Hyundai Heavy Industries Co., Ltd. and its Subsidiary

Consolidated financial statements
for the year ended December 31, 2021
with the independent auditor's report

Contents

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Independent Auditor's Report

Based on a report originally issued in Korean

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

Opinion

We have audited the consolidated financial statements of Hyundai Heavy Industries Co., Ltd. and its subsidiary (the "Group"), which comprise the consolidated statement of financial position as of December 31, 2021, and the c consolidated statement of comprehensive income (loss), consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

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

Basis for opinion

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

Key audit matters

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

(1) Overview
An overview of key audit matters described in this audit report is as follows:

As described in Note 4 to the consolidated financial statements, the construction contracts of the Group 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 Group recognizes revenue over time for performance obligations satisfied over time.

① the Group's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or
② the Group'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

The percentage-of-completion is calculated based on the ratio of contract costs incurred for work performed to date 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 costs incurred plus recognized profits (less recognized losses) exceed progress billings. The contract liabilities are presented for all contracts in which progress billings exceed costs incurred plus recognized profits (less recognized losses).

(2) The Group's accounting policies of revenue recognition by the input method
As described in Note 4 to the consolidated financial statements, the Group recognizes revenue for shipbuilding services over the period during which control is transferred and uses an input method based on incurred costs for measuring the progress.

The input method recognizes revenue based on the efforts or inputs (e.g., resources consumed, labor hours used, costs incurred, elapsed time, machine time used) of the Group to satisfy the performance obligation relative to the expected total inputs for the satisfaction of the performance obligation.

The construction contracts take at least one year from the contract signing date to the construction completion date. The good has no alternative use to the Group itself due to the nature of the industry, which it produces the customization goods on orders from the customers. In case the contract is terminated by the customer or other parties, the cost input for the part that has already been completed and the expected profits can be charged, or the good can be resold according to the procedure specified in the contract, and the insufficient amount after resale can be charged.

Accordingly, the Group satisfies its performance obligations over a period of time and recognizes revenue over a period of time.

The input method has the potential to have a significant impact on profit or loss for the current period (or future profit or loss) unless there is a direct relationship between the entity's inputs and the transfer of control over the goods or services to the customer. Thus, we identified the Group's accounting policies, such as revenue recognition, as a significant risk.

We performed the following audit procedures on the Group's accounting policy of revenue recognition by the input method as of and for the year ended December 31, 2021:

- Understanding of revenue recognition accounting policies related to revenue recognition according to the input method
- Understanding of the Group's revenue recognition process and internal control evaluation
- Sample extraction and confirmation of evidence to confirm whether the Group has the right to claim payment for parts that have been completed
- Analytical review procedures on changes in total contract revenue, estimated total contract costs, percentage-of-completion and contract assets

(3) Uncertainty of estimated total contract costs
As described in Note 29 to the consolidated 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 exist. Accordingly, considering the impacts on profit or loss for the year ended December 31, 2021 and future periods, we identified a key audit matter regarding uncertainty of estimated total contract costs.

We performed the following audit procedures regarding the impact of uncertainty of estimated total contract costs on the consolidated financial statements as of and for the year ended December 31, 2021:

- Review of certain internal controls over the Group's determination of the estimated total contract costs process.
- Inquiries and analytical review procedures on changes in major items of total contract costs in each reporting period
- Retrospective reviews of projects in which significant changes in the estimated total contract costs were made

- Identifying the cause of the significant changes in estimated total contract cost and if necessary, inspecting 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
- Assessment on whether estimated total contract costs were approved by proper authorized person
- Sample extraction from the projects that have been delivered for the year ended December 31, 2021 to determine whether there is a significant difference between the committed cost and the estimated cost as of December 31, 2020.

(4) Assessment of the percentage-of-completion

As described in Note 29 to the consolidated financial statements, the Group should include only generated contract costs for work performed to estimated total contract costs in case the percentage-of-completion is calculated based on estimated total contract costs. We identified key audit matter regarding assessment of the percentage-of-completion.

