Liabilities				
Short-term financial liabilities	5,20,22,39,40,41	₩	1,444,632,171	1,506,767,831
Current lease liabilities	20,22,39,40,41	• •	13,121,318	6,052,095
Trade and other payables	21,39,40,43		1,575,195,044	1,745,918,081
Contract liabilities	30		4,764,892,821	2,607,770,742
Short-term provisions	24,30,39,40		900,927,588	1,027,990,055
Derivative liabilities	25,39,40		316,553,631	148,741,660
Firm commitment liabilities	25,00,40		58,224,089	5,356,117
Total current liabilities	20	-	9,073,546,662	7,048,596,581
		-	0,070,010,002	1,010,000,001
Long-term financial liabilities	5,20,22,39,40,41		1,150,024,155	1,958,992,315
Non-current lease liabilities	20,22,39,40		30,331,121	12,746,171
Long-term trade and other payables	21,39,40,43		380,996	248,798
Long-term contract liabilities	30		10,551,260	10,815,243
Liabilities for defined benefit plans	23		28,462,252	33,198,092
Non-current provisions	24		279,550,656	269,562,659
Derivative liabilities	25,39,40		190,170,417	146,030,764
Firm commitment liabilities	25	_	229,959,123	4,445,047
Total non-current liabilities		_	1,919,429,980	2,436,039,089
Total liabilities		-	10,992,976,642	9,484,635,670
Equity				
Common stock	26		443,865,580	443,865,580
Capital surplus	26		3,118,364,962	3,118,364,962
Capital adjustments	27		(1,411,000)	(1,411,000)
Accumulated other comprehensive income	25,28		881,829,100	881,517,909
Retained earnings	29	-	847,469,637	1,151,795,836
Total equity		-	5,290,118,279	5,594,133,287
Total liabilities and equity		₩	16,283,094,921	15,078,768,957

HYUNDAI HEAVY INDUSTRIES CO., LTD. Separate Statements of Comprehensive Loss

For the years ended December 31, 2022 and 2021

(In thousands of won, except per share information)

(In thousands of won, except per share information)	Note		2022	2021
Sales	25,30,31,43	₩	9,065,348,185	8,303,995,873
Cost of sales	10,25,33,43		8,902,373,908	8,513,716,437
Gross profit(loss)	-, -,, -	-	162,974,277	(209,720,564)
Selling, general and administrative expenses	32,33,39		449,771,525	590,898,755
Operating loss			(286,797,248)	(800,619,319)
Finance income	25,34,39		1,139,051,565	513,833,845
Finance costs	25,34,39		1,591,454,391	999,733,145
Other non-operating income	25,35		812,607,188	471,297,257
Other non-operating expenses	25,35		492,902,079	296,132,109
Loss before income tax			(419,494,965)	(1,111,353,471)
Income tax benefit	36		(69,419,163)	(297,220,206)
Loss for the year			(350,075,802)	(814,133,265)
Other comprehensive income (loss) Items that are or may be reclassified subsequently to profit or loss: Effective portion of changes in fair value of cash flow	25,28,39			
hedges			525,597	7,717,898
Total items that are or may be reclassified		-	,	
subsequently to profit or loss			525,597	7,717,898
Items that will not be reclassified to profit or loss: Changes in fair value of financial assets measured				
at FVOCI			(186)	(41,861)
Actuarial gains and losses			43,307,734	(28,635,576)
Revaluation of property, plant and equipment			2,227,649	-
Total items that will not be reclassified to profit or		-	· · ·	
loss			45,535,197	(28,677,437)
Other comprehensive income (loss) for the year,		-		
net of income tax			46,060,794	(20,959,539)
Total comprehensive loss for the year		₩	(304,015,008)	(835,092,804)
Loss per share Basic loss per share (In won)	37	بہر	(3,943)	(10,712)
		•••	(0,0+0)	(10,712)

HYUNDAI HEAVY INDUSTRIES CO., LTD. Separate Statements of Changes in Equity

For the years ended December 31, 2022 and 2021

(In thousands of won)	_	Common stock	Capital surplus	Capital adjustments	Accumulated other comprehensive income	Retained earnings (Accumulated Deficit)	Total equity
Balance at January 1, 2021 Total comprehensive income (loss) for the year	₩	353,865,580	4,639,942,059	(1,411,000)	873,508,451	(505,101,902)	5,360,803,188
Loss for the year Changes in fair value of financial assets measured at FVOCI		-	-	-	- (41,861)	(814,133,265)	(814,133,265) (41,861)
Effective portion of changes in fair value of cash flow hedges		-	-	-	7,717,898	-	7,717,898
Actuarial gains and losses Transactions with owners of the Company, recognized directly in equity		-	-	-	-	(28,635,576)	(28,635,576)
Capital increase		90,000,000	978,422,903	-	-	-	1,068,422,903
Other							
Capital surplus transfer Reclassification of revaluation of fair value of financial assets measured at		-	(2,500,000,000)	-	-	2,500,000,000	-
FVOCI Reclassification of revaluation of property, plant and equipment		-	-		489,527 (156,106)	(489,527) 156,106	
Balance at December 31, 2021	w	443,865,580	3,118,364,962	(1,411,000)	881,517,909	1,151,795,836	5,594,133,287
Dalance at December 31, 2021	=	443,003,300	3,110,304,302	(1,411,000)	861,517,505	1,131,733,830	3,334,133,207
Balance at January 1, 2022 Total comprehensive income (loss) for the year	₩	443,865,580	3,118,364,962	(1,411,000)	881,517,909	1,151,795,836	5,594,133,287
Loss for the year Changes in fair value of financial assets measured at FVOCI		-	-	-	- (186)	(350,075,802)	(350,075,802) (186)
Effective portion of changes in fair value of cash flow hedges		-	-	-	525,597	-	525,597
Actuarial gains and losses Revaluation of property, plant and equipment		-	-	-	2,227,649	43,307,734	43,307,734
Other					2,22,040		2,22,040
Reclassification of revaluation surplus		-	-	-	(2,441,869)	2,441,869	-
Balance at December 31, 2022	₩	443,865,580	3,118,364,962	(1,411,000)	881,829,100	847,469,637	5,290,118,279

HYUNDAI HEAVY INDUSTRIES CO., LTD.

Separate Statements of Cash Flows

For the years ended December 31, 2022 and 2021

(In thousands of won)

(In thousands of won)	Note	2022	2021
	Note	2022	2021
Cash flows from operating activities			
Loss for the year	\mathbf{W}	(350,075,802)	(814,133,265)
Adjustments		456,070,392	1,668,901,592
Cash generated from operations	38	105,994,590	854,768,327
Interest received		41,090,669	16,901,380
Interest paid		(76,706,938)	(110,083,307)
Dividends received		37,708	34,280
Income taxes refund (paid)		(4,727,117)	295,746
Net cash provided by operating activities		65,688,912	761,916,426
Cash flows from investing activities			
Proceeds from collection of short-term financial assets		746,299,513	403,200,000
Proceeds from collection of short-term other receivables		5,666,035	-
Proceeds from collection of long-term financial assets		6,000	452
Proceeds from collection of long-term other receivables		151,655	5,315,962
Proceeds from sales of property, plant and equipment		12,796,136	12,469,277
Proceeds from sales of intangible assets		500,000	2,526,016
Proceeds from sales of non-current assets held for sale		4,719,315	-
Acquisition of short-term financial assets		(755,040,653)	-
Acquisition of investments in subsidiary and associate Proceeds from sales of investments in subsidiary and associat	•	(29,000,000) 165,115	-
Acquisition of long-term other receivables	е	(4,469,669)	- (6,588,941)
Acquisition of property, plant and equipment		(476,532,164)	(243,962,261)
Acquisition of intangible assets		(29,239,143)	(21,220,365)
Net cash provided by (used in) investing activities		(523,977,860)	151,740,140
Cash flows from financing activities			1 000 100 000
Capital increase		-	1,068,422,903
Proceeds from short-term financial liabilities Proceeds from long-term financial liabilities		621,413,028 365,490,000	991,522,103 1,235,155,000
Repayment of financial liabilities		(1,919,105,866)	(3,378,319,040)
Repayment of lease liabilities		(9,609,449)	(9,340,382)
Net cash used in financing activities		(941,812,287)	(92,559,416)
Effects of exchange rate changes on cash and cash equivalent	S	(13,775,202)	1,359,130
Net increase (decrease) in cash and cash equivalents		(1,413,876,437)	822,456,280
Cash and cash equivalents at January 1		2,137,125,639	1,314,669,359
Cash and cash equivalents at December 31	Ŵ	723,249,202	2,137,125,639

1. Reporting Entity

Hyundai Heavy Industries Co., Ltd. (the "Company") was newly established through a split-off from Korea Shipbuilding & Offshore Engineering Co., Ltd. (known as Hyundai Heavy Industries Co., Ltd. before split-off, existing entity) on June 1, 2019 (inception date) and is engaged in the manufacture and sale of ships, offshore structures, plants, engines and other products. The Company was listed on the Korea Exchange in September 2021. The Company's head office is located in Ulsan. As of December 31, 2022, the Company's major stockholder is the Korea Shipbuilding & Offshore Engineering Co., Ltd. (78.0%).

2. Basis of Preparation

The separate financial statements have been prepared in accordance with Korean International Financial Reporting Standards ("K-IFRS"), as prescribed in Article 5, Clause 1 of *the Act on External Audit of Stock Companies, Etc.* of the Republic of Korea.

These financial statements are separate financial statements in accordance with K-IFRS No.1027, 'Separate Financial Statements' presented by a parent, an investor in an associate or a venture in a jointly controlled entity, in which the investments are accounted for on the basis of the direct equity interest rather than on the basis of the reported results and net assets of the investees.

The separate financial statements were authorized for issue by the Board of Directors on February 7, 2023 and will be submitted for approval to the stockholder's meeting to be held on March 28, 2023.

(1) Basis of measurement

The separate financial statements have been prepared on a historical cost basis except for the following material items in the statement of financial position:

- Derivative financial instruments measured at fair value
- Financial assets measured at FVTPL measured at fair value
- Financial assets measured at FVOCI measured at fair value
- Lands measured at fair value
- Liabilities for defined benefit plans recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

(2) Functional and presentation currency

The separate financial statements are prepared and presented in Korean won, which is the Company's functional currency and the currency of the primary economic environment in which the Company operates. The company's financial statements are prepared and presented in Korean won, which is the Company's functional currency and presentation currency.

(3) Use of estimates and judgments

The preparation of the separate financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

2. Basis of Preparation, Continued

(3) Use of estimates and judgements, continued

The financial impact of the armed conflict in Ukraine, started in February 2022, and subsequent international sanctions against Russia cannot be estimated reasonably.

(iii) Judgments

Information about critical judgements in applying accounting policies that have the most significant effect on the amounts recognized in the separate financial statements is included in the following notes:

- Note 4: Lease term whether the Company is reasonably certain to exercise extension options;
- Note 4: Timing of revenue recognition;
- Note 13: Investment in associates whether the Company has significant influence over an investee;
- Note 14: Classification of joint arrangements; and
- Note 16: Classification of investment property

(iv) Assumptions and estimation uncertainties

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next financial year is included in the following notes:

- Note 5 and 40: Measurement of expected credit loss on trade receivables and contract assets key assumption about determining weighted-average loss rate;
- Note 11, 17 and 19: Impairment test key assumptions underlying recoverable amounts, including the recoverability of other current assets, property and intangible assets;
- Note 23: Measurement of defined benefit obligations key actuarial assumptions;
- Note 24, 41 and 42: Recognition and measurement of provisions and contingencies key assumption about the likelihood and magnitude of an outflow of resources;
- Note 30: Revenue recognition in proportion to the stage of completion, the estimates of total contract costs; and
- Note 36: Measurement of deferred tax
- (v) Measurement of fair value

A number of the Company's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Company has an established control framework with respect to the measurement of fair values. This includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and reports directly to the CFO.

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of K-IFRS, including the level in the fair value hierarchy in which such valuations should be classified.

Significant valuation issues are reported to the Company's Audit Committee.

2. Basis of Preparation, Continued

(3) Use of estimates and judgements, continued

(iii) Measurement of fair value, continued

When measuring the fair value of an asset or a liability, the Company uses market observable data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

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

If the inputs used to measure the fair value of an asset or a liability might be categorized in different levels of the fair value hierarchy, then the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. The Company recognizes transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

Further information about the assumptions made in measuring fair values is included in the following notes:

- Note 15: Financial assets measured at fair value;
- Note 16: Investment property;
- Note 17: Property, plant and equipment;
- Note 40: Financial instruments;

3. Changes in Accounting Policies

(1) New and revised standards adopted by the Company

The Company has initially adopted the following new standards and amendments which are effective from January 1, 2022. The Company has not early adopted the new standards, interpretations or amendments which have been published but are not mandatory.

(i) K-IFRS No.1037 'Provision, Contingent Liabilities and Contingent Assets' amendment (Onerous Contracts – Cost of Fulfilling a Contract)

An onerous contract is a contract in which the non-avoidable costs required for the performance of its contractual obligations exceed the economic benefits expected to be received in that contract. When determining whether a contract is a loss-bearing contract, the costs directly associated with the contract include both incremental costs of performing the contract (e.g., material and labor costs) and other costs directly related to the performance of the contract (e.g., depreciation or allocation of costs to manage and supervise the contract). General administrative costs do not relate directly to the contract and are excluded unless they are explicitly chargeable to the counterparty under the contract.

Prior to applying the amendment, the Company determined that the cost of providing goods or services was an onerous contract, including the incremental cost of performing the contract (e.g., material and labor costs) and other cost allocations directly related to the performance of the contract (e.g., depreciation or cost of managing and supervising the contract). Therefore, the amendment is not expected to have a significant impact on our financial statements.

3. Changes in Accounting Policies, Continued

(1) New and revised standards adopted by the Company, continued

(ii) K-IFRS No.1103 'Business Combinations' amendment (Conceptual framework for financial reporting)

The amendment ensures that significant changes to the previously published 'Conceptual Framework for the Preparation and Presentation of Financial Statements' are not made to reference the 'Conceptual Framework for Financial Reporting' published in March 2018.

An exception was added to the K-IFRS No.1103 '*Business Combinations*' to prevent day 2 gains or losses from occurring on liabilities and contingent liabilities that fall within the scope of the K-IFRS No.1037 '*Provision, Contingent Liabilities and Contingent Assets*' and the K-IFRS No.2121 '*Levies*'. This exception requires the application of the criteria in the K-IFRS No.1037 '*Provision, Contingent Liabilities and Contingent Assets*' or the K-IFRS No.2121 '*Levies*' to determine whether the current obligation exists at the acquisition date.

The amendment also added a new paragraph to the K-IFRS No.1103 '*Business Combinations*' to clarify that contingent assets cannot be recognised at the acquisition date. The amendment is not expected to have a significant impact on the Company's separate financial statements.

(iii) K-IFRS No.1016 'Property, Plant and Equipment' amendment (Proceeds before Intended Use)

The amendment prohibits entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendment is not expected to have a significant impact on the Company's separate financial statements.

(iv) K-IFRS No.1109 'Financial Instruments' amendment

(Fees related to 10% testing for the purpose of eliminating financial liabilities)

The amendment clarifies the fees an entity includes when assessing whether the terms of a new or changed financial liability are substantially different from those of an existing financial liability. These fees include only fees paid or received between creditors and debtors and fees paid or received by creditors and debtors on behalf of each other. There are no similar limited amendments to the K-IFRS No.1039 *'Financial Instruments: Recognition and Measurement'*. The amendment is not expected to have a significant impact on the Company's separate financial statements

(v) K-IFRS No.1041 '*Agriculture, Forestry and Fisheries*' amendment (Consider taxes when measuring fair value)

The amendment eliminated the requirements in paragraph 22 that do not include tax-related cash flows when measuring the fair value of an asset that falls within the scope of the K-IFRS No.1041 '*Agriculture*'. As of the December 31, 2022, the Company does not have any assets within the scope of the Standard, so the amendment is not expected to have a significant impact on the Company's separate financial statements.

4. Significant Accounting Policies

The significant accounting policies applied by the Company in the preparation of the separate financial statements in accordance with K-IFRS are included below. The accounting policies set out below have applied consistently to all periods presented in these separate financial statements except for the changes in accounting policies as explained in *Note 3*.

(1) Subsidiaries and equity-accounted investees in the separate financial statements

These separate financial statements are prepared and presented in accordance with K-IFRS No.1027, 'Separate Financial Statements'. The Company applied the cost method to investments in subsidiaries and associates in accordance with K-IFRS No.1027 'Separate Financial Statements'. Dividends from subsidiaries or associates are recognized in profit or loss when the right to receive the dividend is established.

(2) Cash and cash equivalents

Cash and cash equivalents comprise cash balances, call deposits, short-term investments with maturities of three months or less from the acquisition date that are subject to an insignificant risk of changes in their fair value and are used by the Company in the management of its short-term commitments. Equity investments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preference shares when it has a short maturity with a specified redemption date.

(3) Inventories

The cost of inventories is based on the moving-average method with the exception of cost of materials-intransit, which is determined on the specific identification method. Cost of inventories includes expenditures incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. Fixed manufacturing overhead costs among conversion costs are distributed based on the normal capacity of production facilities.

Inventories are measured at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

(4) Non-derivative financial assets

(i) Recognition and initial measurement

The Company initially recognizes trade receivables and debt securities issued on the date on which they are originated. Other financial assets and financial liabilities are recognized on trade date, which is the date on which the Company becomes a party to the contractual provisions of the instrument.

A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus, for an item not at FVTPL, transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

4. Significant Accounting Policies, Continued

(4) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement

(a) Financial assets

On initial recognition, a financial asset is classified as measured at: amortized cost; FVOCI – debt investment; FVOCI – equity investment; or FVTPL.

Financial assets are not reclassified subsequent to their initial recognition unless the Company changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at FVTPL:

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

A debt investment is measured at FVOCI if it meets both of the following conditions and is not designated as at FVTPL:

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

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to present subsequent changes in the investment's fair value in OCI. Once the Company designates an equity investment as at FVOCI, the Company will not reclassify this item. This election is made on an investment-by-investment basis.

All financial assets not classified as measured at amortized cost or FVOCI as described above are measured at FVTPL. These financial assets include all derivative financial assets (See Note 25). In addition, on initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise. Once the Company designates a financial asset as at FVTPL, the Company will not reclassify this item to amortized cost or FVOCI subsequently.

4. Significant Accounting Policies, Continued

(4) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement, continued

(b) Financial assets - Business model assessment

The Company makes an assessment of the objective of a business model in which an asset is held at a portfolio level because this best reflects the way the business is managed and information is provided to management. The information considered includes:

- the stated policies and objectives for the portfolio and the operation of those policies in practice. In particular, whether management's strategy focuses on earning contractual interest revenue, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of the liabilities that are funding those assets or realizing cash flows through the sale of the assets;
- how the performance of the portfolio is evaluated and reported to the Company's management;
- the risks that affect the performance of the business model (and the financial assets held within that business model) and its strategy for how those risks are managed;
- how managers of the business are compensated (e.g., whether compensation is based on the fair value of the assets managed or the contractual cash flows collected); and
- the frequency, volume and timing of sales in prior periods, the reasons for such sales and its expectations about future sales activity.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose, consistent with the Company's continuing recognition of the assets.

Financial assets that are held for trading or managed and whose performance is evaluated on a fair value basis are measured at FVTPL.

(c) Financial assets - Assessment of whether contractual cash flows are solely payments of principal and interest

For the purposes of this assessment, 'principal' is defined as the fair value of the financial asset on initial recognition. 'Interest' is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (e.g., liquidity risk and administrative costs), as well as profit margin.

In assessing whether the contractual cash flows are SPPI, the Company considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition.

In making the assessment, the Company considers:

- contingent events that would change the amount and timing of cash flows;
- terms that may adjust the contractual coupon rate, including variable-rate features;
- prepayment and extension features; and
- terms that limit the Company's claim to cash flows from specified assets (e.g., non-recourse features)

A prepayment feature is consistent with the solely payments of principal and interest criterion if the prepayment amount substantially represents unpaid amounts of principal and interest on the principal amount outstanding, which may include reasonable additional compensation for early termination of the contract.

4. Significant Accounting Policies, Continued

(4) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement, continued

(c) Financial assets - Assessment of whether contractual cash flows are solely payments of principal and interest, continued

Additionally, for a financial asset acquired at a discount or premium to its contractual par amount, a feature that permits or requires prepayment at an amount that substantially represents the contractual par amount plus accrued (but unpaid) contractual interest (which may also include reasonable additional compensation for early termination) is treated as consistent with this criterion if the fair value of the prepayment feature is insignificant at initial recognition.

Financial assets at FVTPL	These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.
Financial assets 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.
Debt investments at FVOCI	These assets are subsequently measured at fair value. Interest income 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 OCI. On derecognition, gains and losses accumulated in OCI are reclassified to profit or loss.
Equity investments at FVOCI	These assets are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in OCI and are never reclassified to profit or loss.

(d) Financial assets - Subsequent measurement and gains and losses

(iii) Derecognition

The Company derecognizes a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Company neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Company enters into transactions whereby it transfers assets recognized on its statement of financial position, but retains either all or substantially all of the risks and rewards of the transferred assets. In such cases, the transferred assets are not derecognized.

Interest rate benchmark reform

When the basis for determining the contractual cash flows of a financial asset or financial liability measured at amortized cost changed as a result of interest rate benchmark reform, the Company updates the effective interest rate of the financial asset or financial liability to reflect the change that is required by the reform. A change in the basis for determining the contractual cash flows is required by interest rate benchmark reform if the following conditions are met:

4. Significant Accounting Policies, Continued

(4) Non-derivative financial assets, continued

(iii) Derecognition, continued

- the change is necessary as a direct consequence of the reform; and
- The new basis for determining the contractual cash flows is economically equivalent to the previous basis (i.e., the basis immediately before the change).

When changes were made to a financial asset or financial liability in addition to changes to the basis for determining the contractual cash flows required by interest rate benchmark reform, the Company first updates the effective interest rate of the financial asset of financial liability to reflect the change that is required by interest rate benchmark reform. After that, the Company applies the policies on accounting for modifications to the additional changes.

(iv) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Company currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realize the asset and settle the liability simultaneously.