We performed the following audit procedures with respect to the estimated total contract costs and accumulated costs which have an effect on calculating the construction percentage-of-completion as of and for the year ended December 31, 2021:

- Inquiries and analytical review procedures on changes in the construction percentage-of-completion in each reporting period
- Inquiries and analytical review procedures on changes in items of the accumulated costs in each reporting period
- Comparison of the percentage-of-completion by progress of construction and the percentage-of-completion by cost of major projects
- Inspection of documentation on existence of cumulative input of material costs for selected samples
- Recalculation of the appropriateness of aggregation and allocation of indirect overhead costs to each project
- Testing whether the direct costs are allocated appropriately to each project
- Comparison of on-site progress and accounting progress based on the visits of the ship construction sites
- Auditor’s independent recalculation of the progress for individual contracts

(5) Assessment of recoverability of contract assets

As described in Note 29 to the consolidated financial statements, Heavy-Tail payment plan is a major collection terms of the Group. Since Heavy-Tail payment plan is able to result in significant losses if contract is cancelled, we identified a key audit matter regarding the recoverability of contract assets.

We performed the following audit procedures with respect to the assessment of recoverability of contract assets as of and for the year ended December 31, 2021:

- Review of certain internal controls over identification and assessment of impairment indicators on contract assets process
- Inquiries and inspection of documents on payment terms, liquidated damages, delivery time, and other obligations of contracts contract assets increased significantly
- Reviewing the assetability of contract assets by asking whether construction has been suspended for projects where there are only a few changes in the progress rate
- Identifying contracts for which the contract asset is significant to ask questions regarding the possibility that financial risks may occur on the client’s end and confirm by obtaining other related information
- Reviewing management's estimate of the recoverability of the significant amount of the contract asset
- Checking of construction work completion evidence after the reporting period (delivery protocol, etc.) to assess existence of contract asset amounts as of December 31, 2021

- Obtaining external confirmation letters to major customers and inspection of evidence to confirm existence of contracts, total contract amount, and amount charged

(6) Accounting for the variation of construction work

As described in Note 29 to the consolidated 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 Group. Changes in construction contract, 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 variation in contract revenue. Accordingly, we identified a key audit matter regarding the accounting for the variation of construction contracts.

We performed the following audit procedures with respect to the accounting for the variation of construction work as of and for the year ended December 31, 2021:

- Review of certain internal controls over changes in terms of contract
- Inquiries and analytical review procedures of projects in which significant changes in contract revenue were made
- Inspection of supporting documents to confirm the appropriateness of the changes in contract amounts
- Comparison of contractual delivery date to expected delivery date as of December 31, 2021
- Recalculation of estimation for liquidated damages

Other matters

The consolidated financial statements of the Group for the year ended December 31, 2020, were audited by KPMG Samjong Accounting Corp. who expressed that the presentation is fair in terms of materiality in accordance with K-IFRS on March 12, 2021.

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

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with KIFRS, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.
In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.
Those charged with governance are responsible for overseeing the Group's financial reporting process.

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of

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not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

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

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

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

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

The partner in charge of the audit resulting in this independent auditor's report is Minsung KIM.

Ernst & Young Han Young

March 14, 2022

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

Hyundai Heavy Industries Co., Ltd.

and its Subsidiary

Consolidated financial statements
for the years ended December 31, 2021 and 2020

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

Han Young-seuk, Lee Sang-kyun
Chief Executive Officer
Hyundai Heavy Industries Co., Ltd

(In thousands of won)

	Notes		2021		2020
Assets					
Cash and cash equivalents	*5,6,38,39*	₩	2,137,391,421	₩	1,314,823,009
Short-term financial assets	*5,7,8,14,38,39*		151,000,000		554,200,000
Trade and other receivables	*9,29,38,39,42*		1,032,431,186		892,052,823
Contract assets	*9,29,38,39*		2,836,711,441		2,624,966,001
Inventories	*10*		898,666,745		778,986,820
Derivative assets	*24,38,39*		11,368,268		156,620,038
Firm commitment assets	*24*		96,769,053		3,047,425
Current tax assets			2,447,046		3,188,862
Non-current assets held for sale	*30,43*		4,719,315		-
Other current assets	*11*		714,560,459		671,476,532
Total current assets			7,886,064,934		6,999,361,510
Investment in an associate	*12,42*		2,789,842		946,000
Long-term financial assets	*5,7,8,14,38,39*		9,560,272		9,560,272
Long-term trade and other receivables	*9,29,38,39,42*		38,942,194		52,983,547
Investment properties	*15*		4,108,679		4,306,755
Property, plant and equipment	*16*		5,986,254,763		6,020,305,589
Intangible assets	*18*		79,457,817		64,962,107
Right-of-use assets	*17*		17,906,009		15,594,635
Derivative assets	*24,38,39*		43,123,042		68,482,292
Firm commitment assets	*24*		145,688,023		4,429
Deferred tax assets	*35*		837,655,729		532,393,763
Other non-current assets	*11,22*		27,120,187		30,756,950
Total non-current assets			7,192,606,557		6,800,296,339
Total assets		₩	15,078,671,49	₩	13,799,657,84

(Continued)

(In thousands of won)

	Notes		2021		2020
Liabilities					
Short-term financial liabilities	*5,19,21,38,39,40*	₩	1,506,767,831	₩	2,507,268,514
Current lease liabilities	*19,21,38,39*		6,052,095		7,731,161
Trade and other payables	*20,38,39,42*		1,745,928,953		1,645,647,882
Contract liabilities	*29*		2,607,770,742		1,409,196,944
Short-term provisions	*23,29,38,39*		1,027,990,055		283,667,657
Derivative liabilities	*24,38,39*		148,741,660		12,774,924
Firm commitment liabilities	*24*		5,356,117		110,636,035
Total current liabilities			7,048,607,453		5,976,923,117
Long-term financial liabilities	*5,19,21,38,39,40*		1,958,992,315		2,039,417,620
Non-current lease liabilities	*19,21,38,39*		12,746,171		8,612,448
Long-term trade and other payables	*20,38,39,42*		248,798		211,771
Long-term contract liabilities	*29*		10,815,243		11,070,445
Liabilities for defined benefit plans	*22*		33,198,092		36,325,250
Non-current provisions	*23*		269,562,659		275,207,723
Derivative liabilities	*24,38,39*		146,030,764		24,620,590
Firm commitment liabilities	*24*		4,445,047		66,484,264
Total non-current liabilities			2,436,039,089		2,461,950,111
Total liabilities			9,484,646,542		8,438,873,228
Equity					
Common stock	*25*		443,865,580		353,865,580
Capital surplus	*25*		3,118,364,962		4,639,942,059
Capital adjustments	*26*		(1,411,000)		(1,411,000)
Accumulated other comprehensive income	*24,27*		881,487,616		873,473,232
Retained earnings (accumulated deficit)	*28*		1,151,717,791		(505,085,250)
Total equity			5,594,024,949		5,360,784,621
Total liabilities and equity		₩	15,078,671,491	₩	13,799,657,849

See accompanying notes to the consolidated financial statements

(In thousands of won)

	Notes		2021		2020
Sales	*24,29,30,42*	₩	8,311,275,924	₩	8,312,009,823
Cost of sales	*10,24,32,42*		8,520,484,596		7,837,882,674
Gross profit			(209,208,672)		474,127,149
Selling, general and administrative expenses	*31,32,38*		591,054,105		441,618,088
Operating profit			(800,262,777)		32,509,061
Finance income	*24,33,38*		514,057,441		762,180,290
Finance costs	*24,33,38*		999,733,145		780,590,122
Other non-operating income	*24,34*		471,302,460		88,958,743
Other non-operating expenses	*24,34*		296,165,988		643,170,420
Loss on valuation of equity method			(646,157)		-
Profit before income tax			(1,111,448,166)		(540,112,448)
Income tax expense	*35*		(297,220,204)		(108,666,550)
Profit for the period		₩	(814,227,962)	₩	(431,445,898)
Other comprehensive income (loss)	*24,27,38*				
Items that are or may be reclassified subsequently to profit or loss after tax:					
Gain (loss) on valuation of derivatives		₩	7,717,898	₩	244,179
Overseas operation translation gains (losses)			4,926		(35,219)
Total items that are or may be reclassified subsequently to profit or loss after tax			7,722,824		208,960
Items that will not be reclassified subsequently to profit or loss after tax:					
Changes in financial assets measured at FVOCI			(41,861)		-
Actuarial gains			(28,635,576)		31,048,904
Revaluation of property, plant and equipment			-		138,065,213
Total items that will not be reclassified subsequently to profit or loss after tax			(28,677,437)		169,114,117
Other comprehensive income (loss) for the period, net of income tax			(20,954,613)		169,323,077
Total comprehensive income (loss) for the period		₩	(835,182,575)	₩	(262,122,821)
Earnings per share					
Basic earnings per share (In won)	*36*	₩	(10,713)	₩	(6,096)