(5) Derivative financial instruments

Derivatives are initially measured at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are recognized as described below:

(i) Hedge accounting

The Company holds forward exchange contracts to manage foreign exchange risk. The Company designated derivatives as hedging instruments to hedge the risk of changes in fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge).

On initial designation of the hedge, the Company formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction, together with the methods that will be used to assess the effectiveness of the hedging relationship.

(a) Fair value hedge

When a derivative is designated as a fair value hedging instrument, changes in fair value of the derivative is recognized in profit or loss. Changes in fair value of the hedged item attributable to hedged risk are also recognized in profit or loss. Changes in fair value of the hedging instrument and hedged item attributable to hedged risk are recognized in profit or loss in the same line of item of separate financial statements of comprehensive income. However, for hedges of equity investments at FVOCI, changes in fair value of the hedged item and the hedging instrument are recognized in other comprehensive income. The Company prospectively discontinues fair value hedge accounting if the hedging instrument expires or is sold, terminated or exercised, or if the fair value hedge no longer meets the criteria for hedge accounting.

(b) Cash flow hedge

When a derivative is designated as a cash flow hedging instrument, the effective portion of changes in fair value of the derivative is recognized in other comprehensive income and ineffective portion of changes in fair value of the derivative is recognized immediately in profit or loss.

4. Significant Accounting Policies, Continued

(5) Derivative financial instruments, continued

(i) Hedge accounting, continued

(b) Cash flow hedge, continued

If the cash flow hedge no longer meets the criteria for hedge accounting or the hedging instrument is sold, expires, is terminated, or is exercised, then hedge accounting is discontinued prospectively. When hedge accounting for cash flow hedges is discontinued, the amount that has been accumulated in the hedging reserve remains in equity, it is reclassified to profit or loss in the same period or periods as the hedged expected future cash flows affect profit or loss.

If the hedged future cash flows are no longer expected to occur, then the amounts that have been accumulated in the hedging reserve and the cost of hedging reserve are immediately reclassified to profit or loss.

(c) Hedges directly affected by interest rate benchmark reform

When the basis for determining the contractual cash flows of the hedged item or hedging instrument changes as a result of IBOR reform and therefore there is no longer uncertainty arising about the cash flows of the hedged item or the hedging instrument, the Company amends the hedge documentation of that hedging relationship to reflect the change required by IBOR reform. For this purpose, the hedge designation is amended only to make one or more of the following changes:

- designating an alternative benchmark rate as the hedged risk;
- updating the description of the hedged item, including the description of the designated portion of the cash flows or fair value being hedged; or
- updating the description of the hedging instrument.

The Company amends the description of the hedging instrument only if the following conditions are met:

- it makes a change required by IBOR reform by using an approach other than changing the basis for determining the contractual cash flows of the hedging instrument;
- the original hedging instrument is not derecognized; and
- the chosen approach is economically equivalent to changing the basis for determining the contractual cash flows of the original hedging instrument.

The Company amends the formal hedge documentation by the end of the reporting period during which a change required by IBOR reform is made to the hedged risk, hedged item or hedging instrument. These amendments in the formal hedge documentation do not constitute the discontinuation of the hedging relationship or the designation of a new hedging relationship.

If changes are made in addition to those changes required by IBOR reform described above, then the Company first considers whether those additional changes result in the discontinuation of the hedge accounting relationship. If the additional changes do not result in the discontinuation of the hedge accounting relationship, then the Company amends the formal hedge documentation for changes required by IBOR reform as mentioned above.

When modifying the description of the hedged item in the hedge accounting document to reflect the changes required in IBOR reform, the Company deems that the hedging reserve recognized in OCI for that hedging relationship is based on the alternative benchmark rate by which the hedged future cash flows will be determined.

4. Significant Accounting Policies, Continued

(5) Derivative financial instruments, continued

(i) Hedge accounting, continued

(c) Hedges directly affected by interest rate benchmark reform, continued

When the interest rate benchmark on which the hedged future cash flows had been based is changed as required by IBOR reform, for the purpose of determining whether the hedged future cash flows are expected to occur, the Company deems that the hedging reserve recognized in OCI for that hedging relationship is based on the alternative benchmark rate on which the hedged future cash flows will be based.

(ii) Separable embedded derivatives

Embedded derivatives are separated from the host contract and accounted for separately only if the following criteria have been met:

- (a) The economic characteristics and risks of the embedded derivative are not closely related to those of the host contract;
- (b) A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and
- (c) The hybrid instrument is not financial assets measured at FVTPL.

Changes in fair value of separable embedded derivatives are recognized immediately in profit or loss.

(iii) Other derivative financial instruments

Changes in fair value of other derivative financial instrument not designated as a hedging instrument are recognized immediately in profit or loss.

4. Significant Accounting Policies, Continued

(6) Impairment of financial assets

- (i) Financial assets and contract assets
 - The Company recognizes loss allowances for ECLs on:
 - financial assets measured at amortized cost;
 - debt investments measured at FVOCI; and
 - contract assets defined in K-IFRS No.1115.

The Company measures loss allowances at an amount equal to lifetime ECLs, except for the following, which are measured at 12-month ECLs:

- debt securities that are determined to have low credit risk at the reporting date; and
- other debt securities and bank balances for which credit risk (i.e., the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition.

Loss allowances for trade receivables and contract assets are always measured at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment that includes forward-looking information.

The Company considers a financial asset to be in default when:

- the debtor is unlikely to pay its credit obligations to the Company in full, without recourse by the Company to actions such as realizing security (if any is held); or
- a significant increase in overdue days of financial assets.

Lifetime ECLs are the ECLs that result from all possible default events over the expected life of a financial instrument.

12-month ECLs are the portion of ECLs that result from default events that are possible within the 12 months after the reporting date (or a shorter period if the expected life of the instrument is less than 12 months).

The maximum period considered when estimating ECLs is the maximum contractual period over which the Company is exposed to credit risk.

(ii) Measurement of ECLs

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e., the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Company expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

4. Significant Accounting Policies, Continued

(6) Impairment of financial assets, continued

(iii) Credit-impaired financial assets

At each reporting date, the Company assesses whether financial assets carried at amortized cost and debt securities at FVOCI are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Evidence that a financial asset is credit-impaired includes the following observable data:

- significant financial difficulty of the debtor or issuer;
- a breach of contract such as a default;
- the restructuring of a loan or advance by the Company on terms that the Company would not consider otherwise;
- it is probable that the debtor will enter bankruptcy or other financial reorganization; or
- the disappearance of an active market for a security because of financial difficulties.

(iv) Presentation of allowance for ECL in the statement of financial position

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. For debt securities at FVOCI, the loss allowance is charged to profit or loss and is recognized in OCI.

In view of the importance of impairment losses related to trade receivables and other receivables, including contract assets, they are presented in 'selling, general and administrative expenses' or 'other non-operating expenses'. In view of the importance of other financial assets, impairment losses are not presented separately in the statement of comprehensive income but are presented in 'finance costs'.

(v) Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Company expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

4. Significant Accounting Policies, Continued

(7) Property, plant and equipment

Property, plant and equipment are initially measured at cost at the initial recognition. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling, removing the item and restoring the site on which it is located.

Subsequent to initial recognition, an item of property, plant and equipment excluding land is carried at its cost less any accumulated depreciation and any accumulated impairment losses. Subsequent to initial recognition, land that fair value can be measured reliably is carried at its fair value at the date of revaluation less any accumulated impairment losses. Revaluations are made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period.

Property, plant and equipment, except for land, are depreciated on a straight-line basis over estimated useful lives that appropriately reflect the pattern in which the asset's future economic benefits are expected to be consumed. A component that is significant compared to the total cost of property, plant and equipment is depreciated over its separate useful life.

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment and are recognized in profit or loss.

The estimated useful lives of the Company's property, plant and equipment are as follows:

	Useful lives (years)			
Buildings	25~50			
Structures	20~45			
Machinery and equipment	5~20			
Ships	15, 25			
Vehicles	5~14			
Tools, furniture and fixtures	3~20			

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates.

(8) Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use. The residual value of intangible assets is zero. However, as there are no foreseeable limits to the periods over which some intangible assets are expected to be available for use, this intangible asset is determined as having indefinite useful lives and not amortized.

	Useful lives (years)
Development costs	5
Other intangible assets	20
Memberships, Trademarks	Indefinite

4. Significant Accounting Policies, Continued

(8) Intangible assets, continued

Useful lives and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

(i) Research and development

Expenditures on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in profit or loss as incurred. Development expenditures are capitalized only if expenditures can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Company intends and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

(ii) Subsequent expenditures

Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which it relates. All other expenditures, including expenditures on internally generated goodwill and brands, are recognized in profit or loss as incurred.

(9) Government grants

Government grants are only recognized if there is reasonable assurance that they will be received and the Company will comply with the conditions associated with the grant.

Government grants whose primary condition is that the Company purchase, construct or otherwise acquire long-term assets are deferred and recognized as deduction to depreciation expense over the useful life of the asset.

Government grants which are intended to compensate the Company for expenses incurred are recognized as other income (government grants) in profit or loss over the periods in which the Company recognizes the related costs as expenses.

(10) Investment property

Property held for the purpose of earning rentals, benefiting from capital appreciation or both is classified as investment property. Investment property is measured initially at its cost. Transaction costs are included in the initial measurement. Subsequent to initial recognition, investment property is carried at its cost less any accumulated depreciation and any accumulated impairment losses.

Subsequent costs are recognized in the carrying amount of investment property at cost or, if appropriate, as separate items if it is probable that future economic benefits associated with the item will flow to the Company and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing are recognized in profit or loss as incurred.

Investment property is depreciated on a straight-line basis over the following estimated useful lives:

Buildings

Useful lives (years) 50

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

4. Significant Accounting Policies, Continued

(11) Impairment of non-financial assets

The carrying amounts of the Company's non-financial assets, other than assets arising from contract assets that are recognized according to the revenue from the contract with the customer, assets arising from the cost of entering into or fulfilling a contract, employee benefits, inventories, deferred tax assets and noncurrent assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill arising from a business combination, intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets ("CGUs"). The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimate future cash flows, discounted to their present value using a pretax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU.

An impairment loss is recognized in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount.

Goodwill arising from a business combination is allocated to CGUs or groups of CGUs that are expected benefit from the synergies of the combination. Impairment losses identified at CGU are allocated first to reduce the carrying amount of any goodwill allocated to the CGU, and then to reduce the carrying amounts of the other assets in the CGU on a pro rata basis. An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed if there is any indication that the impairment loss previously recognized is no longer exists or has been reduced and there is a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

4. Significant Accounting Policies, Continued

(12) Leases

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

At commencement or on modification of a contract, the Company assesses whether a contract is or contains a lease.

At commencement or on modification of a contract that contains a lease component, the Company allocates the consideration in the contract to each lease and non-lease component on the basis of their relative standalone prices. However, for the leases of property, the Company has elected practical expedient not to separate non-lease components and account for the lease and non-lease components as a single lease component.

(i) As a lessee

The Company, as a lessee, has recognized right-of-use assets representing its rights to use the underlying assets and lease liabilities representing its obligation to make lease payments.

At the lease commencement date, the Company recognizes a right-of-use asset and a lease liability. The right-of-use asset is initially measured at cost. Subsequent to initial recognition, the right-of-use asset is carried at cost less any accumulated depreciation and any accumulated impairment losses, if any, and adjusted for certain remeasurements of the lease liability. The right-of-use assets that meet the definition of investment property is presented in the separate statements of financial position as investment property. The right-of-use assets that meet the definition of investment property is initially measured at cost and subsequent to initial recognition, the right-of-use asset is carried at cost less any accumulated depreciation and any accumulated impairment losses.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term (1 \sim 34years).

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's incremental borrowing rate. Generally, the Company uses its incremental borrowing rate as the discount rate.

Subsequent to initial recognition, the lease liability increases by interests recognized for the lease liability and decreases by lease payments made. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option.

The Company uses judgment when determining lease term for some lease contracts that include extension option. The assessment whether the Company is reasonably certain to exercise the extension option affects the lease term therefore has a significant impact on the amounts of the lease liability and right-of-use asset.

The Company has elected practical expedient not to recognize right-of-use assets and lease liabilities for leases of low-value assets and short-term leases. The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

4. Significant Accounting Policies, Continued

(12) Leases, continued

(ii) As a lessor

When the Company acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease. To classify each lease, the Company makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease.

When the Company is an intermediate lessor. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset.

If an arrangement contains lease and non-lease components, then the Company applies K-IFRS No.1115 '*Revenue from Contracts with Customers*' to allocate the consideration in the contract.

(13) Contract assets and contract liability

If the Company performs the transfer of goods or services to the customer before the customer pays the consideration or before the payment date, the Company presents the contract as a contract asset, except as a receivable. Contract assets are the Company's rights to consideration for transfer of goods or services to the customer.

If the customer pays the consideration before the Company transfers goods or services to the customer, or the Company has an unconditional right to receive consideration (i.e., the receivable), the Company presents the contract as a contract liability either when it is paid or to be paid (early both).

Contract liabilities are the Company's obligation to transfer of goods or services to the customer in accordance with the consideration received from the customer or the consideration of the Company's rights to receive the payment. The Company offsets the contract assets and contract liabilities arising from one contract and presents them in the separate statements of financial position on a net basis.

On the other hand, expected losses in contracts (i.e., onerous contracts) that exceed the economic benefits expected to be received by the contract are recognized as current provisions.

(14) Non-current assets held for sale

Non-current assets, or disposal groups comprising assets and liabilities are classified as held for sale if it is highly probable that they will be recovered primarily through sale rather than through continuing use. In order to be classified as held for sale, the asset (or disposal group) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal groups that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell. An impairment loss for any subsequent decrease in fair value less costs to sell of an asset recognized impairment loss on initial classification and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized, are recognized in profit or loss.

Once classified as held for sale, non-current assets are no longer amortized or depreciated.

4. Significant Accounting Policies, Continued

(15) Borrowing costs

The Company capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognized in expense as incurred. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

To the extent that the Company borrows funds specifically for the purpose of obtaining a qualifying asset, the Company determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred from those borrowings less any investment income arising from the temporary investment of those borrowings, during the reporting period. To the extent that the Company borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Company determines the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures related on that asset. The capitalization rate is calculated by the weighted average of the borrowing costs incurred from borrowed funds (excluding borrowed funds specifically for the purpose of obtaining a qualifying asset). The amount of borrowing costs that the Company capitalizes during the period shall not exceed the amount of borrowing costs incurred during that period.

(16) Non-derivative financial liabilities

The Company classifies non-derivative financial liabilities into financial liabilities at fair value through profit or loss or other financial liabilities in accordance with the substance of the contractual arrangement and the definitions of financial liabilities. The Company recognizes financial liabilities in the separate statements of financial position when the Company becomes a party to the contractual provisions of the financial liability.

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

Financial liabilities at fair value through profit or loss include financial liabilities held for trading or designated as such upon initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs that are directly attributable to the acquisition are recognized in profit or loss as incurred.

(ii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value less transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method.

(iii) Derecognition of financial liabilities

The Company derecognizes a financial liability when its contractual obligations are discharged, cancelled or expired. The Company derecognizes a financial liability when its terms are modified and the cash flows of the modified liability are substantially different. In this case, a new financial liability based on the modified terms is recognized at fair value.

On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

4. Significant Accounting Policies, Continued

(17) Employee benefits

(i) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Company during an accounting period, the Company recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as profit or loss.

(ii) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service. The Company's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognized in profit or loss in the year in which they arise.

(iii) Retirement benefits: defined contribution plans

The contribution to the defined contribution plan in exchange for that service is recognized in profit or loss as the related service is provided, except it is included in part of the cost of an asset.

Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

(iv) Retirement benefits: defined benefit plans

The Company's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets.

The calculation of defined benefit obligations is performed annually by a qualified independent actuary using the projected unit credit method. When the calculation results in a potential asset for the Company, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income. The Company determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognized immediately in profit or loss. The Company recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

4. Significant Accounting Policies, Continued

(17) Employee benefits, continued

(v) Termination benefits

Termination benefits are expensed at the earlier of when the Company can no longer withdraw the offer of those benefits and when the Company recognizes costs for a restructuring. If benefits are not expected to be settled wholly within 12 months of the end of the reporting period, then they are discounted.

(18) Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

Where some or all of the expenditures required to settle a provision are expected to be reimbursed by another party, the reimbursement shall be recognized when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

(i) Provision for construction warranty

A provision for construction warranties is recognized when the rectification of defects on construction is expected, based on historical warranty data.

(ii) Provision for product warranty

A provision for product warranties is recognized in order to cover ordinary repair related to product defects within the specified period after sales.

(iii) Provision for construction losses

A provision for onerous contracts is measured at the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract, if unavoidable costs arising from the contractual obligations exceed the benefits expected to arise from the contract. Before a provision is established, the Company recognizes any impairment loss on the assets associated with that contract.

(iv)Other provision

In accordance with the announced environmental policy and appropriate legal requirements, the Company recognizes the cost of recovering from pollution and the constructive obligation due to performance guarantee as other provisions.

A provision shall be used only for expenditures for which the provision was originally recognized.

4. Significant Accounting Policies, Continued

(19) Emissions rights

The Company accounts for greenhouse gases emission right and the relevant liability as below pursuant to the *Act on Allocation and Trading of Greenhouse Gas Emission*.

(i) Greenhouse gases emission right

Greenhouse gases emission right consists of emission allowances which are allocated from the government free of charge or purchased from the market. Emission rights are recognized as purchase costs by adding other costs that are directly attributable to the acquisition and incurred during the normal course of business.

Emission rights held for the purpose of performing the obligation are classified as an intangible asset and are initially measured at cost and after initial recognition, are carried at cost less accumulated impairment losses. Emission rights held for short-swing profits are classified as current asset and are measured at fair value in each reporting period. Changes in fair value of emission rights held for short-swing profits are recognized in profit or loss.

The Company derecognizes emission rights when the emission allowance is unusable, disposed or submitted to government in which the future economic benefits are no longer expected to be probable.

(ii) Emission liability

Emission liability is a present obligation of submitting emission rights to the government with regard to emission of greenhouse gas. Emission liability is recognized when it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Emission liability is estimated obligations for emission rights to be submitted to the government for the performing period. Emission liability is measured based on the expected quantity of emission for the performing period in excess of emission allowance in possession and the unit price for such emission rights in the market at of the end of the reporting period. Emission liability is derecognized when it is submitted to the government.

The Company participated in the *Act on Allocation and Trading of Greenhouse Gas Emission* from 2015. One planning period spans from 2021 to 2025. The quantities of emission rights which are allocated free of charge during the planning period are as follows:

(In ton)	2021	2022	2023	2024	2025	Total
Allocated emission right free of charge	514,508	526,763	526,763	521,830	521,830	2,611,694

4. Significant Accounting Policies, Continued

(19) Emissions rights, continued

As of December 31, 2022, there are no emission rights provided as collateral and the Company did not recognize emission rights and emission liabilities since the estimated quantity of greenhouse gases emission of 549,552 ton did not exceed allocated emission right.

(In ton, In millions of won)	2022 (*1)		2021		
	Quantity	Book value	Quantity	Book value	
Beginning balance	122,778	-	199,658	-	
Free allocation	526,763	-	514,508	-	
Purchase (disposal)	-	-	(61,389)	-	
Governmental proposition	-	-	(529,999)	-	
Estimated volume of emission	(549,552)	-	-	-	
Borrowing (carry forward)	-	-	(122,778)	-	
Others (*2)					
Ending balance	99,989				

(*1) Governmental proposition, purchase (disposal), borrowing (carry forward) and quantity of 2022 will be decided in the next year.

(*2) Cancellation of emission right by the *Act on Allocation and Trading of Greenhouse Gas Emission*'s article 17 and article 22 of enforcement ordinance.

(20) Foreign currency

Transactions in foreign currencies are translated to the respective functional currencies of the Company at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rate at the reporting date. Non-monetary assets and liabilities that are measured at fair value in a foreign currency are translated into the functional currency at the exchange rate at the exchange rate at the exchange rate into the functional currency at the exchange rate when the fair value was determined. Non-monetary items that are measured based on historical cost in a foreign currency are translated at the exchange rate at the date of the transaction.

Foreign currency differences arising from translation of monetary items are recognized in profit or loss, except the differences arising from payment of monetary items, net investment in a foreign operation or a financial liability designated as cash flow hedges, which are recognized in other comprehensive income. When gains or losses on non-monetary items are recognized in other comprehensive income, effects of exchange rate changes included in that gains or losses are recognized in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is recognized in profit or loss.

(21) Equity capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of ordinary shares are recognized as a deduction from equity, net of any tax effects.

When shares recognized as equity are repurchased, the amount of the consideration paid is recognized as a deduction from equity and classified as treasury shares. Gains or losses from purchase, sold, reissue, or retirement of treasury shares are not recognized in profit or loss. When treasury shares are acquired and retained, the amount paid or received is directly recognized in equity.

4. Significant Accounting Policies, Continued

(22) Revenue from contracts with customers

Under K-IFRS No.1115, revenue is recognized when the Company transfers control over a good or service to a customer. Control is transferred at a point in time or over time and it requires judgments.

- Determining the transaction price

The Company considers if significant benefit of financing is provided to the customer or the Company in relation to the advance payment from customers and reflects the effects of the time value of money to the transaction price. As a practical expedient, the Company need not adjust the promised amount of consideration for the effects of a significant financing component if the entity expects, at contract inception, that the period between when the Company transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

- Identifying of performance obligations

The Company shall assess the goods or services promised in a contract with a customer and shall identify as a performance obligation each promise to transfer a good or service that is distinct to the customer. If partial change in an order is not distinct, within the context of the contract, the performance obligation is not separated.

(i) Nature and timing of satisfaction of performance obligations

The Company engages in the shipbuilding segment for building merchant ships and special vessels, industrial plant and engineering segment for building and installing offshore oil and gas fields, and the engine machinery segment for manufacturing ships' engines.

The shipbuilding segment builds and sells ships of the order from the owner and takes at least one year from the date of the contract to the completion of the construction. Due to the nature of the order-made production industry being customized according to the terms presented to the customer, the Company itself has no alternative use, and if the contract is terminated for the customer or other party reasons, it can claim incurred costs and reasonably estimated profit for performance completed to date or claim insufficient amount after the Company resale the asset in accordance with the contractual process. Consequently, if the Company's performance does not create an asset with an alternative use to the Company and the Company has enforceable right to payment for performance completed to date. The Company recognizes revenue over time in accordance with K-IFRS No.1115.