See accompanying notes to the consolidated financial statements

Hyundai Heavy Industries Co., Ltd. and its Subsidiary

Notes to the Consolidated Financial Statements

For the twelve-month periods ended December 31, 2021 and 2020

(In thousands of won)

		Common stock		Capital surplus		Capital adjustments		Accumulated other comprehensive income		Retained earnings(accumulated deficit)		Total equity
Balance at January 1, 2020	₩	353,865,580	₩	4,639,942,059	₩	(1,411,000)	₩	735,432,323	₩	(104,921,520)	₩	5,622,907,442
Total comprehensive income (loss) for the period:												
Profit (loss) for the period		-		-		-		-		(431,445,898)		(431,445,898)
Gain (loss) on valuation of derivatives		-		-		-		244,179		-		244,179
Actuarial gains and losses		-		-		-		-		31,048,904		31,048,904
Revaluation of property, plant and equipment		-		-		-		138,065,213		-		138,065,213
Overseas operation translation gains (losses)		-		-		-		(35,219)		-		(35,219)
Other												
Reclassification of revaluation surplus		-		-		-		(233,264)		233,264		-
Balance at December 31, 2020	₩	353,865,580	₩	4,639,942,059	₩	(1,411,000)	₩	873,473,232	₩	(505,085,250)	₩	5,360,784,621
Balance at January 1, 2021	₩	353,865,580		4,639,942,059		(1,411,000)		873,473,232		(505,085,250)		5,360,784,621
Total comprehensive income (loss) for the period:												
Profit for the period		-		-		-		-		(814,227,962)		(814,227,962)
Changes in financial assets measured at Fair value through other comprehensive income.		-		-		-		(41,861)		-		(41,861)
Gain (loss) on valuation of derivatives		-		-		-		7,717,898		-		7,717,898
Actuarial gains and losses		-		-		-		-		(28,635,576)		(28,635,576)
Overseas operation translation gains (losses)		-		-		-		4,926		-		4,926
Transactions with owners of the company, recognized directly in equity:												
Capital increase		90,000,000		978,422,903		-		-		-		1,068,422,903
Other												
Capital surplus transfer		-		(2,500,000,000)		-		-		2,500,000,000		-
Revaluation of financial assets measured at Fair value through other income.		-		-		-		489,527		(489,527)		-
Revaluation of property, plant and equipment		-		-		-		(156,106)		156,106		-
Balance at December 31, 2021	₩	443,865,580		3,118,364,962		(1,411,000)		881,487,616		1,151,717,791		5,594,024,949

See accompanying notes to the consolidated financial statements.

Hyundai Heavy Industries Co., Ltd. and its Subsidiary
Notes to the Consolidated Financial Statements
For the twelve-month periods ended December 31, 2021 and 2020

(In thousands of won)