If the performance obligation is satisfied over time, the timing of satisfaction of performance obligations depends on measuring the progress, to depict the Company's performance in transferring control of goods or services promised to a customer, towards complete satisfaction of that performance obligation.

If the Company would not be able to reasonably measure its performance, it measures its performance only to the extent of the costs incurred. As the shipbuilding segment provides design, raw material purchase, production, and trial run, it is difficult to obtain the information required to apply output methods may not be available to the Company without undue cost. Therefore, the Company determines the timing of satisfaction of performance obligations when the timing of costs incurred because input methods, that recognize revenue on the basis of the Company's inputs to the satisfaction of a performance obligation relative to the total expected inputs to the satisfaction of that performance obligation, can faithfully depict the Company's performance.

The offshore, industrial plant and engineering segment is similar process industry to the shipbuilding segment, but the required facility specifications are complicated and extensive depending on the installation area and the production conditions of crude oil or gas, so the construction period is long and the construction amount is large.

4. Significant Accounting Policies, Continued

(22) Revenue from contracts with customers, continued

(i) Nature and timing of satisfaction of performance obligations, continued

The construction contracts of the Company take at least one year from the contract signing date to the construction completion date and as it has the following nature of the industry, which it produces the customization goods on orders from the customers, the Company recognizes revenue over time for performance obligations satisfied over time.

i) the Company's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or

ii) the Company's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date.

If the performance obligation is satisfied over time, the timing of satisfaction of performance obligations depends on measuring the progress, to depict the Company's performance in transferring control of goods or services promised to a customer, towards complete satisfaction of that performance obligation. If the Company would not be able to reasonably measure its performance, it measures its performance only to the extent of the costs incurred. As the offshore, industrial plant and engineering segment provides design, raw material purchase, production, and trial run, it is difficult to obtain the information required to apply output methods may not be available to the Company without undue cost. Therefore, the Company determines the timing of satisfaction of performance obligations when the timing of costs incurred because input methods, that recognize revenue on the basis of the Company's inputs to the satisfaction of a performance obligation relative to the total expected inputs to the satisfaction of that performance obligation, can faithfully depict the Company's performance.

The engine machinery segment supplies the ship's propulsion/power generation engines as its main products. For general contracts, revenues are recognized as being satisfied the performance obligation at a point in time, not as satisfied the performance obligation over time.

The timing of satisfaction of performance obligations is when the assets held by the Company are transferred to and controlled by the customer, and the Company determines the point in time by indictors of the transfer of control, that include right to payment, legal title, physical possession, transfer of the significant risks and rewards, and the customer's acceptance of an asset. Generally, exports are transferred under the same conditions as CIF and FOB, and domestic sales are determined to satisfy performance obligations when the Company transfers physical possession of the asset to the customer.

(ii) Significant payment terms

The shipbuilding segment collects by each stage of ship-building, and the timing of collection for general merchant ships is divided into Contract, Steel Cutting, Keel laying, Launching, Delivery, and in particular, the Heavy Tail payment plan, which collects most of the contract price at delivery of ships is a major collection term.

In accordance with the "Rules on the advances and progress payments for the defense industry", advances and progress payments for the special vessels will be made only for funds planned to be spent within 180 days from the date of claim.

The offshore, industrial plant and engineering segment charges and collects by the progress of the construction, including the advance payment, amount of work completed, the achievement amount of milestone, and the reserve for performance. The engine machinery segment collects separately by the advance, middle, and balance payments in accordance with the payment terms as specified in the contract.

4. Significant Accounting Policies, Continued

(22) Revenue from contracts with customers, continued

(ii) Significant payment terms, continued

Depending on the terms of payment, there may exist a significant financing component, that adjusts the promised consideration to reflect the effect of the time value of money, when the difference between when we receive the goods or services from the customer and when we expect to transfer the promised goods or services to the customer occurs.

(iii) Nature of warranty and the length of the warranty coverage period

The shipbuilding segment typically provides a warranty of 12 months or 24 months depending on type of ship. The engine machinery segment typically provides a warranty period of 24 months after delivery or 12 months after ship delivery. The offshore, industrial plant and engineering segment provides a separate warranty period based on the nature of each construction and the terms of the contract. Usually, after the warranty period granted, it will be converted to paid-in-AS. The provided warranty provides the customer with a service in addition to the assurance that the product complies with agreed-upon specifications.

(iv) How to determine the transaction price, estimating the variable consideration, input variables, information

In the shipbuilding and the offshore, industrial plant and engineering segment, a single performance obligation exists, so it is not necessary to estimate the stand-alone selling price to allocate the transaction price, but in the engine machinery segment, separate services such as installation and supervision exist within the contract.

When the Company allocates the transaction price on a stand-alone selling price basis and the stand-alone selling price does not exist in the market, the total contract amount is allocated to the distinct performance obligations by the expected cost plus a margin approach – the Company forecasts its expected costs of satisfying a performance obligation and then add on appropriate margin for that good or service.

The consideration receivable from customers may be variable by change order due to design changes and additional work caused by requests from owners of the shipbuilding and the offshore, industrial plant and engineering segment, and delayed compensation due to delay in delivery and fail to achieve specifications. In the case of change order, variable consideration is included in the transaction price only to the extent it is highly probable that a significant revenue reversal will not occur. In the case of delayed compensation, the Company recognizes revenue by deducting the estimated amount incurred by the contract terms from the contract price.

(23) Finance income and finance costs

The Company's finance income and finance costs include:

- interest income;
- interest expense;
- dividend income;
- the net gain or loss on financial assets at FVTPL;
- the foreign currency gain or loss on financial assets and liabilities;
- impairment losses (and reversals) on investments in debt securities carried at amortized cost;
- the fair value loss on contingent consideration classified as a financial liability;
- hedge ineffectiveness recognized in profit or loss; and
- the reclassification of net gains or losses previously recognized in other comprehensive income on cash flow hedges of interest rate risk and foreign currency risk for borrowings (See Note 25).

4. Significant Accounting Policies, Continued

(23) Finance income and finance costs, continued

Interest income or expense is recognized using the effective interest method. Dividend income is recognized in profit or loss on the date on which the Company's right to receive payment is established.

The 'effective interest rate' is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to:

- the gross carrying amount of the financial asset; or
- the amortized cost of the financial liability.

In calculating interest income and expense, the effective interest rate applies to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortized cost of the liability. However, for the financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

(24) Income tax

Income tax expense comprises current and deferred tax. It is recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

The Company has determined that interest and penalties related to income taxes meet the definition of income taxes and accounted for them under K-IFRS No.1012 '*Income Taxes*'. If they do not meet the definition of income taxes, the Company has accounted for them under K-IFRS No. 1037 '*Provision, Contingent Liabilities and Contingent Assets*'.

(i) Current tax

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the period and any adjustment to the tax payable or receivable in respect of previous year. The taxable profit is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit (tax loss) of future periods, and non-taxable or non-deductible items from the accounting profit. It is measured using tax rates enacted or substantively enacted at the reporting date.

Current tax assets and liabilities are offset only if certain criteria are met;

- there is a legally enforceable right to offset the recognized amount; and
- there is intends to settle on a net basis or the liability while simultaneously realizing the asset.
- (ii) Deferred tax

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Company expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities. The Company recognizes a deferred tax asset for all deductible temporary differences to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets are recognized for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be used. Future taxable profits are determined based on the reversal of relevant taxable temporary differences. If the amount of taxable temporary differences is insufficient to recognize a deferred tax asset in full, then future taxable profits, adjusted for reversals of existing temporary differences and the business plans of the Company are considered.

4. Significant Accounting Policies, Continued

(24) Income tax, continued

(ii) Deferred tax, continued

Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that future taxable profits will be available against which they can be used.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date. The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Company expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.

(25) Earnings (loss) per share

The Company presents basic earnings (loss) per share (EPS) data in separate financial statements of comprehensive income (loss) for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders by weighted-average number of ordinary shares outstanding during the period.

(26) Operating segments

The Company divides operating segments basis on internal reports that the Company's chief executive officer (CEO) regularly reviews to make decisions about resources to be allocated to the segment and assess its performance. As described in Note 31 the Company has four reportable segments which are its strategic operating units. These strategic operating units offer different products and services and are managed separately because they require different technology and marketing strategies.

(27) Business combination

The Company accounts for business combinations using the acquisition method when control is transferred to the Company, unless it is a combination involving entities or business under common control.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed as incurred, except if related to the issue of debt or equity securities, which are recognized in accordance with K-IFRS No.1032 and K-IFRS No.1109.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration is measured at fair value at the date of acquisition. If an obligation to pay contingent consideration that meets the definition of a financial instrument is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, other contingent consideration is remeasured at fair value at each reporting date and subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

4. Significant Accounting Policies, Continued

(27) Business combination, continued

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. This determination is based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

(28) Standards issued but not yet effective

A number of new standards are effective for annual reporting periods beginning after January 1, 2022 and earlier application is permitted. However, the Company has not early adopted the new or amended standards in preparing these separate financial statements.

(i) K-IFRS No.1117 'Insurance Contracts'

During 2021, an entirely new accounting standard for insurance contracts, including recognition and measurement of insurance contracts, was published, which covers the recognition and measurement of insurance contracts. Once implemented, the K-IFRS No.1117 *'Insurance Contract*' replaces the K-IFRS No.1104 *'Insurance Contract*' issued in 2007. This Standard applies to all types of insurance contracts (e.g., life insurance, non-life insurance, raw insurance contracts, and reinsurance contracts), regardless of the type of entity that issued the insurance contracts, and also to investment contracts with specific guarantees and discretionary participation characteristics. There will be very few contracts that are excluded from the scope. The overall purpose of this standard is to provide insurers with an accounting model for more useful and consistent insurance contracts. Unlike the requirements of the K-IFRS No.1104, which are largely based on existing accounting policies in each country, this standard suggests a comprehensive model for insurance contracts. The key of this standard is the general model, which adds:

· Special application to contracts with direct participation characteristics (variable fee approach)

· Simple act on contracts with a short coverage period (insurance premium allocation approach)

This standard is effective for annual period beginning on or after January 1, 2023, and should be published in comparative financial statements. An entity that applied K-IFRS No.1109 '*financial instruments*' and K-IFRS No.1115 '*revenue from contracts with customers*' before the initial date of application of this standard may apply this standard early.

(ii) Classification of Liabilities as Current or Non-current (Amendment to K-IFRS No.1001 'Presentation of Financial Statements')

This amendment clarifies the following requirements for the classification of liabilities into current or noncurrent:

- · meaning of the rights to extend settlement of liabilities;
- · the right to extend must exist as of the end of the reporting period;
- the likelihood of an entity exercising its right to extend does not affect the classification of liquidity; and
- the terms of the liability do not affect the classification of liquidity only if the embedded derivative of the convertible liability itself is an equity instrument.

This amendment is effective for annual period beginning on or after 1 January 2024 and must apply retrospectively.

4. Significant Accounting Policies, Continued

(28) Standards issued but not yet effective, continued

(iii) Definition of Accounting Estimates (Amendment to K-IFRS No.1008 'Accounting Policies, Changes in Accounting Estimates and Errors')

This amendment clearly distinguishes between changes in accounting estimates, changes in accounting policies and corrections of accounting errors. The revised Standard also clarifies how entities use measurement techniques and inputs to develop accounting estimates. This amendment is effective for annual periods beginning on or after January 1, 2023, and applies to changes in accounting policy and accounting estimates occurring after that time. This Standard is acceptable for early application and is not expected to have a significant impact on the Company's separate financial statements.

(iv) Accounting policy Disclosure (Amendment to K-IFRS No.1001 'Presentation of Financial Statements')

This amendment provides requirements and guidance to make accounting policy disclosures more effective. K-IFRS No.1001 requires disclosure of the company's significant accounting policies. The amendment changed the 'significant' accounting policy to 'critical' accounting policy and added a description of important accounting policy information. It enables the Company to provide more useful accounting policy information when making decisions about accounting policy disclosures. This amendment is effective for annual periods beginning on or after January 1, 2023 and will be allowed to apply early.

(v) Deferred tax when assets and liabilities are generated in a single transaction at the same time (Amendment to K-IFRS No.1012 '*Income Taxes*')

This amendment reduces the scope of the initial recognition exception in accordance with K-IFRS No.1012 to avoid applying it to transactions that result in a temporary difference to be added and a temporary difference to be deducted at the same amount. This amendment applies to transactions made after the start date of the earliest comparable period. In addition, deferred tax assets (if sufficient taxable income is present) and deferred tax liabilities should be recognized for all additional and deductible temporary differences relating to leases and post-processing and recovery related liabilities at the beginning of the earliest period presented.

5. Risk Management

The Company has exposure to the following risks arising from financial instruments:

- Credit risk;
- Liquidity risk; and
- Market risk

This note presents information about the Company's exposure to each of the above risks, the Company's risk management objectives, policies and processes for measuring and managing risk, and the Company's capital management. Further quantitative disclosures are included throughout these separate financial statements.

(1) Financial risk management

1) Risk management framework

The Board of Directors has overall responsibility for the establishment and oversight of the Company's risk management framework.

The Company's risk management policies are established to identify and analyze the risks faced by the Company, to set appropriate risk limits and controls and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Company's activities. The Company, through its training and management standards and procedures, aims to maintain a disciplined and constructive control environment in which all employees understand their roles and obligations.

The Company Audit Committee oversees how management monitors compliance with the Company's risk management policies and procedures, and reviews the adequacy of the risk management framework in relation to the risks faced by the Company. The Company Audit Committee is assisted in its oversight role by Internal Audit. Internal Audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the Audit Committee.

2) Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Company's trade and other receivables from customers and investments.

(i) Trade and other receivables and contract assets

The Company's exposure to credit risk is influenced mainly by the individual characteristics of each customer. Most of the Company's customers are major and international ship's owner targeting global markets and the risk of bankruptcy in the country where they located does not have significant impact on credit risk.

The Company establishes credit limits for each customer and each new customer is analyzed quantitatively and qualitatively before determining whether to utilize third party guarantees, insurance or factoring as appropriate.

The Company evaluates the impairment loss separately for bonds with significant bond size and impaired credit, taking into account the insurance purchase and creditworthiness. Other than these bonds, the expected loss rate applied for collective evaluation is as follows:

(In paraantaga)		Not more than	Not more than	Not more than
(In percentage)	Not delayed	a year	2 years	3 years
Expected loss rate	0.02%	0.2~4%	7~30%	36~100%

5. Risk Management, Continued

(1) Financial risk management, continued

- 2) Credit risk, continued
- (ii) Investments

The Company limits its exposure to credit risk by investing only in liquid debt securities and only with counterparties that have high credit ratings. Management actively monitors credit ratings and given that the Company only has invested in securities with high credit ratings, does not expect a significant risk that any counterparty fails to meet its obligations.

(iii) Guarantees

The Company provides financial guarantees to other related parties if necessary.

3) Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company's approach to managing liquidity is to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when they are due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Company's reputation.

The Company has historically been able to satisfy its cash requirements from cash flow from operations and debt or equity financing. If the Company cannot generate sufficient cash flow from operations to meet its cash requirements, the Company may rely on other financing activities, such as external borrowings and issuing bonds.

4) Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the Company's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return.

The Company buys and sells derivatives, and also incurs financial liabilities to manage market risks. All such transactions are carried out within the guidelines set by the Company. Generally, the Company seeks to apply hedge accounting in order to manage volatility in profit or loss.

(i) Currency risk

The Company is exposed to currency risk on sales, purchases and borrowings that are denominated in a currency other than the functional currency of the Company, Korean won (KRW). The currencies in which these transactions primarily are denominated are USD, EUR, CNY, JPY and others.

The Company hedges trade receivables and trade payables denominated in a foreign currency in respect of forecasted sales and purchases. The Company uses forward exchange contracts to hedge its currency risk, most with a maturity of less than two years from the reporting date. When necessary, forward exchange contracts are rolled over at maturity. Trade receivables denominated in a foreign currency have been hedged using forward contracts that mature on the same dates that the receivables are due for collection. In respect of other monetary assets and liabilities denominated in foreign currencies, the Company ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances.

5. Risk Management, Continued

(1) Financial risk management, continued

- 4) Market risk, continued
- (ii) Interest rate risk

The Company hedges interest rate risk using interest rate swap for variable interest borrowings. As a result, the risk that changes in the value of variable interest-bearing bonds and loans will affect the Company's profit or loss is avoided.

(iii) Other market price risk

The Company is exposed to price risk arising from equity instruments.

(2) Capital management

The management's policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Company monitors the liability to equity ratio and net borrowing to equity ratio, which the Company defines as total liabilities divided by total equity and net borrowing divided by total equity.

The Company's liability to equity ratio and net borrowing to equity ratio as of December 31, 2022 and 2021 are as follows:

(In millions of won, except equity ratio)		2022	2021
Total liabilities	Ŵ	10,992,977	9,484,636
Total equity		5,290,118	5,594,133
Cash and deposits(*1)		884,257	2,288,140
Borrowings(*2)		2,594,656	3,465,760
Liability to equity ratio		207.80%	169.55%
Net borrowing to equity ratio(*3)		32.33%	21.05%

(*1) Cash and deposits consist of cash and cash equivalents and short-term and long-term financial instruments.

(*2) Discount on bonds is deducted from the face value of bonds.

(*3) Net borrowing represents borrowings net of cash and deposits.

The interest coverage ratio and basis of calculation for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won, except interest coverage ratio)		2022	2021
 Operating loss Interest expenses Interest coverage ratio (1÷2) 	₩	(286,797) 105,906 (*)	(800,619) 125,635 (*)

(*) The interest coverage ratio was not calculated due to operating losses for the years ended December 31, 2022 and 2021.

6. Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		2022	2021
Cash	W	57	86
Current deposit		3,954	2,216
Ordinary deposit		3,580	3,126
MMDA and others		715,658	2,131,698
	\overline{W}	723,249	2,137,126

7. Short-term and Long-term Financial Assets

Short-term and long-term financial assets as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		202	22	2021		
		Current	Non-current	Current	Non-current	
Financial instruments	₩	161,000	8	151,000	14	
Financial assets measured at FVTPL		-	7,808	-	7,808	
Financial assets measured at FVOCI		-	1,738	-	1,738	
	₩	161,000	9,554	151,000	9,560	

8. Restricted Financial Instruments

Financial instruments, which are restricted in use, as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)

Description	2022	2021	Restrictions
Other receivables	₩ 4,100		Collateral deposit
Long-term financial instruments	8		Guarantee deposits for checking accounts

The Company has deposited W131,000 million in financial institutions to provide financial support to the Company's partners as of December 31, 2022.

9. Trade and Other Receivables

(1) Trade and other receivables as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		20	22	2021		
		Current	Non-current	Current	Non-current	
Trade receivables:						
Trade receivables	₩	1,516,804	316,995	1,478,490	195,329	
Allowance for doubtful accounts		(617,794)	(151,542)	(626,294)	(164,220)	
		899,010	165,453	852,196	31,109	
Other receivables:						
Other accounts receivables		396,200	2,878	330,287	2,878	
Allowance for doubtful accounts		(157,004)	(1)	(162,123)	(19)	
Accrued income		14,870	-	10,529	-	
Allowance for doubtful accounts		(1,567)	-	(1,899)	-	
Loans		164,088	1,095	168,649	992	
Allowance for doubtful accounts		(159,844)	(292)	(165,510)	(292)	
Guarantee deposits		369	7,606	254	4,274	
		257,112	11,286	180,187	7,833	
	₩	1,156,122	176,739	1,032,383	38,942	

(2) Changes in allowance for doubtful accounts in respect of trade and other receivables for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Beginning balance	₩	1,120,357	1,054,545
Impairment loss recognized		445	68,619
Reversal of allowance for doubtful accounts		(32,049)	(2,791)
Write-off		(709)	(16)
Ending balance	₩	1,088,044	1,120,357

10. Inventories

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

(In millions of won)		2022			2021			
			Provision for			Provision for		
		Acquisition cost	inventory valuation	Carrying amount	Acquisition cost	inventory valuation	Carrying amount	
Work-in-progress	₩	443,132	(11,614)	431,518	340,892	(14,603)	326,289	
Raw materials		547,692	(3,995)	543,697	408,769	(6,663)	402,106	
Supplies		15,450	-	15,450	16,100	-	16,100	
Materials-in-transit		369,712	-	369,712	154,172		154,172	
	₩	1,375,986	(15,609)	1,360,377	919,933	(21,266)	898,667	

The reversals of write-down of inventories to net realizable value, amounting to W5,657 million and W7,471 million are deducted from cost of sales for the years ended December 31, 2022 and 2021, respectively.

11. Other Current Assets and Other Non-current Assets

Other current assets and other non-current assets as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		20	22	20	21
		Current	Non-current	Current	Non-current
Advance payments	₩	874,638	-	571,642	-
Prepaid expenses		179,876	735	134,459	768
Accumulated impairment loss(*1)		(18,016)	-	(39, 115)	-
Others(*2)		229,814	101,719	213,896	-
Accumulated impairment loss(*2)		(188,983)	-	(166,322)	-
Defined benefit assets		-	237,970		26,352
	₩	1,077,329	340,424	714,560	27,120

(*1) Prior to recognition of the provision for the onerous contract, the impairment loss on the related asset was recognized.

(*2) The Company has acquired vessel under construction due to cancellation of a shipbuilding contracts. A sales contract was concluded for a vessel under construction for the year ended December 31, 2022, and the amount reflecting the additional construction cost calculated according to the sales contract was recorded.

12. Investment in Subsidiary

In January 2020, the Company established a subsidiary, Hyundai Heavy Industries Free Zone Enterprise, in Nigeria to carry out construction work for local construction. In addition, in January 2022, the Company acquired the entire shares of Hyundai Engine Company Ltd. from Korea Shipbuilding & Offshore Engineering Co., Ltd., which is the intermediate parent of the Company.

Investment in subsidiary as of December 31, 2022 and 2021 is summarized as follows:

(In millions of won, except percentage of ownership)

Company	Location	Fiscal year end	Main business	Ownership (%)	2022 Carrying amount	2021 Carrying amount
Hyundai Heavy Industries Free Zone Enterprise(*)	Nigeria	December	Industrial plant construction	- ₩	4 -	120
Hyundai Engine Company Ltd.	South Korea	December	Manufacture of internal combustion engines	100.00	29,000	-
				Ŵ	29,000	120

(*) The liquidation process has been completed, for the year ended December 31, 2022.

13. Investment in Associate

In December 2020, the Company acquired shares of KC LNG Tech Co., Ltd. from Korea Shipbuilding & Offshore Engineering Co., Ltd., which is the intermediate parent of the Company.

Investment in associate as of December 31, 2022 and 2021 is summarized as follows: *(In millions of won, except percentage of ownership)*

	, ,	,			2022	2021
					Carrying	
		Fiscal		Ownership	amount	Carrying
Company	Location	year end	Main business	(%)	(*2)	amount
KC LNG Tech Co., Ltd.(*1)	Korea	December	Other engineering services	16.60 ₩	1,346	3,436

(*1) Although ownership is less than 20%, the Company includes the entity securities as investments in associate since the Company has a significant influence on main operating and financial policy decisions.
 (*2) As indications of impairment to the investment in associate were identified, the impairment loss of W 2,090 million was recognized as non-operating expenses.

14. Joint Operation

The joint operations as of December 31, 2022 and 2021 are summarized as follows:

			2022	2021
Joint operation	Location	Main business	Ownership (%)	Ownership (%)
FDH JV (*1)	Kuwait	Chemical plant	33.33	33.33
FDH JV (*2)	Kuwait	Chemical plant	20.00	20.00

(*1) The Company holds a significant joint operation 'FDH JV' as of December 31, 2022 and 2021. FDH JV is a joint operation that the main purpose of arrangement is construction of Clean Fuels Project MAB2 EPC PKG ordered by Kuwait National Petroleum Company. The Company recognizes the assets and liabilities relating to its interest in a joint operation and recognizes revenues and expenses relating to its interest in a joint operation.

(*2) The Company holds a significant joint operation 'FDH JV' as of December 31, 2022 and 2021. FDH JV is a joint operation that the main purpose of arrangement is construction of Al Zour Refinery Project Package 2 & 3 EPC PKG ordered by Kuwait Integrated Petroleum Industries Company. The Company recognizes the assets and liabilities relating to its interest in a joint operation and recognizes revenues and expenses relating to its interest in a joint operation.

15. Financial Assets measured at fair value

(1) Financial assets measured at FVOCI as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		2022	2021
		Non-current	Non-current
Unlisted equity securities:			
Korea Defense Industry Association(*)	₩	1,738	1,738

- (*) Unless otherwise noted, the carrying amounts of unlisted equity securities were recorded at their acquisition cost since their fair values cannot be reliably estimated.
- (2) Financial assets measured at FVTPL as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)

		2022	2021
		Non-current	Non-current
Investments in capital(*):			
Machinery Financial Cooperative	\mathbf{W}	4,998	4,998
Construction Guarantee Cooperative		2,539	2,539
Busan Marine Equipment Association		230	230
Fire Guarantee		20	20
Korea Marine Equipment Association		21	21
	\mathbb{W}	7,808	7,808

(*) Unless otherwise noted, the carrying amounts of investments in capital were recorded at their acquisition cost since their fair values cannot be reliably estimated.

16. Investment Property

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

(In millions of won)		2022					
		Land	Buildings	Total			
Beginning balance Acquisition and other Depreciation	₩	476 - -	3,633 (2,612) (39)	4,109 (2,612) (39)			
Ending balance	₩	476	982	1,458			
Acquisition cost Accumulated depreciation		476	2,226 (1,244)	2,702 (1,244)			
(In millions of won)			2021				
		Land	Buildings	Total			
Beginning balance Acquisition and other	₩	476	3,831	4,307			
Depreciation		-	(198)	(198)			
Ending balance	\overline{W}	476	3,633	4,109			
Acquisition cost Accumulated depreciation		476	7,761 (4,128)	8,237 (4,128)			

(2) Revenue and expense from investment property for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Rental income	₩	7	29
Operating and maintenance expense arising from investment property that generated rental income		54	230

(3) Fair values from investment property as of December 31, 2022 and 2021 are as follows:

(In millions of won)		202	2	2021		
	-	Book value	Fair value	Book value	Fair value	
Land	₩	476	935	476	885	
Buildings		982	2,330	3,633	7,320	
	₩	1,458	3,265	4,109	8,205	

The fair value of investment property was determined by external, independent appraiser, having appropriate recognized professional qualifications and experience in relation to the assessment of real estate in the Republic of Korea. The valuation is achieved by using comparison methods to obtain the economic value based on marketability of the property. The Company calculated fair value considering changes in the standard market price such as individual Publicly assessed land price after previous evaluation date in order to estimate the fair value of investment property as of December 31, 2022.

17. Property, Plant and Equipment

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

(In millions of won)					2022			
					Machinery			
					and	Construction		
	_	Land	Buildings	Structures	equipment	in-progress	Others	Total
Beginning balance	₩	3,141,860	1,057,183	826,615	505,589	107,517	347,488	5,986,252
Acquisitions and others(*)		-	17,725	39,508	129,178	190,227	101,881	478,519
Disposals		(380)	(301)	(41)	(4,170)	-	(1,833)	(6,725)
Depreciation		-	(39,814)	(30,871)	(97,223)	-	(66,154)	(234,062)
Impairment		-	(1,566)	(2,933)	(734)		(2,651)	(7,884)
Ending balance	₩	3,141,480	1,033,227	832,278	532,640	297,744	378,731	6,216,100
Acquisition cost		3,141,480	1,910,518	1,564,545	2,984,988	297,744	1,766,622	11,665,897
Accumulated depreciation		-	(812,977)	(614,138)	(2,367,942)	-	(1,304,627)	(5,099,684)
Accumulated impairment		-	(64,314)	(118, 129)	(84,406)	-	(83,264)	(350, 113)

(*) The amount of expenditures related to the acquisition of construction in-progress is W263,847 million and the amount of reclassification, after the acquisition is completed, is W72,995 million for the year ended December 31, 2022.

(In millions of won)					2021			
					Machinery			
					and	Construction		
	_	Land	Buildings	Structures	equipment	in-progress	Others	Total
Beginning balance	₩	3,147,704	1,092,071	843,683	506,202	69,052	361,594	6,020,306
Acquisitions and others(*1)		-	11,690	18,378	92,896	38,465	66,749	228,178
Disposals		(438)	(1,772)	(476)	(1,710)	-	(8,595)	(12,991)
Depreciation		-	(39,354)	(30,312)	(89,699)	-	(66,144)	(225,509)
Reclassification of assets								
held for sale (*2)		(5,406)	(1,680)	(301)	-	-	-	(7,387)
Impairment		-	(3,772)	(4,357)	(2,100)		(6,116)	(16,345)
Ending balance	₩	3,141,860	1,057,183	826,615	505,589	107,517	347,488	5,986,252
Acquisition cost		3,141,860	1,890,467	1,525,092	2,921,312	107,517	1,728,849	11,315,097
Accumulated depreciation		-	(770,535)	(583,274)	(2,329,603)	-	(1,298,037)	(4,981,449)
Accumulated impairment		-	(62,749)	(115,203)	(86,120)	-	(83,324)	(347,396)

(*1) The amount of expenditures related to the acquisition of construction in-progress is W104,384 million and the amount of reclassification, after the acquisition is completed, are W65,919 million for the year ended December 31, 2021.

(*2) It is a reclassification due to the decision to sell the dormitory site for the year ended December 31, 2021.

(2) Construction-in-progress is mainly related to the expansion of plant facilities as of December 31, 2022.

17. Property, Plant and Equipment, Continued

(3) Impairment losses

The Company evaluated impairment loss caused by property, plant and equipment not in use at Gunsan shipyard, and an impairment loss was recognized in the amount of W3,173 million as of December 31, 2021. Reflecting the physical and technological obsolescence of assets, the Company estimated the recoverable amount of the assets at Gunsan shipyard based on valuation methods, including the cost approach.

The Company evaluated impairment loss for CGU which has an indication of impairment caused by decrease in production and market recession, so that an impairment loss was recognized in the amount of ₩5,386 million (₩13,172 million in 2021) for property, plant and equipment for the year ended December 31, 2022. The estimated recoverable amount by impairment testing is fair value less costs to sell of the individual assets, which is expected negotiated sales amount or appraised value. Appraised value corresponds to fair value, which is evaluated based on valuation methods, such as "publicly assessed land price", "sales comparison approach", and others.

In addition, the Company evaluated impairment loss caused by damage of typhoon and others, and an impairment loss was recognized in the amount of W2,498 million for property, plant and equipment for the year ended December 31, 2022.

Valuation method	Significant but unobservable input variables	Correlation between the main unobservable variable and fair value				
Publicly assessed	Time adjustment (Rate of changes in land value)	If flexibility of land value increases (decreases), then fair value increases (decreases).				
land price	Regional contribution	If regional contribution increases (decreases), then fair value increases (decreases).				
	Individual contribution	If the adjusted value of terms of residential lot and others increases (decreases), then fair value increases (decreases).				
	Other contributions	If the adjusted value of the level of land value and others increases (decreases), then fair value increases (decreases).				
Cost method	Changes in prices of raw materials, other materials, wages, and others	If the prices of raw materials and others increases (decreases), then fair value increases (decreases).				
	Status of maintenance, management and others	If the status of maintenance, management and others is good (bad), then fair value increases (decreases).				
Sales comparison approach	Sales comparisons of the object same or similar value formation factors with the target object	The price of target object is calculated through the process of information normalization, time adjustment, and value formation factors comparison according to the status of the target object.				

Based on the input variables used in valuation methods, the fair value measurements of Gunsan shipyard assets and machinery without plans for use are classified as level 3 fair value. The valuation methods and input variables used in measuring fair values are as follows:

17. Property, Plant and Equipment, Continued

(3) Impairment losses, continued

The Company tests for goodwill impairment on CGU annually. The Company, in principle, defines the business unit as CGU and determines whether it is impaired by evaluating the value in use of the independent CGU. The recoverable amount of each business unit is reasonably estimated by the Company and is derived through DCF (Discounted Cash Flow) using estimated cash flow before tax based on the five-year business plan approved by the management.

The discount rate and permanent growth rate, which are basically used when testing for impairment on CGU were calculated by taking into account the market environment such as impact of COVID-19, and applying the average value of the long-term observation period.

Discount rate applied 8.13%~8.88% (8.77%~10.65% in 2021). Cash flows after 5 years were estimated by applying a 1% growth rate (1% in 2021). All other assumptions are the same as disclosed as of December 31, 2021. If there are subsequent changes in major assumptions, an impairment loss may occur.

(4) Land revaluation

The Company applied revaluation model on land and for the year ended December 31, 2020 the Company revalued land by using the value which independent and expertise appraisal institution. The appraisal institution valued land price based on the publicly assessed land price with adjustments and reviewed reasonableness of revaluation amount by comparing appraised results with the estimated price based on recent market transactions among the independent third parties.

Book values of land assessed by revaluation model and cost model as of December 31, 2022 are as follows:

(In millions of won)		2022				
		Revaluation model	Cost model			
Land	₩	3,141,480	1,956,323			

As a result of revaluation on land, accumulated gain on revaluation amounted to W875,579 million (net of tax effects) was recognized as other comprehensive income and accumulated loss on revaluation amounted to W28,411 million in relation to land the Company holds as of December 31, 2022 was recognized as other non-operating expenses.

In addition, due to partial disposal of the revalued land, gain on revaluation amounting to W2,442 million (W156 million in 2021) was reclassified to retained earnings for the year ended December 31, 2022.

17. Property, Plant and Equipment, Continued

(4) Land revaluation, continued

Based on the input variables used in the valuation method, the fair value measurement of land is classified as level 3 fair value based on the input variables used in the valuation techniques. The valuation method and input variables used in measuring fair value of land are as follows:

Valuation method	Significant but unobservable input variables	Correlation between the main unobservable variable and fair value			
Publicly assessed	Time adjustment (Rate of changes in land value)	If flexibility of land value increases (decreases), then fair value increases (decreases).			
land price	Regional contribution	If regional contribution increases (decreases), then fair value increases (decreases).			
	Individual contribution	If the adjusted value of terms of residential lot and others increases (decreases), then fair value increases (decreases).			
	Other contributions	If the adjusted value of the level of land value and others increases (decreases), then fair value increases (decreases).			

(5) Temporarily idle property, plant and equipment

The carrying amounts of temporarily idle property, plant and equipment in offshore business are ₩107,103 million as of December 31, 2022.

The carrying amounts of temporarily idle property, plant and equipment in the Gunsan shipyard and offshore business are W664,961 million as of December 31, 2021.

(6) Property, plant and equipment completed of depreciation but in use

The carrying amounts of the property, plant and equipment completed of depreciation but in use are W125 million and W118 million as of December 31, 2022 and 2021, respectively.

18. Right-of-use Assets

Acquisition cost

Accumulated depreciation

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

(In millions of won)				2022		
		Land	Buildings	Machinery and equipment	Others	Total
			Dunungo	oquipinont		lota
Beginning balance	₩	13,081	3,261	-	1,564	17,906
Additions and adjustment		5,082	27,293	224	3,141	35,740
Depreciation		(3,969)	(5,804)	(25)	(1,431)	(11,229)
Ending balance	₩	14,194	24,750	199	3,274	42,417
Acquisition cost		18,260	30,472	224	4,861	53,817
Accumulated depreciation		(4,066)	(5,722)	(25)	(1,587)	(11,400)
(In millions of won)				2021		
	_	Land	Buildir	ngs Ot	hers	Total
Beginning balance	₩	11,698	Q	3,232	665	15,595
Increase and adjustment	v v	4,74		6,223	1,938	12,907
Depreciation		(3,363		(6,194)	(1,039)	(10,596)
Ending balance	₩	13,08		3,261	1,564	17,906
Linding balance		15,00	<u> </u>	0,201	1,004	17,000

(2) Expenses recognized in profit or loss related to leases for the years ended December 31, 2022 and 2021 are as follows:

7,912

(4,651)

2,127

(563)

25,665

(7,759)

15,626

(2,545)

(In millions of won)		2022	2021
Depreciation on right-of-use assets(*): Lands Buildings Machinery and equipment Others	₩	3,969 5,804 25 1,431 11,229	3,363 6,194 - 1,039 10,596
Interest expense on lease liabilities Short-term lease payment(*) Payments for leases of low-value assets not short-term lease(*) Variable lease payments not included in the measurement of the lease liabilities(*)	₩.	691 9,393 77 -	583 9,043 57 246

(*) Included in cost of sales and selling, general and administrative expenses.

The total cash outflows related to leases for the years ended December 31, 2022 and 2021 are amounting to W19,414 million and W19,007 million.

19. Intangible Assets

(1) Changes in development costs for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Beginning balance	\overline{W}	36,635	30,170
Acquisition and others		29,239	9,168
Amortization		(7,272)	(2,702)
Impairment(*)		(43)	(1)
Ending balance	\overline{W}	58,559	36,635
Acquisition cost		77,982	48,745
Accumulated amortization		(18,882)	(11,611)
Accumulated impairment		(541)	(499)

(*) Impairment loss of development costs was recognized for the year ended December 31, 2022.

(2) Other intangible assets include abyss engineering tank and intangible assets with indefinite useful lives. Changes in other intangible assets for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Beginning balance	₩	42,823	34,792
Acquisition and others		-	12,053
Disposals and others		(771)	(3,266)
Amortization		(564)	(353)
Impairment(*1)		-	(403)
Ending balance(*2)	₩	41,488	42,823
Acquisition cost		44,075	44,846
Accumulated amortization		(893)	(329)
Accumulated impairment		(1,694)	(1,694)

(*1) Impairment loss of other intangible assets(membership) was recognized for the year ended December 31, 2021

(*2) The carrying amounts of the intangible assets with indefinite useful lives are W31,101 million and W31,872 million as of December 31, 2022 and 2021, respectively.

(3) Details of research and development costs, ordinary development costs and development cost amortization included in intangible asset for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)			2022	2021
Research and development costs				
	administrative expenses	₩	3,386	2,962
	Government grants		(150)	(11)
		₩	3,236	2,951
Ordinary development costs	Selling, general and			
	administrative expenses	W	71,266	65,293
	Government grants		(38)	(106)
		₩	71,228	65,187
Development cost amortization	Manufacturing costs Selling, general and	₩	7,217	2,449
	administrative expenses		55	253
		W	7,272	2,702

20. Short-term and Long-term Financial Liabilities and Lease Liabilities

(1) Short-term and long-term financial liabilities and lease liabilities as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)	_	20	22	2021		
	_	Current	Non-current	Current	Non-current	
Borrowings	₩	1,384,655	276,730	1,240,813	1,422,700	
Bonds Discount on bonds		60,000 (23)	873,650 (356)	265,970 (15)	537,100 (808)	
	₩	1,444,632	1,150,024	1,506,768	1,958,992	
Lease liabilities		13,121	30,331	6,052	12,746	

(2) Details of the timing of the cash outflow the lease liabilities under contract as of December 31, 2022 and 2021 are as follows:

(In millions of won)	_	2022						
		Carrying	Contractual	6 months	6~12	1~3	More than	
	_	amount	cashflow(*)	more or less	months	years	3 years	
Lease liabilities	₩	43,452	44,591	6,343	7,122	17,336	13,790	

(*) Undiscounted lease payments

(In millions of won)

(In millions of worl)	-			2021			
	-	Carrying amount	Contractual cashflow(*)	6 months more or less	6~12 months	1~3 vears	More than 3 years
Lease liabilities	W	18,798	20,998	3,492	3,026	6,957	7,523

2021

(*) Undiscounted lease payments

21. Trade and Other Payables

Trade and other payables as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		20	22	2021		
	_	Current	Non-current	Current	Non-current	
Trade payables Other accounts payable Accrued expenses	₩	927,274 198,146 449,775	- - -	1,180,098 164,153 401,667	- - -	
Deposits received		_	381	-	249	
	₩	1,575,195	381	1,745,918	249	

22. Borrowings and Bonds

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

(In millions of won)

		Annual Interest			
Type of borrowing	Lender	rate (%)		2022	2021
General loan	The Korea Development Bank	5.31	₩	100,000	-
General loan	FDH JV ZOR	2.50			
in foreign currency				13,547	12,775
Usance L/C	Industrial Bank of Korea and others	0.20~5.73		104,918	648,763
				218,465	661,538
Current portion of lor	ng-term borrowings			1,166,190	579,275
			₩	1,384,655	1,240,813

(2) Long-term borrowings as of December 31, 2022 and 2021 are as follows:

(In millions of won)

		Annual interest			
Type of borrowing	Lender	rate (%)		2022	2021
General loan	The Korea Development Bank and	2.43~5.91			
	others		₩	936,000	1,438,500
General loan	KEB Hana Bank and others	4.93~5.58			
in foreign currency				506,920	533,475
Commercial Paper	Korea Investment & Securities Co.,	-			
	Ltd.			-	30,000
				1,442,920	2,001,975
Current portion of lo	ng-term borrowings			(1,166,190)	(579,275)
			₩	276,730	1,422,700

22. Borrowings and Bonds, Continued

(3) Bonds as of December 31, 2022 and 2021 are as follows:

(In millions of won)

Description	Issue	Maturity	Annual interest rate (%)		2022	2021	Guarantee(*)
3 rd debenture	2019-05-29	2022-02-28	-	₩	-	100,000	Debenture
Floating rate bond	2019-12-12	2022-12-12	-		-	165,970	Secured bond
4-1 th debenture	2021-03-05	2023-03-03	1.92		60,000	60,000	Debenture
4-2 th debenture	2021-03-05	2024-03-05	2.50		240,000	240,000	Debenture
Floating rate bond	2021-04-01	2024-03-28	4.69		253,460	237,100	Secured bond
Fixed rate bond	2022-03-28	2027-03-28	3.18		380,190	-	Secured bond
					933,650	803,070	
Discount on bonds					(379)	(823)	
Current portion of b	onds				(60,000)	(265,970)	
Current portion of d	liscount on boi	nds			23	14	
				₩	873,294	536,291	

(*) The Company is provided with guarantees from financial institution issued for Secured bond.

(4) Aggregate maturities of the Company's borrowings and bonds as of December 31, 2022 and 2021 are as follows:

(In millions of won)			2022	
Periods	-	Borrowings	Bonds	Total
2023.01.01 ~ 2023.12.31	₩	1,384,655	60,000	1,444,655
2024.01.01 ~ 2027.12.31		276,730	873,650	1,150,380
	₩ _	1,661,385	933,650	2,595,035
(In millions of won)			2021	
Periods	-	Borrowings	Bonds	Total
2022.01.01 ~ 2022.12.31	₩	1,240,813	265,970	1,506,783
2023.01.01 ~ 2026.12.31		1,422,700	537,100	1,959,800
	₩	2,663,513	803,070	3,466,583

22. Borrowings and Bonds, Continued

(5) Changes in liabilities arising from financing cash flows for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022				
		-			Lease	
			Borrowings	Bonds	liabilities	Total
Beginning balance		₩	2,663,513	802,247	18,798	3,484,558
Cash flows from	Borrowing		621,413	365,490	-	986,903
financing activities	Repayment		(1,653,136)	(265,970)	(9,609)	(1,928,715)
Non-cash flows	The effects of changes in foreign					
	exchange rates Amortization of bond		29,595	31,061	(230)	60,426
	discounts		-	443	-	443
	Others		-	-	34,828	34,828
Cash flows from						
operating activities(*)		_	-	-	(335)	(335)
Ending balance		₩	1,661,385	933,271	43,452	2,638,108

- (*) Interest expense among the reduction of lease liabilities for the year ended December 31, 2022, is classified as cash flows from operating activities.
- (In millions of won)

(In millions of won)			2021			
					Lease	
			Borrowings	Bonds	liabilities	Total
Beginning balance		₩	4,184,530	362,157	16,343	4,563,030
Cash flows from	Borrowing		1,701,312	525,365	-	2,226,677
financing activities	Repayment		(3,268,319)	(110,000)	(9,340)	(3,387,659)
Non-cash flows	The effects of changes in foreign					
	exchange rates Amortization of bond		45,990	24,229	124	70,343
	discounts		-	496	-	496
	Others		-	-	11,992	11,992
Cash flows from						
operating activities(*)			-	-	(321)	(321)
Ending balance		₩	2,663,513	802,247	18,798	3,484,558

(*) Interest expense among the reduction of lease liabilities for the year ended December 31, 2021, is classified as cash flows from operating activities.