	Notes	2021	2020
Cash flows from operating activities			
Profit for the period		₩ (814,227,962)	₩ (431,445,898)
Adjustments		1,669,141,261	359,202,540
Cash generated from operations	37	854,913,299	(72,243,358)
Interest received		16,901,380	30,901,062
Interest paid		(110,083,307)	(137,053,971)
Dividends received		34,280	34,280
Income taxes refund (paid)		295,746	(21,637,830)
Net cash provided by (used in) operating activities		762,061,398	(199,999,817)
Cash flows from investing activities			
Proceeds from collection of short-term financial assets		403,200,000	593,916,220
Proceeds from collection of short-term other receivables		-	428,400
Proceeds from collection of long-term financial assets		452	2,021
Proceeds from collection of long-term other receivables		5,315,962	3,314,581
Proceeds from disposal of property, plant and equipment		12,469,277	7,448,098
Proceeds from disposal of intangible assets		2,526,016	54,338
Proceeds from disposal of non-current assets held for sale		-	6,911,777
Acquisition of short-term financial assets		-	(578,946,200)
Acquisition of short-term other receivables		-	(4,658,800)
Acquisition of investment in associates		-	(946,000)
Acquisition of long-term financial assets		-	(2,100)
Acquisition of long-term other receivables		(6,588,941)	(4,727,636)
Acquisition of Investment properties		-	(17,008)
Acquisition of property, plant and equipment		(243,969,800)	(226,249,451)
Acquisition of intangible assets		(21,220,365)	(9,860,679)
Cash flows from business transfer		-	12,291,176
Net cash provided by (used in) investing activities		151,732,601	(201,041,263)
Cash flows from financing activities			
Capital increase		1,068,422,903	-
Increase in short-term financial liabilities		991,522,103	2,204,233,405
Increase in long-term financial liabilities		1,235,155,000	2,307,122,000
Repayment of financial liabilities		(3,378,319,040)	(3,771,638,365)
Repayment of lease liabilities		(9,340,382)	(9,560,585)
Net cash provided by (used in) financing activities		(92,559,416)	730,156,455
Effects of exchange rate changes on cash and cash equivalents		1,333,829	(7,925,800)
Net increase in cash and cash equivalents		822,568,412	321,189,575
Cash and cash equivalents at January 1		1,314,823,009	993,633,434
Cash and cash equivalents at December 31		₩ 2,137,391,421	₩ 1,314,823,009

See accompanying notes to the consolidated financial statements.

Hyundai Heavy Industries Co., Ltd. and its Subsidiary
Notes to the Consolidated Financial Statements
For the twelve-month periods ended December 31, 2021 and 2020

1. Reporting Entity

(1) Description of the controlling company

Hyundai Heavy Industries Co., Ltd. (the "Parent company") was newly established by spin-off from the Korea Shipbuilding & Offshore Engineering Co., Ltd. (before the spin-off, its name was Hyundai Heavy Industries Co., Ltd., and it became a surviving entity after spin-off) on June 1, 2019 and is engaged in the manufacture and sale of ships, offshore structures, plants, engines and other products. It was listed on the Korea Exchange in September 2021. The Parent company's head office is located in Ulsan. As of December 31, 2021, the Parent company's major stockholder is the Korea Shipbuilding & Offshore Engineering Co., Ltd. (79.7%).

(2) Consolidated subsidiary

Details of the consolidated subsidiary as of December 31, 2021 and 2020 is summarized as follows:

				Ownership (%)	
Company	Main business	Location	Fiscal year end	December 31, 2021	December 31, 2020
Hyundai Heavy Industries Free Zone Enterprise (*)	Industrial plant construction	Nigeria	December	100.00	100.00

(*) During the year ended December 31, 2020, it was newly established in Nigeria to carry out local construction work.

(3) Condensed financial information of the consolidated subsidiary

Condensed financial information of consolidated subsidiary as of and for the year December 31, 2021 and the year ended December 31, 2020 is summarized as follows:

(In millions of won)

Company	Period/Year		Assets	Liabilities	Equity	Sales	Profit	Total comprehensive loss
Hyundai Heavy Industries Free Zone Enterprise	2021.12.31	₩	669	11	658	7,578	551	556
	2020.12.31	₩	395	293	102	2,120	17	(19)

(4) Non-controlling interests

There is no non-controlling interests of the subsidiary as of December 31, 2021 and December 31, 2020.

2. Basis of Preparation

Hyundai Heavy Industries Co., Ltd. and its subsidiary (the "Group")`s consolidated 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 International Accounting Standards Committee's International Financial Reporting Standards.

The Group`s consolidated financial statements were authorized for issue by the Board of Directors on February 7, 2022 and will be submitted for approval to the stockholder's meeting to be held on March 22, 2022.

2. Basis of Preparation(Continued)

(1) Basis of measurement

The Group`s consolidated 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 Fair value through profit and loss.
- Financial assets measured at Fair value through other comprehensive income.
- Lands measured at fair value
- Defined benefit liabilities recognized at the net of the total present value of defined benefit liabilities less the net fair value of plan assets

(2) Functional and presentation currency

The Group`s consolidated financial statements are prepared and reported in Korean won, which is the Reporting Entity's functional currency and presentation currency, as the separate financial statements of each entity in the Group are presented in functional currency that is used in primary economic environment where such entity operates.