23. Employee Benefits

(1) Defined contribution plans

Due to the implementation of the defined contribution plans in April 2022, the Company recorded contributions to financial institutions as current expenses. The cost recognized in profit or loss due to the defined contribution plans is W944 million for the year ended December 31, 2022.

(2) Defined benefit plans

(i) Recognized liabilities for defined benefit obligations as of December 31, 2022 and 2021 are as follows:

(In millions of won)	-	2022	2021
Present value of defined benefit obligations	₩	693,920	780,644
Other long-term benefits		28,462	33,198
	_	722,382	813,842
Fair value of plan assets(*)		(693,920)	(780,644)
Liabilities recognized under defined benefit plans	₩	28,462	33,198

(*) The fair value of plan assets amounting to W237,970 million (W26,352 million in 2021), exceeding the present value of defined benefit obligations, is recognized as defined benefit assets and the fair value of plan assets including excess reserve is W931,890 million (W806,996 million in 2021) as of December 31, 2022(See Note 11).

(ii) Plan assets as of December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Retirement pension(*) Transfer to National Pension Fund	₩	931,045 845	805,944 1,052
	\overline{W}	931,890	806,996

(*) The retirement pension is invested in principal and interest guaranteed instruments, principal guaranteed instruments, and funds with bonds mixed as of December 31, 2022.

(iii) Expenses recognized in profit or loss for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Current service costs	\mathbf{W}	68,370	67,204
Past service costs Interest on obligations		(4,024) 23,604	40,265 15,881
Expected return on plan assets		(25,394)	(16,262)
	W	62,556	107,088

For the years ended December 31, 2022 and 2021, amounting to ₩3,416 million and ₩6,053 million were incurred, respectively, as additional retirement benefits.

23. Employee Benefits, Continued

- (2) Defined benefit plans, continued
- (iv) Changes in the liabilities related to employee benefits for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Beginning balance	\mathcal{W}	813,842	729,432
Current service costs		68,370	67,204
Past service costs		(4,024)	40,265
Interest cost		23,604	15,881
Benefits paid		(113,789)	(77,822)
Transfers from (to) related parties		1,158	2,814
Actuarial gains and losses			
Population statistical assumption		2,728	-
Financial assumption		(120,196)	(1,802)
Experience adjustment		50,689	37,870
Ending balance	₩	722,382	813,842

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

(In millions of won)		2022	2021
Beginning balance	W	806,996	723,063
Benefits paid		(92,574)	(64,384)
Contributions paid into the plan		200,800	135,000
Expected return on plan assets		25,394	16,262
Actuarial gains and losses		(8,726)	(2,945)
Ending balance	\overline{W}	931,890	806,996

The Company reviews the level of the fund each year and takes the policy to preserve fund in the event of a loss to the fund. The Company expects to pay W61,940 million and W68,022 million in contributions to its defined benefit plans in next year, as of December 31, 2022 and 2021, respectively.

(vi) Expected payment date of the defined benefit obligations as of December 31, 2022 is as follows:

(In millions of won)	_	2023.01.01 ~ 2023.12.31	2024.01.01 ~ 2027.12.31	2028.01.01 ~ 2032.12.31	2033.01.01 ~	Total
Expected payment	₩	27,068	257,497	320,366	2,098,229	2,703,160

23. Employee Benefits, Continued

(2) Defined benefit plans, continued

(vii) Principal actuarial assumptions as of December 31, 2022 and 2021 are as follows:

(In percentage)	2022	2021
Discount rate	5.31	2.72
Future salary growth	3.03	2.11
Future mortality (Males, at age 45)	0.18	0.20

(viii) Weighted average durations of the defined benefit obligations as of December 31, 2022 and 2021 are as follows:

(In years)	2022	2021
Weighted average duration	10.12	10.66

(ix) Reasonably possible changes as of December 31, 2022 and 2021 to each relevant actuarial assumption would have affected the defined benefit obligation by the amounts shown below.

(In millions of won)		202	2	2021		
	_	Increase	Decrease	Increase	Decrease	
Discount rate (1% movement)	₩	(58,670)	68,188	(72,743)	85,811	
Future salary growth (1% movement)		61,568	(54,205)	74,759	(65,139)	

24. Provisions

(1) Changes in provisions for the year ended December 31, 2022 are as follows:

(In millions of won)				2022		
	-	Provision for construction losses	Provision for construction warranty	Provision for product warranty	Other provisions(*1)	Total
Beginning balance Additions Reversals Utilization Others(*2)	₩	229,827 56,622 (198,787) - 21,099	406,602 56,538 (17,145) (63,352)	76,862 31,418 (21,763) (20,915)	584,262 39,211 - -	1,297,553 183,789 (237,695) (84,267) 21,099
Ending balance	₩	108,761	382,643	65,602	623,473	1,180,479
Current Non-current	-	108,761 -	126,366 256,277	42,328 23,274		900,928 279,551

- (*1) As of December 31, 2022, other provisions consist of ₩583,945 million in provisions related to ordinary wage lawsuit and ₩39,528 million in provisions related to construction obligation.
- (*2) For the year ended December 31, 2022, this is the effect of changes in impairment losses previously recognized for assets related to onerous contracts.

(In millions of won)				2021		
	-	Provision for construction losses	Provision for construction warranty	Provision for product warranty	Other provisions(*1)	Total
Beginning balance	₩	113,400	355,468	77,290	12,718	558,876
Additions		200,497	77,099	37,426	571,544	886,566
Reversals		(78,656)	(8,977)	(12,842)	-	(100,475)
Utilization		-	(16,988)	(25,012)	-	(42,000)
Others(*2)		(5,414)	-	-	-	(5,414)
Ending balance	₩	229,827	406,602	76,862	584,262	1,297,553
Current	=	229,827	155,324	58,577	584,262	1,027,990
Non-current		-	251,278	18,285	-	269,563

(2) Changes in provisions for the year ended December 31, 2021 are as follows:

(*1) Other provisions are recognized for the lawsuit and construction obligation. Ordinary wage lawsuit was newly recognized amount ₩565,134 million by estimation amount the Company have to pay to employees for the year ended December 31, 2021 according to the judgment of the Supreme Court.

(*2) For the year ended December 31, 2021, this is the effect of changes in impairment losses previously recognized for assets related to onerous contracts.

25. Derivative Financial Instruments

The Company has entered into derivative instrument contracts related to foreign currency forwards with KEB Hana Bank and other 16 banks for hedge the changes in foreign exchange rates. Derivatives are measured at fair values by using forward exchange rates presented by the contract counterparty. The details of assessment and gains or losses of transaction for the year ended December 31, 2022 are as follows:

(1) The description of derivative instrument and hedge accounting is as follows:

Hedge accounting	Туре	Description
Fair value hedge	Foreign exchange forward contracts	Hedge of the risk of changes in the fair value of firm commitments
Cash flow hedge	Foreign exchange forward contracts	Hedge of the variability in cash flows attributable to foreign currency exposure in respect of forecast purchases
	Foreign exchange swap contracts	Hedge of the variability in cash flows attributable to foreign currency liabilities in respect of interest rate and exchange rate

(2) Terms of derivative contracts as of December 31, 2022 are as follows:

(In millions of won and in thousands of foreign currency)

		Curr	ency		Weighted average exchange rate	Average	Number of
Description	Туре	Sell	Buy	amount	(In won)	maturities	contracts
Fair value hedge	Foreign exchange	USD	KRW	13,151,947 ₩	1,222.02	2024-07-18	5,592
	forward contracts	EUR	KRW	13,885	1,344.81	2023-02-15	4
Cash flow hedge	Foreign exchange	USD	GBP	9,190	1.23	2023-12-29	1
	forward contracts	USD	EUR	2,758	0.94	2023-02-28	1
		KRW	GBP	1,620	1,521.30	2023-06-29	2
	Foreign exchange swap contracts	KRW	USD	1,044,335	1,160.37	2024-11-29	9

- Terms of settlement: Netting the settlement or collecting total.
- The contract amount is denominated in selling currency.
- (3) Book values related to derivatives as of December 31, 2022 are as follows:

(In millions of we	on)		Derivatives Firm commitmer			mitment	:			
			Ass	Assets Liabilities		Assets		Assets Liabilities		lities
	_			Non-		Non-		Non-		Non-
Description	Туре		Current	current	Current	current	Current	current	Current	current
Fair value hedge	Foreign exchange forward contracts									
		₩	65,132	229,960	316,433	190,170	218,542	190,170	58,224	229,959
Cash flow	Foreign exchange									
hedge	forward contracts		21	-	121	-	-	-	-	-
	Foreign exchange swap contracts		41,298	63,964	-	-	-	-	-	-
		₩	106,451	293,924	316,554	190,170	218,542	190,170	58,224	229,959

25. Derivative Financial Instruments, Continued

(4) Gains and losses on the valuation and transaction of derivatives for the year ended December 31, 2022 are as follows:

(In millions of won)

Description	Туре	Sales	Cost of sales	Finance income	Finance costs	Other non- operating income	Other non- operating expenses	Other comprehensive income (before tax)
Fair value hedge	Foreign exchange forward contracts	₩ (411,780)	_	387,051	875,692	739,113	373,324	_
Cash flow hedge	Foreign exchange forward	•• (411,700)		307,001	070,002	733,113	575,524	
	contracts Foreign exchange swap	-	2,491	-	-	-	-	138
For trading	contracts Foreign exchange forward	-	-	85,884	-	-	-	441
	contracts		-	7,833	518			
		₩ (411,780)	2,491	480,768	876,210	739,113	373,324	579

For the year ended December 31, 2022, the Company applies cash flow hedge accounting, for which the Company accounted the effective portion of the hedge amounting to ₩526 million, net of tax of ₩53 million, as a gain on valuation of derivatives in accumulated other comprehensive income.

The maximum expected period of exposure to cash flow risk, where the cash flow hedge accounting is applied, is approximately 51 months as of December 31, 2022.

26. Common stock and Capital Surplus

- (1) Common stock
- (i) Common stock as of December 31, 2022 is as follows:

(In thousands of won)		2022						
		Authorized shares	Issued shares	Par value (in won)	Common stock			
Ordinary shares	₩	160,000,000	88,773,116	5,000	443,865,580			

(ii) Changes in common stock for the years ended December 31, 2022 and 2021 are as follows:

(In thousands of won)	2022	2021		
	Issued Common shares stock	Issued Common shares stock		
Beginning balance Capital increase	88,773,116 W 443,865,580	70,773,116 ₩ 353,865,580 18,000,000 90,000,000		
Ending balance	 88,773,116 ₩ 443,865,580	88,773,116 ₩ 443,865,580		

(2) Capital surplus

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

(In millions of won)	-	2022	2021
Paid-in capital in excess of par value by split-off in June, 2019	₩	4,641,671	4,641,671
Paid-in capital in excess of par value by capital increase in September, 2021		990,000	990,000
Deduction : Establishment costs of corporation in June, 2019		(1,729)	(1,729)
Deduction : New stock issue costs of capital increase in September, 2021 Appropriations of retained earnings(*) Total	₩	(11,577) (2,500,000) 3,118,365	(11,577) (2,500,000) 3,118,365

(*) At the annual shareholder's meeting on March 22, 2021, capital surplus of W2,500,000 million was transferred to retained earnings.

(3) Dividends

The Company has no dividends paid for the years ended December 31, 2022 and 2021.

27. Capital adjustments

Capital adjustments as of December 31,	2022 and 2021 are as	follows:	
(In millions of won)		2022	2021
Repayment of hybrid bonds	W	(1,411)	(1,411)

28. Accumulated Other Comprehensive Income

(1) Accumulated other comprehensive income as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)		2022	2021
Changes in fair value of financial assets measured at FVOCI Effective portion of changes in fair value of cash flow hedges	₩	(11) 6.261	(11) 5.736
Revaluation of property, plant and equipment		875,579	875,793
	₩	881,829	881,518

(2) Other comprehensive income (loss) for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)			2022	
		Before tax amount	Tax effect	After tax amount
Effective portion of changes in fair value of cas	h			
flow hedges	₩	579	(53)	526
Actuarial gains and losses		58,053	(14,746)	43,307
Revaluation of property, plant and equipment		-	2,228	2,228
	₩	58,632	(12,571)	46,061
(In millions of won)			2021	
(In millions of won)		Before tax amount	2021 Tax effect	After tax amount
(In millions of won) Effective portion of changes in fair value of case	h	Before tax amount		After tax amount
	h ₩	Before tax amount		After tax amount
Effective portion of changes in fair value of cas			Tax effect	
Effective portion of changes in fair value of cash		10,515	Tax effect (2,797)	7,718
Effective portion of changes in fair value of cas flow hedges Actuarial gains and losses		10,515	Tax effect (2,797)	7,718
Effective portion of changes in fair value of cas flow hedges Actuarial gains and losses Changes in fair value of financial assets		10,515 (39,013)	Tax effect (2,797) 10,377	7,718 (28,636)

29. Retained Earnings

(1) Retained earnings as of December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Unappropriated retained earnings	₩	847,470	1,151,796

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

(In millions of won)	2022		2021	
Beginning balance	₩	1,151,796	(505,102)	
The conversion of capital surplus		-	2,500,000	
Loss for the year		(350,076)	(814,133)	
Actuarial gains and losses		43,308	(28,636)	
Reclassification of revaluation surplus		2,442	156	
Reclassification of changes in financial				
assets measured at FVOCI		<u> </u>	(489)	
Ending balance	₩	847,470	1,151,796	

29. Retained Earnings, Continued

(3) Statements of appropriation of retained earnings for the years ended December 31, 2022 and 2021 are as follows:

Date of appropriation for 2022: March 28, 2023 Date of appropriation for 2021: March 22, 2022 (<i>In millions of won</i>)	_	2022	2021
I. Unappropriated retained earnings			
Unappropriated retained earnings to be carried from previous year	₩	1,151,796	1,994,898
Loss for the year		(350,076)	(814,133)
Actuarial gains and losses		43,308	(28,636)
Reclassification of revaluation surplus		2,442	156
Reclassification of changes in financial assets measured at			
FVOCI		-	(489)
	₩	847,470	1,151,796
II. The conversion of capital surplus		-	-
III. Appropriation of retained earnings		-	-
IV. Unappropriated retained earnings to be carried over to subsequent year	₩	847,470	1,151,796

30. Revenue

(1) Sales for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)	2022		2021	
Construction contracts	W	7,067,900	6,587,243	
Goods sold		1,786,892	1,539,116	
Services		210,556	177,637	
	\overline{W}	9,065,348	8,303,996	

(2) Changes in outstanding contracts for the year ended December 31, 2022 are as follows:

(In millions of won)		Shipbuilding	Offshore, Industrial Plant and Engineering	Others	Total
Beginning balance Changes and others(*)	₩	16,650,344 15,677,090	2,260,491 197,373	2,933,172 4,525,061	21,844,007 20,399,524
Sales recognized		(6,467,204)	(785,281)	(1,812,863)	(9,065,348)
Ending balance	₩	25,860,230	1,672,583	5,645,370	33,178,183

(*) The changes include the impact from the changes due to fluctuations in the exchange rate of foreign currency contracts, cancellation of contracts, change of contract amount and others.

As of December 31, 2022, the Company provides certain amount of financial institution guarantee deposits or letters of guarantee from various financial institutions to the customers for bidding, performance, advance payment and warranty guarantees in connection with above construction contracts.

30. Revenue, Continued

(2) Changes in outstanding contracts for the years ended December 31, 2022 are as follows, continued: Periods when the ending balance is expected to be recognized as revenues are as follows:

(In millions of won)	_	2023	2024	After 2025	Total
Expected amount	₩	12,380,687	13,008,095	7,789,401	33,178,183

(3) Accumulated revenues of construction and others related to construction in progress as of December 31, 2022 are as follows:

(In millions of won)		Accumulated revenue of construction	Accumulated cost of construction	Accumulated Profit (loss) of construction	Billed receivables on construction contracts	Unbilled receivables on construction contracts	Contract liabilities	Provision for construction losses
Shipbuilding Offshore, Industrial Plant and	₩	6,457,709	6,697,106	(239,397)	33,224	2,844,640	3,498,802	96,740
Engineering(*)		4,051,395	4,200,308	(148,913)	69,839	335,440	458,139	5,374
	₩	10,509,104	10,897,414	(388,310)	103,063	3,180,080	3,956,941	102,114

(*) The accumulated revenue and cost of construction related to joint operation (FDH JV) are not included.

Among the receivables on construction contracts, the amount of retentions in accordance with the contract terms is amounting to W113,793 million.

Heavy-tail payment plan is a major collection term in the Shipbuilding segment, and Offshore, Industrial Plant and Engineering segment mainly based on Progress and Milestone payment plan. Therefore, billed receivables on construction contracts and contract assets might be changed according to the progress of construction.

30. Revenue, Continued

(4) As of December 31, 2022, the information about significant construction contracts is as follows:

(In millions of won)

					Cor	ntract asset	Trac	de receivable
	Contract	Contract date	Contract due(*1)	Progress	Total	Allowance for doubtful accounts	Total	Allowance for doubtful accounts
	CFP	2014.04.13	2018.10.18	99.94%	77,729		7,367	
	ZOR	2015.10.13	2019.07.27	94.72%	-	-	60,610	-
Offshore,	SHWE	2021.02.01	2024.04.01	34.62%	-	-	-	-
Industrial Plant	FPSO							
and Engineering	Petrobras 78 Project	2021.05.08	2025.11.07	44.90%	239,025	-	-	-
Shipbuilding	Shenandoah FPS Project	2021.08.05	2024.09.26	13.81%	-	-	-	-
	NASR 2 3407	2014.07.08				(*	2)	
	Shipbuilding PJT	2022.10.04	2026.06.30	0.02%	-	-	-	-

- (*1) For the project the construction deadline that has elapsed, some remaining works are in a progress after delivering the object or a consultation with the client to extent the construction period is still under negotiation.
- (*2) As there are contractual confidentiality obligations and the clients disagree with disclosing this information, the Company omits the related disclosures after reporting it to audit committee. As of December 31, 2022, the Company omitted the related disclosures for eight contracts. However, the date of contracts of NASR 2 are disclosed in securities registration statement, business report, investment prospectus, or important management matters, the Company has disclosed the related information.

30. Revenue, Continued

- (5) The effect of changes in estimated total contract costs
- (i) Effect of changes in total contract costs

For the year ended December 31, 2022, the estimated total contract costs and total contract revenue for contracts in progress as of December 31, 2021 have changed. Effects on profit or loss for the current period and the future period, and the impact on contract assets and contract liabilities are as follows:

(in millions of won)		Change of total	total estimated	Effect on p	rofit or loss o	f contract	Change of	Change of
		contract revenue(*1)	contract cost	Current period	Future period	Total	contract assets	contract liabilities
Shipbuilding Offshore, Industrial Plant and	₩	778,395	819,157	(49,369)	8,607	(40,762)	(273,164)	37,446
Engineering(*2)		153,259	133,309	(11,186)	31,136	19,950	(38,298)	19,737
	₩	931,654	952,466	(60,555)	39,743	(20,812)	(311,462)	57,183
							<u>(</u>] (

(*1) Changes in entire contract revenue (including foreign currency fluctuation) are reflected because it is unable to distinguish total contract revenue changed directly by changes in total contract costs.

(*2) The accumulated revenue and cost of construction related to joint operation (FDH JV) are not included.

Effects on profit or loss for the current period and future period is calculated based on the total contract cost and total contract revenue estimated on the basis of situations generated in current period, and these estimations could be changed by variation of situations in the future.

(ii) Sensitivity analysis of changes in estimated total contract costs

The amount of contract assets and contract liabilities affected by progress which is determined by accumulated cost incurred divided by estimated total contract cost. An estimated total contract cost is calculated based on an estimated material cost, labor cost and construction period, and has a variance risk related to exchange rate fluctuations, changes in steel prices and changes in production hours.

The Company has entered foreign currency forward contracts to hedge the risk related to exchange rate fluctuations, and hedges the risk related to changes of steel price in short period of time by entering steel purchase agreement by period. The risk and uncertainty related to production hours has been managed by department which is responsible for managing production hours. Effects on profit or loss of current period and future periods, contract assets and contract liabilities in case production hour changes 10% are as follows:

(In millions of won)

		Effect of profit or loss in current period		Effect of pr in future		Ū	hanges of contract assets		of contract lities
		10%	10%	10%	10%	10%	10%	10%	10%
	-	increase	decrease	increase	decrease	increase	decrease	increase	decrease
Shipbuilding	₩	(128,183)	84,943	(414,758)	457,997	(40,667)	41,658	8,380	(8,639)
Offshore, Industrial									
Plant and									
Engineering(*)	-	(9,819)	7,199	(8,191)	10,812	(3,345)	3,399	2,823	(2,867)
	₩	(138,002)	92,142	(422,949)	468,809	(44,012)	45,057	11,203	(11,506)

(*) The accumulated revenue and cost of construction related to joint operation (FDH JV) are not included.

30. Revenue, Continued

(6) Source of revenue

(In millions of won)		2022	2021
Revenue from contracts with customers Investment property rentals	₩	9,477,121 7	8,293,320 29
Hedging gains and losses		(411,780)	10,647
	₩	9,065,348	8,303,996

(7) Disaggregation of revenue from contracts with customers

Disaggregation of revenue from contracts with customers for the years ended December 31, 2022 and 2021 is as follows:

(In millions of won)		2022	2021
Major products/service lines			
Shipbuilding	₩	6,793,577	6,311,510
Offshore, Industrial Plant and Engineering		787,499	419,227
Engine and Machinery		1,818,088	1,490,141
Others		77,964	72,471
	₩	9,477,128	8,293,349
Primary geographical markets			
Korea	₩	3,211,869	3,254,167
North America		92,201	171,870
Asia		3,454,214	2,410,717
Europe		1,835,572	2,194,640
Others		883,272	261,955
	W	9,477,128	8,293,349
Duration of contract			
Short-term contract	₩	628,019	552,597
Long-term contract		8,849,109	7,740,752
	W	9,477,128	8,293,349
Timing of revenue recognition			
Goods and services transferred at a point in time	₩	2,080,638	1,714,450
Goods and services transferred over time		7,396,490	6,578,899
	₩	9,477,128	8,293,349

30. Revenue, Continued

(8) Contract balance

The information about receivables, contract assets and contract liabilities from contracts with customers as of December 31, 2022 and 2021 is as follows:

(In millions of won)		2022	2021
Trade receivables	₩	1,833,799	1,673,819
Allowance for doubtful accounts		(769,336)	(790,514)
	₩	1,064,463	883,305
Contract assets	W	3,180,080	2,836,359
Contract liabilities(*)		(4,743,248)	(2,618,586)

- (*) The amount of W1,311,915 million included in contract liabilities (W2,618,586 million) as of December 31, 2021 has been recognized as revenue for the year ended December 31, 2022.
- (9) Cost to fulfill a contract recognized as an asset

The Company pays commission fees in relation to the contract, in accordance with K-IFRS No.1115, which is the incremental costs of obtaining a contract are those costs that the Company incurs to obtain a contract with a customer that it would not have incurred if the contract had not been obtained. Commission fees that are expected to be recovered from the customers are recognized as costs to fulfill contract assets and amortized to reflect the progress of the construction.

(In millions of won)		2022	2021
Beginning balance	\mathbf{W}	73,029	50,464
Increase		59,679	74,430
Amortization(*)		(47,509)	(46,451)
Reversal (Impairment)		21,099	(5,414)
Ending balance	W	106,298	73,029

(*) It is amortized in the same way that the controls over involved goods or services are transferred to the customer.

31. Operating Segments

The Company has the following four strategic divisions, which are its reportable segments. These strategic operating units offer different products and services and are managed separately because they require different technology and marketing strategies. The chief executive officer (CEO) reviews internal reports of each strategic operating unit at least quarterly.

- (i) Shipbuilding: Manufacturing and sale of VLCCs, containerships, P/C ships, LNG carriers, warships and others
- (ii) Offshore, Industrial Plant and Engineering: Manufacturing and installation of offshore facilities, floating units, co-generating power plants, and processing equipment
- (iii) Engine and Machinery: Manufacturing and sale of engines for ships, diesel power plants, industrial and marine pumps and hydraulic machinery
- (iv) Others: Operating performing arts center, leisure sports facilities and others.
- (1) The financial performance of each reportable segment for the years ended December 31, 2022 and 2021 is as follows:

(In millions of won)	_	2022					
	Sales	Operating profit (loss)	Profit (Loss) for the year	Depreciation and amortization(*)			
Shipbuilding	₩ 6,467,204	(123,567)	(48,225)	135,578			
Offshore and Industrial Plant Engineering	785,281	(152,570)	(175,442)	22,908			
Engine and Machinery	1,734,899	173,201	153,219	62,447			
Others	77,964	(183,861)	(279,628)	32,233			
	₩ 9,065,348	(286,797)	(350,076)	253,166			

(*) Depreciation on the right-of-use assets for the year ended December 31, 2022 is included.

(In millions of won)		2021					
	Sales	Operating profit (loss)	Profit (Loss) for the year	Depreciation and amortization(*)			
Shipbuilding	₩ 6,320,638	(192,071)	(169,980)	128,064			
Offshore and Industrial Plant Engineering	419,162	(169,617)	(189,653)	23,428			
Engine and Machinery	1,491,725	132,618	113,264	53,770			
Others	72,471	(571,549)	(567,764)	34,096			
	₩ 8,303,996	(800,619)	(814,133)	239,358			

(*) Depreciation on the right-of-use assets for the year ended December 31, 2021 is included.

31. Operating Segments, Continued

(2) Assets and liabilities of each reportable segment as of December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2
		Total assets	Total liabilities
Shipbuilding	₩	5,533,895	5,582,120
Offshore and Industrial Plant Engineering		1,074,837	1,250,665
Engine and Machinery		1,460,637	1,307,505
Others		8,213,726	2,852,687
	₩	16,283,095	10,992,977
(In millions of won)		2021	I
		Total assets	Total liabilities
Shipbuilding	₩	3,583,839	3,753,820
Offshore and Industrial Plant Engineering		809,308	999,724
Engine and Machinery		1,035,976	922,514
Others		9,649,646	3,808,578
	₩	15,078,769	9,484,636

(3) Sales recognized by external customers who account for more than 10% of the Company sales are W1,381,225 million for the year ended December 31, 2022.

32. Selling, General and Administrative Expenses

Selling, general and administrative expenses for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Salaries	₩	125,822	132,702
Bonus		24,344	37,523
Post-employment benefit costs		8,811	30,947
Employee welfare		35,905	38,784
Depreciation		23,937	23,219
Amortization		55	253
Bad debt expenses (Reversal of bad debt)		(23,345)	63,740
Ordinary development costs		71,228	65,187
Advertising		5,895	5,435
Printing		1,009	684
Power		1,706	1,523
Warranty expenses		13,823	56,394
Insurance		477	525
Office supplies		888	473
Supplies		1,614	1,459
Utilities		151	64
Repairs		457	804
Travel		5,000	2,016
Research		3,236	2,951
Training		2,750	843
Service contract expenses		52,391	47,612
Transportation		373	158
Freight		2,273	3,265
Ceremony expenses		1,493	524
Rent		2,455	1,748
Data processing		12,392	11,757
Entertainment		567	418
Taxes and dues		2,183	2,165
Service charges		60,408	46,175
Automobile maintenance		3,314	2,232
Sales commissions		1,975	2,783
Others		6,185	6,536
	₩	449,772	590,899

33. Nature of Expenses

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

(In millions of won)	2022	2021
Changes in inventories W	(461,710)	(119,680)
Purchase of inventories	6,197,800	5,278,364
Depreciation	234,101	225,707
Depreciation on right-of-use assets	11,229	10,596
Amortization	7,836	3,056
Employee benefits(*1)	885,463	1,184,194
Others(*1)	2,477,426	2,522,378
(*2)	9,352,145	9,104,615

(*1) Additional amount arising from an ordinary wage lawsuit for the year ended December 31, 2021 is included.

(*2) Total expenses consist of cost of sales and selling, general and administrative expenses.

34. Finance Income and Finance Costs

Finance income and finance costs for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Finance income:			
Interest income	₩	45,319	25,084
Gain on disposal of financial instruments measured at FVTPL		9,126	988
Dividend income		38	34
Gain on foreign currency translation		48,520	91,658
Gain on foreign currency transactions		563,114	291,856
Gain on valuation of derivatives		410,328	72,741
Gain on derivatives transactions		62,607	31,288
Reversal of other provisions		-	185
	₩	1,139,052	513,834
Finance costs:			
Interest expense	₩	105,906	125,635
Loss on disposal of financial instruments measured at FVTPL		518	2,380
Loss on foreign currency translation		227,849	84,741
Loss on foreign currency transactions		361,087	210,359
Loss on valuation of derivatives		415,425	470,564
Loss on derivatives transactions		460,267	99,460
Other provision additions		20,402	6,594
	₩	1,591,454	999,733

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35. Other Non-Operating Income and Other Non-operating Expenses

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

(In millions of won)		2022	2021
Other non-operating income:			
Gain on disposal of investments in subsidiary and associate	₩	45	-
Gain on disposal of property, plant and equipment		11,161	8,422
Gain on disposal of intangible assets		-	1,556
Reversal of impairment loss on other current assets		857	-
Gain on valuation of firm commitments		739,113	450,160
Gain on disposal of right-of-use assets		709	1,240
Reversal of other allowance for doubtful accounts		8,264	28
Miscellaneous income		52,458	9,891
	₩	812,607	471,297
Other non-operating expenses:			
Other bad debt expenses	₩	5	2,116
Commissions		4,097	8,523
Warranty		6,992	2,932
Impairment loss on investments in subsidiary and associate		2,090	-
Impairment loss on property, plant and equipment		7,884	16,345
Impairment loss on intangible assets		43	404
Impairment loss on other current assets		23,518	7,858
Loss on disposal of property, plant and equipment		5,090	8,944
Loss on disposal of intangible assets		271	2,296
Loss on disposal of non-current assets held for sale		-	2,668
Loss on valuation of firm commitments		373,324	20,908
Donation		2,704	2,466
Loss on disposal of right-of-use assets		80	-
Miscellaneous expenses		66,804	220,672
	₩	492,902	296,132

36. Income Tax Expense

(1) Components of income tax benefit for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Current tax expense	₩	2,028	632
Adjustment for prior periods		(2,913)	-
Origination and reversal of temporary differences		(55,963)	(305,262)
Income tax recognized directly in equity		(12,571)	7,410
Total income tax benefit	₩	(69,419)	(297,220)

36. Income Tax Expense, Continued

(2) Income taxes recognized directly other than profit or loss for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Changes in fair value of financial assets measured at FVOCI Effective portion of changes in fair value of cash flow hedges Actuarial gains and losses Revaluation of property, plant and equipment	₩	- (53) (14,746) 2,228	(162) (2,797) 10,377 (8)
	₩	(12,571)	7,410

Income taxes related to changes in fair value of financial assets measured at FVOCI, effective portion of changes in fair value of cash flow hedges, actuarial gains and losses and others are recognized in other comprehensive incomes.

(3) Reconciliations of the effective tax rates for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Loss before income tax	₩	(419,495)	(1,111,353)
Tax rate		26.60%	26.60%
Income tax using the Company's statutory tax rate		(111,586)	(295,620)
Adjustment for:			
- Change in tax rate(*1)		43,349	-
 Tax effect of non-deductible expenses 		4,470	4,386
- Tax effect of tax-exempt income		(2)	(1)
- Tax incentives		(3,445)	(386)
- Current adjustments for prior periods		(2,913)	-
- Others		708	(5,599)
Income tax benefit	₩	(69,419)	(297,220)
Effective tax rate		(*2)	(*2)

(*1) Reflecting the revised tax law for the year ended December 31, 2022, a tax rate of 25.4%, expected to be realized after 2023, applied to temporary differences.

(*2) As income tax benefit is occurred, the Company did not calculate the effective tax rate.

(4) Deferred tax assets and deferred tax effects by origination and reversal of temporary differences for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Deferred assets at the end of the year	₩	893,619	837,656
Deferred assets at the beginning of the year		837,656	532,394
Deferred tax effects by origination and reversal of			
temporary differences	\overline{W}	55,963	305,262

36. Income Tax Expense, Continued

- (5) As of December 31, 2022 and 2021, the tax effects of temporary difference were calculated by expected tax rate of the fiscal year when the temporary differences are expected to reverse.
- (6) Deferred tax assets and liabilities are offset and presented in the separate statements of financial position, only if there are a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.
- (7) Changes in deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows:

			2022	
(In millions of won)	-	Beginning balance	Change	Ending balance
Allowance for doubtful accounts	₩	288,097	(23,019)	265,078
Defined benefit liabilities		207,905	(4,071)	203,834
Plan assets		(221,492)	(45,245)	(266,737)
Derivatives		2,984	(22,324)	(19,340)
Accrued expenses		16,880	1,846	18,726
Gains and losses on foreign exchange translations		(4,463)	55,513	51,050
Others		281,609	(102,503)	179,106
		571,520	(139,803)	431,717
Tax losses carried forward		246,471	190,294	436,765
Tax incentives carried forward	_	19,665	5,472	25,137
	₩	837,656	55,963	893,619

			2021	
	_	Beginning		Ending
(In millions of won)	_	balance	Change	balance
Allowance for doubtful accounts	₩	270,841	17,256	288,097
Defined benefit liabilities		166,016	41,889	207,905
Plan assets		(178,378)	(43,114)	(221,492)
Derivatives		(5,143)	8,127	2,984
Accrued expenses		19,132	(2,252)	16,880
Gains and losses on foreign exchange translations		27,562	(32,025)	(4,463)
Others		91,622	189,987	281,609
		391,652	179,868	571,520
Tax losses carried forward		121,909	124,562	246,471
Tax incentives carried forward		18,833	832	19,665
	₩	532,394	305,262	837,656

(8) The Company judges that deferred tax assets are recoverable, because it is probable that future taxable profit will be available which the Company can use the unused tax losses and others.

37. Loss per share

(1) Basic loss per share for the years ended December 31, 2022 and 2021 is as follows:

(In millions of won, In thousands of shares)	_	2022	2021
Loss for the year Weighted average number of ordinary shares outstanding(*)	₩	(350,076) 88,773	(814,133) 76,001
Loss per share (In won)	₩	(3,943)	(10,712)

(*) The weighted average number of ordinary shares outstanding for the years ended December 31, 2022 and 2021 are as follows:

(In shares)		2022	
	Number of shares outstanding	Weighted average (In days)	Weighted average number of shares outstanding
Beginning balance Weighted average number of ordinary	88,773,116	365/365	88,773,116
shares outstanding	88,773,116		88,773,116
(In shares)		2021	
	Number of shares outstanding	Weighted average (In days)	Weighted average number of shares outstanding
Beginning balance Capital increase Weighted average	70,773,116 18,000,000	365/365 106/365	70,773,116 5,227,397
number of ordinary			

(2) Since there are no diluted potential common shares for the years ended December 31, 2022 and 2021, diluted earnings per share have not been calculated.

38. Cash Generated from Operations

(1) Cash generated from operations for the years ended December 31, 2022 and 2021 is as follows:

(In millions of won)		2022	2021
Loss for the year	₩	(350,076)	(814,133)
Adjustments for:			1,668,902
Post-employment benefit costs		62,556	107,088
Depreciation		234,101	225,707
Depreciation on right-of-use assets		11,229	10,596
Amortization		7,836	3,056
Bad debt expenses (Reversal of bad debt)		(23,345)	63,740
Reversal of other allowance for doubtful accounts (Other non-operating income)		(8,264)	(28)
Other bad debt expenses (Other non-operating expenses)		5	2,116
Finance income		(505,498)	(189,518)
Finance costs		749,214	680,940
Other non-operating income		(751,885)	(461,379)
Other non-operating expenses		412,300	59,424
Income tax benefit		(69,419)	(297,220)
Trade receivables		(272,142)	(64,679)
Other receivables		(65,504)	(44,552)
Contract assets		(343,720)	(211,393)
Inventories		(461,711)	(119,680)
Derivatives		(138,313)	40,679
Firm commitments		477,916	22,528
Other current assets		(361,871)	(36,784)
Other non-current assets		(101,686)	33
Trade payables		(245,489)	229,708
Other payables		73,966	(137,687)
Contract liabilities		2,140,472	1,187,720
Retirement benefits paid		(113,789)	(77,821)
Succession of retirement benefits		1,158	2,814
Plan assets		(108,226)	(70,617)
Provisions		(143,821)	744,111

38. Cash Generated from Operations, Continued

(2) Significant transactions that do not involve cash inflows and outflows for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)	2022	2021
Reclassification of current portion of long-term borrowings	₩ 1,158,240	579,275
Reclassification of construction-in-progress	67,488	65,919
Reclassification of current portion of long-term loans	(103)	(705)
Change in other payables related to acquisition of property, plant and equipment	625	(6,789)
Increase in right-of-use assets and lease liabilities	34,847	11,410
Reclassification of investment properties to property, plant and equipment	2,612	-

39. Categories of Financial Instruments and Income and Costs by Categories

(1) Categories of financial instruments as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)	2022				
	-	Fair value- hedging instruments	Financial instruments measured at FVTPL	Equity investments measured at FVOCI	Financial instruments measured at amortized cost
Cash and cash equivalents Short-term financial assets Trade and other receivables Contract assets Derivative assets (current) Long-term financial assets Long-term trade and other receivables Derivative assets (non-current)	₩_	- - - 106,451 - - - 293,924 400,375	- - - 7,808 - - 7,808	- - - 1,738 - - 1,738	723,249 161,000 1,156,122 3,180,080 - 8 176,739 - 5,397,198
Short-term financial liabilities Lease liabilities (current) Trade and other payables Other provision (current) Derivative liabilities (current) Long-term financial liabilities Lease liabilities (non-current) Long-term trade and other payables Derivative liabilities (non-current)	₩	- 316,554 - - - 190,170 506,724	- - - - - - - -	- - - - - - - - - - - - - - - -	1,444,632 13,121 1,575,195 39,528 - 1,150,024 30,331 381 - 4,253,212

39. Categories of Financial Instruments and Income and Costs by Categories, Continued

(1) Categories of financial instruments as of December 31, 2022 and 2021 are summarized as follows, continued:

(In millions of won)	2021				
	-	Fair value- hedging instruments	Financial instruments measured at FVTPL	Equity investments measured at FVOCI	Financial instruments measured at amortized cost
Cash and cash equivalents Short-term financial assets Trade and other receivables Contract assets Derivative assets (current) Long-term financial assets Long-term trade and other receivables Derivative assets (non-current)	₩	- - - 11,368 - - 43,123 54,491	- - - 7,808 - - 7,808	- - - 1,738 - - 1,738	2,137,126 151,000 1,032,383 2,836,359 - 14 38,942 - - 6,195,824
Short-term financial liabilities Lease liabilities (current) Trade and other payables Other provision (current) Derivative liabilities (current) Long-term financial liabilities Lease liabilities (non-current) Long-term trade and other payables Derivative liabilities (non-current)	₩	- - - 148,742 - - - - 146,031 294,773	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - -	1,506,768 6,052 1,745,918 19,127 - 1,958,992 12,746 249 - 5,249,852

39. Categories of Financial Instruments and Income and Costs by Categories, Continued

(2) Financial instruments income and costs by categories for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)				2022		
	-	Net income (loss)	Other comprehensive income(loss)	Interest Income /expense(*)	Dividend income	Impairment loss
Fair value-hedging instruments Financial instruments measured	₩	(817,028)	526	-	-	-
at FVTPL		8,646	-	-	38	-
Financial instruments measured at amortized cost		(6,184)	-	(38,651)	-	31,604

(*) Interest income and expense arising from effective interest rate amortization are included.

(In millions of won)			2021		
	Net income (loss)	Other comprehensive income	Interest Income /expense(*)	Dividend income	Impairment loss
Fair value-hedging instruments Financial instruments measured	₩ (455,946)	7,718	-	-	-
at FVTPL Financial instruments measured	(1,358)	-	-	34	-
at FVOCI	-	(42)	-	-	-
Financial instruments measured at amortized cost	(72,274)	-	(83,362)	-	(65,829)

(*) Interest income and expense arising from effective interest rate amortization are included.

40. Risk of Financial Instruments

- (1) Credit risk
- 1) Exposure to credit risk

The carrying amounts of financial assets and contract assets represent the maximum credit exposure. The maximum exposure to credit risk as of December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Cash and cash equivalents(*1)	₩	723,192	2,137,040
Fair value-hedging instruments		400,375	54,491
Financial instruments measured at FVTPL		7,808	7,808
Financial instruments measured at amortized cost(*2)		4,673,949	4,058,698
	\overline{W}	5,805,324	6,258,037

(*1) Cash held as of December 31, 2022 and 2021 is excluded.

(*2) The carrying amounts of contract assets as of December 31, 2022 and 2021 are included.

The maximum exposure to credit risk for financial guarantee contracts is W52,054 million as of December 31, 2021.

The maximum exposure to credit risk for financial instruments measured at amortized cost (including contract assets) by geographic region as of December 31, 2022 and 2021 is as follows:

(In millions of won)		2022	2021
Korea	₩	1,184,412	965,601
North America		87	56,892
Asia		2,080,178	1,439,877
Europe		1,030,851	1,448,116
Others		378,421	148,212
	\overline{W}	4,673,949	4,058,698

2) Impairment loss

(i) Impairment loss on trade and other receivables and contract assets for the years ended December 31, 2022 and 2021 is as follows:

(In millions of won)		2022	2021
Impairment loss(reversal) on trade and other receivables and contract assets	₩	(31,604)	65,828

40. Risk of Financial Instruments, Continued

- (1) Credit risk, continued
- 2) Impairment loss, continued
- (ii) The aging of trade and other receivables and contract assets and the amount of impairment in each aging as of December 31, 2022 and 2021 are as follows:

(In millions of won)		2022		2021		
		Gross	Impairment	Gross	Impairment	
Not past due	₩	4,814,192	(340,363)	4,252,426	(364,932)	
0~6 months past due		30,723	(5,855)	38,655	(28,647)	
6~12 months past due		18,494	(5,908)	13,242	(12,903)	
1~3 years past due		53,586	(52,213)	32,523	(30,526)	
More than three years past due		683,990	(683,705)	691,195	(683,349)	
	₩	5,600,985	(1,088,044)	5,028,041	(1,120,357)	

(iii) Changes in the allowance for doubtful account in respect of trade and other receivables and contract assets for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)		2022	2021
Beginning balance	₩	1,120,357	1,054,545
Impairment loss recognized		445	68,619
Reversal of allowance for doubtful accounts		(32,049)	(2,791)
Write-off		(709)	(16)
Ending balance		1,088,044	1,120,357

The allowance for doubtful accounts in respect of trade and other receivables and contract assets are used to record impairment losses until the Company is certain that the amount of assets cannot recover. If the Company decides that the asset cannot be recovered, allowance for doubtful accounts will be removed and offset from the financial asset.

For the years ended December 31, 2022 and 2021, impairment losses and reversal of allowance for doubtful accounts arising from in other receivables are recorded as other non-operating income (loss) and the details are as follows:

(In millions of won)		2022	2021
Other bad debt expenses Reversal of other allowance doubtful accounts	₩	5 (8,264)	2,116 (28)
	W	(8,259)	2,088

40. Risk of Financial Instruments, Continued

- (1) Credit risk, continued
- 3) The analysis of the aging of financial assets that are past due as of December 31, 2022 and 2021, but not impaired is summarized as follows:

(In millions of won)				2022		
		Carrying amount	6 months or less	6~12 months	1~3 years	More than 3 years
Financial instruments measured at amortized cost	₩	39,112	24,868	12,586	1,373	285
(In millions of won)				2021		
		Carrying amount	6 months or less	6~12 months	1~3 years	More than 3 years
Financial instruments measured at amortized cost	₩	20,190	10,008	339	1,997	7,846

(2) Liquidity risk

1) The contractual maturities of financial liabilities, including contractual interest payments and excluding the impact of offsetting agreements as of December 31, 2022 are summarized as follows:

(In millions of won)		2022					
	_	Carrying amount	Contractual cash flow	6 months or less	6~12 months	1~3 years	More than 3 years
Non-derivative financial liabilities:							
Borrowings	₩	1,661,385	1,705,671	1,205,332	218,627	281,712	-
Bonds		933,271	1,013,846	75,338	15,092	525,097	398,319
Trade and other payables		1,575,576	1,575,576	1,575,195	-	381	-
Lease liabilities		43,452	44,591	6,343	7,122	17,336	13,790
Derivative financial							
liabilities:							
Forward exchange contracts used for							
hedging	_	506,724	536,212	177,685	148,433	209,885	209
	₩	4,720,408	4,875,896	3,039,893	389,274	1,034,411	412,318

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

40. Risk of Financial Instruments, Continued

- (2) Liquidity risk, continued
- 2) The contractual maturities of financial liabilities, including contractual interest payments and excluding the impact of offsetting agreements as of December 31, 2021 are summarized as follows:

(In millions of won)				2021			
		Carrying	Contractual	6 months	6~12	1~3	More than
		amount	cash flow	or less	months	years	3 years
Non-derivative financial liabilities:							
Borrowings	₩	2,663,513	2,743,426	376,062	920,614	1,446,750	-
Bonds		802,247	829,488	107,475	173,232	548,781	-
Trade and other payables		1,746,167	1,746,167	1,745,918	-	249	-
Lease liabilities		18,798	20,998	3,492	3,026	6,957	7,523
Derivative financial							
liabilities:							
Forward exchange							
contracts used for hedging	J	294,773	308,334	73,547	78,402	152,927	3,458
	₩	5,525,498	5,648,413	2,306,494	1,175,274	2,155,664	10,981

As of December 31, 2021, the Company did not include payment guarantee contracts amounting to W19,127 million, which are recognized as financial liabilities, due to uncertain timing of expenditure. As of December 31, 2021, the maximum amount of guarantee that the Company may be obliged to cover in connection with financial guarantee contracts is W52,054 million, other than the financial guarantee contract.

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

3) The periods in which the cash flows associated with cash flow hedges are expected to occur as of December 31, 2022 and 2021 are summarized as follows:

(In millions of won)				2022			
	-	Carrying amount	Expected cash flows	6 months or less	6~12 months	1~3 years	More than 3 years
Currency swap	-						
Assets	₩	105,262	127,281	48,645	12,390	66,246	-
Liabilities		-	-	-	-	-	-
Forward exchange							
Assets		21	21	20	1	-	-
Liabilities		(121)	(129)	-	(129)	-	-
	₩	105,162	127,173	48,665	12,262	66,246	

(In millions of won)				2021			
	-	Carrying amount	Expected cash flows	6 months or less	6~12 months	1~3 years	More than 3 years
Currency swap	-						
Assets	₩	40,612	40,869	(327)	3,504	37,692	-
Liabilities		(150)	(468)	(165)	(65)	(238)	-
Forward exchange							
Assets		269	281	-	193	88	-
Liabilities		(1,041)	(1,071)	-	(1,071)	-	-
	₩	39,690	39,611	(492)	2,561	37,542	-

40. Risk of Financial Instruments, Continued

- (3) Currency risk
- 1) Exposure to currency risk
- (i) The Company's exposure to foreign currency risk as of December 31, 2022 is as follows:

			202	22		
-	USD	EUR	CNY	JPY	Others	Total
₩	351,323	77	-	108	16,512	368,020
	718,561	38,868	-	218	116,718	874,365
	3,037,707	13,135	-	-	77,729	3,128,571
-	4,107,591	52,080	-	326	210,959	4,370,956
-	(484,753)	(54,851)	(419)	(2,336)	(199,052)	(741,411)
	(1,205,339)	(44,794)	-	-	(8,902)	(1,259,035)
_	-	-	-		(39,528)	(39,528)
-	(1,690,092)	(99,645)	(419)	(2,336)	(247,482)	(2,039,974)
-						
	2,417,499	(47,565)	(419)	(2,010)	(36,523)	2,330,982
_	(106,244)	13	-		(118)	(106,349)
₩	2,311,255	(47,552)	(419)	(2,010)	(36,641)	2,224,633
		₩ 351,323 718,561 3,037,707 4,107,591 (484,753) (1,205,339) - (1,690,092) 2,417,499 (106,244)	 ₩ 351,323 77 718,561 38,868 3,037,707 13,135 4,107,591 52,080 (484,753) (54,851) (1,205,339) (44,794) (1,690,092) (99,645) 2,417,499 (47,565) (106,244) 13 	USD EUR CNY 351,323 77 - 718,561 38,868 - 3,037,707 13,135 - 4,107,591 52,080 - (484,753) (54,851) (419) (1,205,339) (44,794) - - - - (1,690,092) (99,645) (419) 2,417,499 (47,565) (419) (106,244) 13 -	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{ c c c c c c c c } \hline USD & EUR & CNY & JPY & Others \\ \hline \hline USD & & EUR & CNY & JPY & Others \\ \hline $

(*) Derivative contracts to hedge the risk of exchange rate fluctuations are not considered effectiveness of the hedge.

(ii) The Company's exposure to foreign currency risk as of December 31, 2021 is as follows:

(In millions of won)				202	1		
		USD	EUR	CNY	JPY	Others	Total
Cash and cash equivalents Trade and other receivables	₩	276,911 466.481	79 20,831	-	153 226	49,782 207,871	326,925 695,409
Contract assets		2,739,345	22,238	-		70,249	2,831,832
		3,482,737	43,148	-	379	327,902	3,854,166
Trade and other payables		(573,460)	(47,624)	(557)	(3,808)	(313,902)	(939,351)
Borrowings and bonds		(1,475,476)	(100,740)	-	(7,279)	(14,587)	(1,598,082)
Other provision		-	-	-	-	(19,127)	(19,127)
		(2,048,936)	(148,364)	(557)	(11,087)	(347,616)	(2,556,560)
Net exposure to statement of							
financial position		1,433,801	(105,216)	(557)	(10,708)	(19,714)	1,297,606
Derivative contracts(*)		(240,700)	150	-	-	269	(240,281)
Net exposure	₩	1,193,101	(105,066)	(557)	(10,708)	(19,445)	1,057,325

(*) Derivative contracts to hedge the risk of exchange rate fluctuations are not considered effectiveness of the hedge.

40. Risk of Financial Instruments, Continued

- (3) Currency risk, continued
- 1) Exposure to currency risk, continued

(iii) Exchange rates have been applied for the years ended December 31, 2022 and 2021 are as follows:

(In won)		Average	rate	Year-end spot rate	
	_	2022	2021	2022	2021
USD	₩	1,291.95	1,144.42	1,267.30	1,185.50
EUR		1,357.38	1,352.79	1,351.20	1,342.34
CNY		191.57	177.43	181.44	186.26
JPY(100)		983.44	1,041.45	953.18	1,030.24

2) Sensitivity analysis

A weakening of the won against the USD, EUR, CNY, JPY and others as of December 31, 2022 and 2021 would have changed profit or loss by the amounts shown below. This analysis is based on foreign currency exchange rate variances that the Company considered to be reasonably possible at the reporting date. In addition, this analysis assumes that all other variables, in particular interest rates, remain constant. The changes in profit or loss are as follows:

(In millions of won)		Profit or lo	DSS
		2022	2021
USD (3 percent strengthening)	W	69,338	35,793
EUR (3 percent strengthening)		(1,427)	(3,161)
CNY (3 percent strengthening)		(13)	(17)
JPY (3 percent strengthening)		(60)	(321)

A strengthening of the won against the above currencies as of December 31, 2022 would have had the equal but opposite effect on the above currencies to the amounts shown above, assuming all other variables remain constant.

(4) Interest rate risk

1) The carrying amounts of the Company's interest-bearing financial instruments as of December 31, 2022 and 2021 is as follows:

(In millions of won)			
		2022	2021
Fixed interest rate instruments:			
Financial assets	\mathbf{W}	1,081,837	2,381,935
Financial liabilities		(1,068,276)	(1,923,313)
	W	13,561	458,622
Floating interest rate instruments:			
Financial assets	\mathbf{W}	3,580	3,126
Financial liabilities		(1,526,380)	(1,543,270)
	W	(1,522,800)	(1,540,144)

40. Risk of Financial Instruments, Continued

- (4) Interest rate risk, continued
- 2) Interest rate risk arises from savings and borrowings with floating interest rates. The Company properly hedges the risk in borrowings with floating interest rates through interest rate swaps. Interest rate swap contracts as of December 31, 2022 are as follows:

(In thousands of foreign currency)

Counterparties	Amount	Interest r	Expiration date	
Korea Development Bank	USD 100,000	Receives floating interest rate Pays fixed interest rate	US LIBOR(3M)+1.92% 2.21%	2024.02.26
		Receives floating interest rate	US LIBOR(3M)+2.82%	
KEB Hana Bank	USD 50,000	Pays fixed interest rate	2.81%	2023.07.21
		Receives floating interest rate	US LIBOR(3M)+0.95%	0004 00 00
KEB Hana Bank and others	USD 200,000	Pays fixed interest rate	1.47%	2024.03.28
Korea Development Bank	USD 300,000	Receives fixed interest rate	3.18%	2027.03.28
Korea Development Bank	03D 300,000	Pays fixed interest rate	2.97%	2027.03.20
KEB Hana Bank and others		Receives floating interest rate	US LIBOR(3M)+1.90%	2023.03.29
	000 200,000	Pays fixed interest rate	2.10%	2020.00.20

3) Cash flow sensitivity analysis for floating interest rate instruments

A change of 100 basis points in interest rates as of December 31, 2022 and 2021 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 in profit or loss are as follows:

(In millions of won)		Profit o	r loss
	_	100 bp increase	100 bp decrease
2022			
Floating interest rate instruments	₩	(15,228)	15,228
Interest rate swap	_	11,406	(11,406)
Net cash flow sensitivity	₩_	(3,822)	3,822
2021			
Floating interest rate instruments	₩	(15,401)	15,401
Interest rate swap		9,365	(9,365)
Net cash flow sensitivity	₩	(6,036)	6,036

40. Risk of Financial Instruments, Continued

- (5) Fair value
- 1) Fair values versus carrying amounts
- (i) The fair values and the carrying amounts of financial assets and liabilities as of December 31, 2022 are as follows:

2022

(In millions of won)

(In millions of won)	2022							
			Financial	Equity	Financial			
		Fair value-	instruments	investments	instruments			
		hedging	measured at	measured	measured at			
	-	instruments	FVTPL	at FVOCI	amortized cost			
Financial assets measured at								
fair value:								
Financial assets measured at								
FVTPL(*1)	₩	-	7,808	-	-			
Financial assets measured at								
FVOCI(*2)		-	-	1,738	-			
Derivative assets		400,375	-	-	-			
	-	400,375	7,808	1,738	-			
Financial assets not measured at	-							
fair value:								
Cash and cash equivalents		-	-	-	723,249			
Financial instruments		-	-	-	161,008			
Trade and other receivables		-	-	-	1,332,861			
Contract assets	_	-	-	-	3,180,080			
		-	-	-	5,397,198			
Total financial assets	₩	400,375	7,808	1,738	5,397,198			
Financial liabilities measured at								
fair value:								
Derivative liabilities	₩	506,724	-	-	-			
Financial liabilities not measured								
at fair value:								
Borrowings		-	-	-	1,661,385			
Bonds		-	-	-	933,271			
Trade and other payables		-	-	-	1,575,576			
Lease liabilities		-	-	-	43,452			
Other provision	_	-	-	-	39,528			
	_	-	-	-	4,253,212			
Total financial liabilities	₩	506,724	-	-	4,253,212			
	. =							

(*1) The amounts of financial assets that were recorded at their acquisition cost because the fair values cannot be measured reliably as of December 31, 2022 are W271 million.

(*2) The amounts of financial assets that were recorded at their acquisition cost because the fair values cannot be measured reliably as of December 31, 2022 are ₩1,738 million.

40. Risk of Financial Instruments, Continued

- (5) Fair value, continued
- 1) Fair values versus carrying amounts, continued
- (ii) The fair values and the carrying amounts of financial assets and liabilities as of December 31, 2021 are as follows:

2021

(In millions of won)

(In millions of won)	2021								
	_		Financial	Equity	Financial				
		Fair value-	instruments	investments	instruments				
		hedging	measured at	measured	measured at				
	_	instruments	FVTPL	at FVOCI	amortized cost				
Financial assets measured at									
fair value:									
Financial assets measured at FVTPL(*1)	₩	-	7,808	-	-				
Financial assets measured at			.,						
FVOCI(*2)		-	-	1,738	-				
Derivative assets		54,491	-	-	-				
	-	54,491	7,808	1,738					
Financial assets not measured at	-	·	,	· · ·					
fair value:									
Cash and cash equivalents		-	-	-	2,137,126				
Financial instruments		-	-	-	151,014				
Trade and other receivables		-	-	-	1,071,325				
Contract assets		-	-	-	2,836,359				
	_	-	-	-	6,195,824				
Total financial assets	₩	54,491	7,808	1,738	6,195,824				
Financial liabilities measured at									
fair value:									
Derivative liabilities	₩	294,773	-	-	-				
Financial liabilities not measured									
at fair value:									
Borrowings		-	-	-	2,663,513				
Bonds		-	-	-	802,247				
Trade and other payables		-	-	-	1,746,167				
Lease liabilities		-	-	-	18,798				
Other provision	_		-	-	19,127				
	_	-	-	-	5,249,852				
Total financial liabilities	₩	294,773	-	-	5,249,852				
	=				C ·				

(*1) The amounts of financial assets that were recorded at their acquisition cost because the fair values cannot be measured reliably as of December 31, 2021 are W271 million.

(*2) The amounts of financial assets that were recorded at their acquisition cost because the fair values cannot be measured reliably as of December 31, 2021 are ₩1,738 million.

40. Risk of Financial Instruments, Continued

- (5) Fair value, continued
- 2) Interest rates used for determining fair value

The interest rates used to discount estimated cash flows was determined by adding an adequate credit spread to the government yield curve at the reporting date. The interest rates applied as of December 31, 2022 and 2021 are as follows:

(In percentage)	2022	2021
Derivatives	6.64	4.01

3) Fair value hierarchy

The Company classified fair value measurements in accordance with the fair value hierarchy which reflects the significance of the inputs used in fair value measurements:

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

The financial instruments measured at fair value, by fair value hierarchy as of December 31, 2022 and 2021 are as follows:

(In millions of won)		Level 1	Level 2	Level 3	Total
2022: Financial assets measured at FVTPL Derivative assets Derivative liabilities	₩	- - -	- 400,375 506,724	7,537 - -	7,537 400,375 506,724
2021: Financial assets measured at FVTPL Derivative assets Derivative liabilities	₩	- - -	- 54,491 294,773	7,537 - -	7,537 54,491 294,773

The fair value of financial instruments traded in active markets 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 Company is the current bid price. These instruments are included in level 1.

The fair value of financial instruments that are not traded in an active market 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.

40. Risk of Financial Instruments, Continued

- (5) Fair value, continued
- 3) Fair value hierarchy, continued

Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments.
- 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 entities newly established or having no comparative entity are excluded from the fair value valuation because their fair values cannot be measured reliably.

(6) Valuation techniques and input variables of Level 2 fair values

The valuation techniques and input variables used in measuring Level 2 fair values as of December 31, 2022 and 2021 are as follows:

(In millions of won)

	2022	2021	Valuation techniques	Input variables
Derivatives: Derivative assets	400,375	54,491	Cash flow discount	Foreign currency forward
			model	price, discount rate and others
Derivative liabilities	506,724	294,773	Cash flow discount model	Foreign currency forward price, discount rate and others

(7) Level 3 fair values

1) Changes in assets which are classified as Level 3 fair values among assets measured at fair value for the years ended December 31, 2022 and 2021 are as follows:

(In millions of won)	Financial assets measured at FVTPL				
		2022	2021		
Beginning balance Transfer to Level 3	₩	7,537	7,537		
Ending balance	₩	7,537	7,537		

40. Risk of Financial Instruments, Continued

- (7) Level 3 fair values, continued
- 2) The valuation techniques and input variables used in measuring Level 3 fair values as of December 31, 2022 and 2021 are as follows:

(In millions of won)

		2022	2021	Valuation techniques	Input variables	Significant unobservable input variables	Ranges of significant unobservable input variables
Financial assets measur	ed						
at FVTPL:							
Machinery Financial				Net asset			
Cooperative	₩	4,998	4,998	value model	-	-	-
Construction Guarantee				Net asset			
Cooperative		2,539	2,539	value mode	-	-	-

- (8) Offsetting of financial assets and financial liabilities
- 1) The details of financial assets and financial liabilities offsetting arrangements as of December 31, 2022 are as follows:

(In millions of won)		2022						
		Total cognized ncial assets	Total recognized financial assets that will be offset	Net financial assets presented in the statement of <u>financial position</u>	Net amount			
Financial assets: Trade and other receivables	₩	1,273	(543)	730	730			
Financial liabilities: Trade and other payables		3,902	(543)	3,359	3,359			

2) The details of financial assets and financial liabilities offsetting arrangements as of December 31, 2021 are as follows:

(In millions of won)	2021						
	reco	Fotal ognized ial assets	Total recognized financial assets that will be offset	Net financial assets presented in the statement of financial position	Net amount		
Financial assets: Trade and other receivables	₩	279	(178)	101	101		
Financial liabilities: Trade and other payables		5,181	(178)	5,003	5,003		

41. Commitments and Contingencies

- (1) As of December 31, 2022, the Company has entered into general loan agreements with Korea Development Bank and others amounting to W1,116,000 million and USD 520,000 thousand.
- (2) As of December 31, 2022, the Company has entered into credit facilities agreements such as letters of credit with KEB Hana Bank and others for the Company's exports and imports amounting to W210,900 million and USD 1,151,488 thousand.
- (3) As of December 31, 2022, the Company has entered into credit facilities agreements such as pre-shipment credit with Shinhan Bank and others amounting to ₩53,200 million.
- (4) As of December 31, 2022, in connection with the Company's contract performance guarantees, the Company has been provided with guarantees amounting to W2,379,659 million and USD 12,816,654 thousand by various financial institution. Among them, the Company has also been provided with payment guarantees in relation to ship advances from customers amounting to USD 10,373,199 thousand by Export-Import Bank of Korea and others. Regarding this, the Company provides as collateral its ships under construction and construction materials.

42. Litigations

(1) A claim for damages (Seoul Central District Court 2016 gahap 519022)

Date of filing	October 14, 2015
Litigant	Plaintiff: Korea Gas Corporation, Defendant: The Company and 18 other firms
Litigation content	Korea Gas Corporation filed a suit against 19 firms including the Parent Company claiming compensation (amounting to W166,000 million) for a damage arising from bidding collusion of first and second main pipe constructions which are ordered to Doosan Heavy Industries & Construction Co., Ltd., Hyundai Engineering & Construction Co., Ltd. and 22 other construction firms by Korea Gas Corporation.
Litigation value	W166,000 million
The progress of litigation	In progress after filing appeals on October 14, 2015. Plaintiff partially won (₩116,100 million) the first trial on January 13, 2022
Future litigation schedule and countermeasures The effect on the Company as a result of litigation	Ruling of first trial was accepted. (Plaintiff and defendant didn't appeal till deadline on February 4, 2022) The Company recognized provision amount of W10,500 million assuming that the Company loses a suit at the end of year ended December 31, 2021. The Company paid compensation amount of W10,500 million agreed with between the defendants on January, 2022.

42. Litigations, Continued

(2) Ordinary wage lawsuit (Busan High Court 2022 na 29)

Date of filing	December 28, 2012
Litigant	Plaintiff: Jeong and nine others, Defendant: The Company
Litigation content	Plaintiff filed a suit claiming that total bonuses should be included in the ordinary wage category and recalculated.
Litigation value	₩630 million
The progress of litigation	Defendant partially lost the first trial (Ulsan District Court 2012 gahap 10108) on February 12, 2015. Defendant totally won the second trial (Busan High Court 2015 na 1888) on January 13, 2016.
	The third trial(Supreme Court 2016 da 7975) was reversed and remanded for the purpose of loss of the defendant on December 16, 2021. The reversed and remanded suit(Busan High Court 2022 na 29) was receipted on January 3, 2022. 1 st adjustment on July 20, 2022 2 nd adjustment on August 17, 2022 2 rd adjustment on Sontember 21, 2022
	3 rd adjustment on September 21, 2022 4 th adjustment on December 3, 2022
	Decisions to replace adjustment (compulsory adjustment) on December 28, 2022
	Compulsory adjustment approved on January 12, 2023
Future litigation schedule and countermeasures	Currently, the case was closed due to the confirmation of the compulsory adjustment decision, and the Company will pay unpaid legal allowances through preparatory procedures such as the establishment of a computer system according to the compulsory adjustment decision
The effect on the Company as a result of litigation	Due to, the Company expected losses, the Company recognized other provision amount W5 83,900 million by estimating amount and delayed compensation the Company has to pay to employees at the end of the year according to the judgment of the Supreme Court and Busan High Court 2018 na 54524.

42. Litigations, Continued

(3) KOC Claim Arbitration

Date of filing	February 17, 2020
Litigant	Plaintiff: Kuwait Oil Company, Defendant: The Company and Korea Shipbuilding & Offshore Engineering Co., Ltd.
Litigation content	The Kuwait Oil Company (KOC) claimed compensation for a defect to the part of construction delivered by Offshore, Industrial Plant and Engineering segment.
Litigation value	USD 64 million
The progress of litigation	The KOC filed a request for arbitration with the London International Court of Arbitration (LCIA) on February 17, 2020.
	The KOC submitted a statement of claiming compensation for a defect to the part of construction on January 30, 2021.
	The Company submitted refutation document for plaintiff`s statement on May 7, 2021.
	The KOC submitted response and The Company submitted refutation document on June 25, 2021.
	Complete of `Document Production' procedure on November 16, 2021. The Company submitted the witness statements on March 21, 2022
	The Company submitted the witness statements on March 21, 2022 The Company submitted the witness response statements on May 16, 2022
	The Company submitted the 1 st specialist statements on July 9, 2022
	The Company submitted the 2 nd specialist statements on September 30, 2022
	Hearing on October 25, 2022 to November 3, 2022
Future litigation schedule and countermeasures	The Company will submit a response to the statement of plaintiff.
The effect on the Company as a result of litigation	If the Company loses the case, it is expected to make an additional loss from compensation. Currently, the impact on the Company's financial statements, if any, cannot be reliably estimated.

In addition to the cases mentioned above, the Company is currently a defendant in 38 lawsuits involving claims amounted to W144,400 million. Currently, the impact on the Company's financial statements, if any, cannot be reliably estimated.

Meanwhile, as of June 17, 2019, a lawsuit was filed against the Company and Korea Shipbuilding & Offshore Engineering Co., Ltd. for invalidity of split-off June 1, 2019, but the lawsuit was terminated as of January 26, 2023

43. Related Parties

(1) As of December 31, 2022, related parties with the Company are as follows:

Ultimate parent	Main business
HD HYUNDAI CO.,LTD.(formerly known as Hyundai Heavy Industries Holdings Co., Ltd.)(*1)	Investment
Intermediate parent	Main business
Korea Shipbuilding & Offshore Engineering Co., Ltd.	Holding Company
Subsidiary(*3)	Main business
Hyundai Engine Company Ltd.(*2)	Manufacture internal combustion engines
Associate	Main business
KC LNG Tech Co., Ltd.	Other engineering services
Others (large-scale corporate conglomerate)(*5)(*6)	Main business
Hyundai Genuine Co., Ltd	Sale and manufacture of machinery equipment for
	construction and mining
Hyundai Samho Heavy Industries Co., Ltd.(*4)	Shipbuilding
Hyundai Mipo Dockyard Co., Ltd.	Shipbuilding
Hyundai Hyms Co., Ltd.	Sale and manufacture of machinery equipment for shipbuilding
Hyundai Engineering & Technology Co., Ltd.	Other engineering services
Ulsan Hyundai Football Club Co., Ltd.	Football club
Hyundai Heavy Industries Mos Co., Ltd.	Maintenance services of business facilities
Hyundai Energy Solutions Co., Ltd.	Solar photovoltaic and renewable energy
Hyundai Doosan Infracore Co., Ltd	Sale and manufacture of construction equipment
HYUNDAI-VIETNAM SHIPBUILDING CO., LTD.	Shipbuilding
Hyundai Transformers and Engineering India Private. Ltd.	Sale and manufacture of transformers
Hyundai Heavy Industries Brasil	Manufacture, trade and repair of heavy equipment
- Manufacturing and Trading of Construction Equipment	
Hyundai Heavy Industries Miraflores Power Plant Inc.	Manufacturing
Hyundai Energy Solutions America Inc.	Sales of solar module
HHI Mauritius Limited	Manufacturing
Hyundai Heavy Industries Technology Center India Pvt., Ltd.	Consulting of engineering
Hyundai Arabia Company L.L.C.	Industrial plant construction
Hyundai Samho Heavy Industries Panama, Inc.	Civil engineering
Hyundai Electric & Energy Systems Co., Ltd.	Sale and manufacture of industrial electric equipment
Hyundai Construction Equipment Co., Ltd.	Sale and manufacture of machinery equipment for construction
Hyundai Global Service Co., Ltd.	Engineering services
Hyundai Oilbank Co., Ltd.	Manufacturing of petroleum products
Hyundai Robotics Co., Ltd.	Manufacturing of industrial robots
Other related parties of HD HYUNDAI CO., LTD.(formerly known as Hyundai Heavy Industries Holdings Co., Ltd.)	Other business
Other related parties of Hyundai Electric & Energy Systems Co., Ltd.	Other business
Other related parties of Hyundai Construction Equipment Co., Ltd.	Other business
Other related parties of Hyundai Global Service Co., Ltd.	Other business
Other related parties of Hyundai Oilbank Co., Ltd.	Other business
Other related parties of Hyundai Doosan Infracore Co., Ltd	Other business
Other related parties	Other business

43. Related Parties, Continued

- (1) As of December 31, 2022, related parties with the Company are as follows, continued:
 - (*1) For the year ended December 31, 2022, it was newly incorporated as an ultimate parent.
 - (*2) For the year ended December 31, 2022, it was newly incorporated as a subsidiary.
 - (*3) Hyundai Heavy Industries Free Zone Enterprise was excluded from subsidiary due to liquidation for the year ended December 31, 2022.
 - (*4) Hyundai Infra Solutions Co., Ltd. was merged with Hyundai Samho Heavy Industries Co., Ltd. for the year ended December 31, 2022.
 - (*5) KOMAS Corporation and Hyundai West Africa Limited were excluded from related parties due to liquidation for the year ended December 31, 2022.
 - (*6) Hyundai Heavy Industries Power Systems Co., Ltd., Yantai Hyundai Moon Heavy Industries Co., Ltd., and Hyundai Seentec Co., Ltd. were excluded from related parties for the year ended December 31, 2022.
- (2) Transactions with related parties
- 3) Significant transactions for the years ended December 31, 2022 and 2021 with related parties are as follows:

(In millions of won)	2022				
		Sales and others (*1)	Purchas	Purchases and others (
		Sales	Purchase of raw materials	Purchase of Property, plant and equipment	Purchase of others
Ultimate parent					
HD HYUNDAI CO., LTD. (formerly known as Hyundai					
Heavy Industries Holdings Co., Ltd.)	₩	1,316	-	-	587
Intermediate parent					
Korea Shipbuilding & Offshore Engineering Co., Ltd.		9,622	8,436	-	92,702
Subsidiaries					
Hyundai Heavy Industries Free Zone Enterprise(*3)		53	-	-	-
Hyundai Engine Company Ltd.		19,814	6,168	-	-
Total		19,867	6,168	-	-
Associate					
KC LNG Tech Co.,Ltd.	₩	-	171	-	284
Others (large-scale corporate conglomerate)					
Hyundai Robotics Co., Ltd.		698	125	9	-
Hyundai Electric & Energy Systems Co., Ltd.		25,043	88,440	3,739	66
Hyundai Construction Equipment Co., Ltd.		13,546	215	-	75
Hyundai Genuine Co., Ltd		2,999	802	3,653	341
Hyundai Samho Heavy Industries Co., Ltd.(*4)		557,799	67	6,644	-
Hyundai Mipo Dockyard Co., Ltd.		503,756	12,705	-	-
Hyundai Engineering & Technology Co., Ltd.		860	25,053	-	-
Hyundai Oilbank Co., Ltd.		624	76,767	-	205
Hyundai Hyms Co., Ltd.		224	55,127	-	95
Hyundai Heavy Industries Mos Co., Ltd.		4,523	115,994	8	-
Hyundai Global Service Co., Ltd.		22,419	13,504	129	38,836
Hyundai Heavy Industries Power Systems Co., Ltd.					
(*5)		75	2,927	-	79
Hyundai Energy Solutions Co., Ltd.		821	-	-	-
International Maritime Industries Company		13,163	-	-	-
Others		7,137	739	550	2,713
	۰. ۱.	1,153,687	392,465	14,732	42,410
	₩	1,184,492	407,240	14,732	135,983

43. Related Parties, Continued

- (2) Transactions with related parties, continued
- 1) Significant transactions for the years ended December 31, 2022 and 2021 with related parties are as follows, continued:
 - (*1) Includes disposal of property, plant and equipment and others.
 - (*2) Includes W995 millions of lease payment.
 - (*3) As the liquidation process of Hyundai Heavy Industries Free Zone Enterprise has been completed for the year ended December 31, 2022, the transactions of 2022 are included
 - (*4) As Hyundai Samho Heavy Industries Co., Ltd. has merged Hyundai Infra Solutions Co., Ltd for the year ended December 31, 2022, the transactions between the Company and Hyundai Infra Solutions Co., Ltd are included.
 - (*5) As Hyundai Heavy Industries Power Systems Co., Ltd. has been separated, only transactions of January and February, 2022 are included.

In addition to the above transactions, the details of acquisition of investment in subsidiary from related parties for the year ended December 31, 2022, are as follows:

(In millions of won)

	Acquired			Acquired	
Counter parties	property	Company		amount	Note
Korea Shipbuilding & Offshore Engineering	Investment in	Hyundai Engine Company			
Co., Ltd.	subsidiary	Ltd.	₩	29,000	All of shares held

43. Related Parties, Continued

- (2) Transactions with related parties, continued
- 1) Significant transactions for the years ended December 31, 2022 and 2021 with related parties are as follows, continued:

(In millions of won)			2021		
	_	Sales and others	Purch	ases and others(*2	2)
	_	Sales(*1)	Purchase of raw materials	Purchase of Property, plant and equipment	Purchase of others
Parent					
Korea Shipbuilding & Offshore Engineering Co.,					
Ltd.	₩	7,994	14,080	-	68,620
Subsidiary					
Hyundai Heavy Industries Free Zone Enterprise		298	-	-	-
Associate					
KC LNG Tech Co.,Ltd.		2,490	71	-	-
Others (large-scale corporate conglomerate)					
Hyundai Robotics Co., Ltd.		844	7	221	-
Hyundai Electric & Energy Systems Co., Ltd.		21,418	72,818	2,141	144
Hyundai Construction Equipment Co., Ltd.		14,576	268	4,179	147
Hyundai Heavy Industries Holdings Co., Ltd.		1,319	-	-	299
Hyundai Genuine Co., Ltd		1,317	-	-	-
Hyundai Samho Heavy Industries Co., Ltd.		494,040	110	-	-
Hyundai Mipo Dockyard Co., Ltd.		325,244	15,575	-	-
Hyundai Engineering & Technology Co., Ltd.		591	18,112		· -
Hyundai Oilbank Co., Ltd.		92	49,482		185
Hyundai Hyms Co., Ltd.		265	49,793	-	179
Hyundai Heavy Industries Mos Co., Ltd.		4,459	114,252	51	-
Hyundai Global Service Co., Ltd.		14,875	17,384	-	35,991
Hyundai Heavy Industries Power Systems Co.,					
Ltd.		558	20,547	-	110
Hyundai Arabia Company L.L.C.		2,123	-	-	-
International Maritime Industries Company		97,695	-	-	-
Others	_	7,109	1,653	277	2,466
		986,525	360,001	6,869	39,521
	₩_	997,307	374,152	6,869	108,141

(*1) Includes disposal of property, plant and equipment and others.

(*2) Includes W897 millions of lease payment.

43. Related Parties, Continued

(2) Transactions with related parties, continued

2) Outstanding balances as of December 31, 2022 and 2021 with related parties are as follows:

(In millions of won)		2022					
		Trade rece	eivables and	Trade paya	bles and		
		other re	eceivables	other pa	yables		
		Trade	Other	Trade	Other		
		receivables	receivables	payables	Payables(*)		
Ultimate parent							
HD HYUNDAI CO.,LTD. (formerly known as Hyundai							
Heavy Industries Holdings Co., Ltd.)	₩	18	4,267	38	19,259		
Intermediate parent							
Korea Shipbuilding & Offshore Engineering Co., Ltd.		564	11,990	23,215	587		
Subsidiaries							
Hyundai Heavy Industries Free Zone Enterprise		-	-	-	-		
Hyundai Engine Company Ltd.		21,421	5,034	2,602	-		
Total	-	21,421	5,034	2,602	-		
Associate		· · · · · ·	<u> </u>				
KC LNG Tech Co.,Ltd.		-	-	368	-		
Others (large-scale corporate conglomerate)							
Hyundai Robotics Co., Ltd.		78	3,940	32	-		
Hyundai Electric & Energy Systems Co., Ltd.		3,990	1,729	3,768	1		
Hyundai Construction Equipment Co., Ltd.		709	945		-		
Hyundai Genuine Co., Ltd		161	335	100	256		
Hyundai Samho Heavy Industries Co., Ltd.		133,325	35,550	-	54,419		
Hyundai Mipo Dockyard Co., Ltd.		276,107	341	1,305	149,966		
Hyundai Engineering & Technology Co., Ltd.		46	23	2,708	-		
Hyundai Oilbank Co., Ltd.		221	78	797	-		
Hyundai Hyms Co., Ltd.		20	5,001	2,018	-		
Hyundai Heavy Industries Mos Co., Ltd.		353	385	18,467	-		
Hyundai Global Service Co., Ltd.		3,058	1,745	9,282	407		
Hyundai Energy Solutions Co., Ltd.		39	90	-	-		
Hyundai Arabia Company L.L.C.		-	159,962	-	-		
International Maritime Industries Company		6,290	-	-	-		
Others		1,020	275	471	3		
	-	425,417	210,399	38,948	205,052		
	₩	447,420	231,690	65,171	224,898		

(*) Includes W19,848 million of lease liabilities.

43. Related Parties, Continued

- (2) Transactions with related parties, continued
- 2) Outstanding balances as of December 31, 2022 and 2021 with related parties are as follows, continued:

(In millions of won)		2021			
		Trade reco	eivables and	Trade payables and other payables	
		other receivables			
		Trade	Other	Trade	Other
	_	receivables	receivables	payables	Payables(*)
Parent					
Korea Shipbuilding & Offshore Engineering Co., Ltd.	₩	449	1,271	14,059	692
Subsidiary					
Hyundai Heavy Industries Free Zone Enterprise		-	-	-	-
Others (large-scale corporate conglomerate)					
Hyundai Robotics Co., Ltd.		172	3,952	2,450	-
Hyundai Electric & Energy Systems Co., Ltd.		1,936	4,072	20,316	1,483
Hyundai Construction Equipment Co., Ltd.		942	730	799	-
Hyundai Heavy Industries Holdings Co., Ltd.		169	1	56	-
Hyundai Genuine Co., Ltd		184	362	-	-
Hyundai Samho Heavy Industries Co., Ltd.		152,886	322	-	89,999
Hyundai Mipo Dockyard Co., Ltd.		132,615	8	804	127,772
Hyundai Engineering & Technology Co., Ltd.		19	13	1,653	-
Hyundai Oilbank Co., Ltd.		6	25	17,350	-
Hyundai Hyms Co., Ltd.		20	1	3,320	1
Hyundai Heavy Industries Mos Co., Ltd.		381	301	19,549	-
Hyundai Global Service Co., Ltd.		3,043	32	15,606	1,191
Hyundai Heavy Industries Power Systems Co., Ltd.		54	1,447	1,054	-
Hyundai Arabia Company L.L.C.		15,499	167,333	-	-
International Maritime Industries Company		2,741	-	-	-
Others	_	557	3,377	2,620	183
	_	311,224	181,976	85,577	220,629
	₩	311,673	183,247	99,636	221,321

(*) Includes W775 million of lease liabilities.

The details of allowance for doubtful receivables for the related parties for the years ended December 31, 2022 and 2021 are as follows:

(In	millions	of won)
(///	1111110113	

2022				2021		
	Beginning balance	Impairment loss recognized	Ending balance	Beginning balance	Impairment loss recognized	Ending balance
₩	182,832	(22,981)	159,851	180,705	2,127	182,832

43. Related Parties, Continued

- (2) Transactions with related parties, continued
- 3) The details of fund transactions with related parties for the years ended December 31, 2022 and 2021 are as follows:

(In thousands of fo	reign currency)	2 022					
			Beginning			Impairment loss	Ending
		Currency	balance	Increase	Recover	recognized	balance
Hyundai Arabia Company L.L.C.	Loans Allowance for doubtful	USD	150,000	-	(4,859)	-	145,141
	accounts	USD	(150,000)	-	4,859	-	(145,141)
(In thousands of fo	(In thousands of foreign currency) 2021				,		
			Beginning			Impairment loss	Ending
		Currency	balance	Increase	Recover	recognized	balance
Hyundai Arabia Company L.L.C.	Loans Allowance for doubtful	USD	150,000	-		-	150,000
	accounts	USD	(150,000)	-		-	(150,000)

4) The details of the Company's capital transactions with related parties for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of foreign currency)	2022		
Transaction	Company	Currency	Acquired amount
Liquidation	Hyundai Heavy Industries Free Zone Enterprise(*)	USD	127

(*) The subsidiary has been liquidated for the year ended December 31, 2022

(In millions of won)	2021			
Transaction	Company	Currency	Acquired amount	
Capital increase	KC LNG Tech Co., Ltd.(*)	KRW	2,490	

(*) The Company participated in the KC LNG Tech capital increase by issuing new stocks related with Korea Membrane System(KMS) business, and capital increase amount is W2,490 million.

43. Related Parties, Continued

- (3) As of December 31, 2022, the Company has provided performance guarantees in relation to "Dangote RFCC Onshore Project" which is being built by Hyundai Heavy Industries Free Zone Enterprise, amounting to USD 8,000 thousand.
- (4) As of December 31, 2022, the Company has been provided with performance guarantees by the Korea Shipbuilding & Offshore Engineering Co., Ltd. in relation to the contracts of material supply, license, and service which the Company will execute with Saudi Engines Manufacturing Company.
- (5) The Company had provided guarantee for debts with Korea Shipbuilding & Offshore Engineering Co., Ltd about loans for members of employee stock ownership acquisition allocated to the employee stock ownership association when Korea Shipbuilding & Offshore Engineering Co., Ltd.'s capital increase in 2018. The guarantee terminated in March, 2022, and the Company provides collateral corresponding amount to 10% (W4,100 million) of employee stock ownership acquisition loans to THE Korea Securities Finance Corporation as of December 31, 2022.
- (6) The Company was newly established by dividing the Company from the Korea Shipbuilding & Offshore Engineering Co., Ltd. (Hyundai Heavy Industries Co., Ltd. before spin-off, existing entity) on June 1, 2019 (inception date) and is engaged in the manufacture and sale of ships, offshore structures, plants, engines and other products. In this regard, the Company is responsible for repaying the debts of Korea Shipbuilding & Offshore Engineering Co., Ltd. (Hyundai Heavy Industries Co., Ltd. before spin-off, existing entity) in solidarity.
- (7) As of December 31, 2022, the Company has been provided with constructive obligations by Korea Shipbuilding & Offshore Engineering Co., Ltd for SHWE Phase 3 EPCIC Project construction contracts, amounting to USD 423,661 thousand.
- (8) As of December 31, 2022, the Company has been provided with constructive obligations by Korea Shipbuilding & Offshore Engineering Co., Ltd for SHENANDOAH FPS Project construction contracts, amounting to USD 582,737 thousand.
- (9) Compensation for key management of the Company for the years ended December 31, 2022 and 2021 is as follows:

(In millions of won)		2022	2021
Short-term salaries Post-employment benefit costs	W	2,613 585	1,938 1,015
	₩	3,198	2,953

The above key management consists of directors and internal auditors who have important rights and responsibilities for the planning, operation and control of the Company.

44. Non-current assets held for sale

Non-current assets held for sale as of December 31, 2022 and 2021 are as follows:

(In millions of won)		2022		2021
Property, plant and equipment(*)	₩		_	4,719

(*) Property, plant and equipment that are determined to be sold are classified as non-current assets held for sale. Due to the decision to sell the dormitory site, related property, plant and equipment were classified as non-current assets held for sale as of December 31, 2021, and the dormitory site was sold in February 2022.

Notice to Readers

This report is annexed in relation to the audit of the separate financial statements as of December 31, 2022 and the audit of internal control over financial reporting pursuant to Article 8-7 of the *Act on External Audit for Stock Companies* of the Republic of Korea.



KPMG SAMJONG Accounting Corp.

152, Teheran-ro, Gangnam-gu, Seoul 06236 (Yeoksam-dong, Gangnam Finance Center 27th Floor) Republic of Korea

Tel +82 (2) 2112 0100 Fax +82 (2) 2112 0101 www.kr.kpmg.com

Independent Auditor's Report on Internal Control over Financial Reporting

Based on a report originally issued in Korean

To the Shareholders and Board of Directors of Hyundai Heavy Industries Co., Ltd.

Opinion on Internal Control over Financial Reporting

We have audited Hyundai Heavy Industries Co., Ltd.(the "Company")'s internal control over financial reporting ("ICFR") as of December 31, 2022 based on the criteria established in the Conceptual Framework for Designing and Operating ICFR ("ICFR Design and Operation Framework") issued by the Operating Committee of ICFR in the Republic of Korea (the "ICFR Committee").

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on ICFR Design and Operation Framework.

We also have audited, in accordance with Korean Standards on Auditing (KSAs), the separate financial statements of the Company, which comprise the separate statement of financial position as of December 31, 2022 and 2021, the separate statements of comprehensive loss, changes in equity and cash flow for the year then ended, and notes, comprising significant accounting policies and other explanatory information, and our report dated March 20, 2023 expressed an unmodified opinion on those separate financial statements.

Basis for Opinion

We conducted our audit in accordance with KSAs. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of Internal Control over Financial Reporting* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the 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 audit opinion.

Responsibilities of Management and Those Charged with Governance for the ICFR

The Company's management is responsible for designing, operating and maintaining effective ICFR and for its assessment of the effectiveness of ICFR, included in the accompanying Management's report on the effectiveness of the internal control over financial reporting.

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

Auditor's Responsibilities for the Audit of the ICFR

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

Our audit of ICFR included obtaining an understanding of ICFR, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk.



Definition and Limitations of ICFR

A Company's ICFR is a process designed to provide a reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Korean International Financial Reporting Standards ("K-IFRS"). A Company's ICFR 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; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with K-IFRS, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, ICFR may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls 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 Dong Hyun Chi.

KPMG Samjory Accounting Corp.

Seoul, Korea March 20, 2023

This report is effective as of March 20, 2023, the audit report date. Certain subsequent events or circumstances, which may have occurred during the period from the auditors' report date to the time this report is used. Such events and circumstances could significantly affect the Company's ICFR and may result in modifications to this report.

Management's report on the effectiveness of the internal control over financial reporting

English Translation of a Report Originally Issued in Korean

To the Shareholders and the Board of Directors, and Audit Committee of Hyundai Heavy Industries Co., Ltd.

We, as the Chief Executive Officer("CEO") and the Internal Control over Financial Reporting("ICFR") officer of Hyundai Heavy Industries Co., Ltd.("the Company"), assessed the effectiveness of the design and operation of ICFR for the year ending December 31, 2022.

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

We, as the CEO and ICFR officer. assessed whether the Company'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, as the CEO and ICFR officer, used the 'Conceptual Framework for designing and operating ICFR' as established by the Operating Committee of ICFR (the "ICFR Committee") as the standard for the design and operation of the Company's ICFR. And, in assessing the design and operation of the ICFR, we assessed ICFR based on the 'Best Practice Guideline for the Assessment and Reporting of ICFR' as announced by the ICFR committee.

Based on our assessment, we conclude that the Company's ICFR is effectively designed and operated as of December 31, 2022, in all material respects, in accordance with the Conceptual Framework for designing and operating ICFR.

We, as the CEO and ICFR officer, confirm that this report does not contain or present any false statement of 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.

February 7, 2023

Sang Kyun, Lee Chief Executive Officer

Kwan Jung, Kim, Internal Control over Financial Reporting Officer