(3) Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to utilize estimates and assumptions made on the basis of best judgments for deciding factors that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses at the end of reporting period. Actual results may differ from these estimates if such estimates and assumptions differ from the real environment. Estimates and basic assumptions to estimation is continually being reviewed, and changes in accounting estimates are recognized from the period of changes till future period affected by changes.

Meanwhile, due to the global spread of COVID-19, governments are implementing many control measures such as move restrictions etc., an as a result, global economy has been affected broadly. Furthermore, various types of government support policies are being announced to cope with the COVID-19 crisis.

Main impact by COVID-19 is variable cost estimation, receivables recoverability, (in)tangible assets impairment, investment stocks impairment, deferred tax assets feasibility, provision recognition etc. The Group prepared the consolidated financial statements considering reasonable estimation of the impact of COVID-19 to the Group. But the estimation carries significant uncertainties with estimated end date of the COVID-19 crisis and estimated impact of COVID-19 to the Group.

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

(i) Judgments

The following notes includes information about critical judgements in applying accounting policies that have the most significant effect on the amounts recognized in the consolidated financial statements:

- Note 4: Lease term – whether the Group is reasonably certain to exercise extension options;
- Note 4: Timing of revenue recognition;
- Note 13: Investment in associates - whether the Group has significant influence over an investee;
- Note 12: Classification of joint arrangements; and
- Note 15: Classification of investment property.

2. Basis of Preparation(Continued)

(3) Use of estimates and judgements, continued

(ii) Uncertain Assumptions and estimation

The following notes includes information about uncertain assumptions and estimation that have a significant risk of resulting in a material adjustment within the next financial year:

- Note 5 and 39: Measurement of expected credit loss on trade receivables and contract assets – key assumption about determining weighted-average loss rate;
- Note 11, 16 and 18: Impairment test – key assumptions underlying recoverable amounts, including the recoverability of other current assets, property and intangible assets;
- Note 22: Measurement of defined benefit obligations – key actuarial assumptions;
- Note 23, 40 and 41: Recognition and measurement of provisions and contingencies – key assumption about the likelihood and magnitude of an outflow of resources;
- Note 29: Revenue recognition in proportion to the stage of completion, the estimates of total contract costs; and
- Note 35: Measurement of deferred tax.

(iii) Measurement of fair value

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Group has an established control framework including policies and process with respect to the measurement of fair values. The framework includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and the results the valuation team created are directly reported 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 confirm whether such valuations meet the requirements of K-IFRS, and whether include the level in the fair value hierarchy in which such valuations should be classified.

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

When measuring the fair value of an asset or a liability, the Group 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 at the date of valuation.
- Level 2: Inputs that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices) other than quoted prices included in Level 1.
- 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 would be categorized in its entirety in the same level as the lowest level of input is designated in the fair value hierarchy that is significant to the entire measurement. The Group 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 14 : Financial assets measured at fair value;

- Note 15 : Investment property;
- Note 16 : Property, plant and equipment; and
- Note 39 : Financial instruments.

3. Changes in Accounting Policies and disclosures

(i) New and amended standards and interpretations
The Group applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2021 and there is no significant effect on the consolidated financial statements of the Group. The Group has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.

Interest Rate Benchmark Reform – Phase 2: Amendments to KIFRS 1109, KIFRS 1039, KIFRS 1107, KIFRS 1104 and KIFRS 1116
The amendments provide temporary reliefs for responding the case where the replacement of interbank offered rates (IBORs) with alternative, nearly risk-free interest rates (RFRs) makes the impact on the financial reporting. The amendments include the following practical expedients:

- In case of changes to contract or changes to cash flows due directly to the Reform, treat them as changes to a floating interest rate, akin to a movement in the market rate of interest;
- Permit changes required by the IBOR Reform to be made to hedge designations and hedge documentation without discontinuing hedge relationship;
- Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component.

The Group intends to use the practical expedients in future periods if they become applicable.

Amendments to KIFRS 1116 Covid-19 Related Rent Concessions beyond 30 June 2021
On 28 May 2020, the IASB issued Covid-19-Related Rent Concessions - amendment to KIFRS 1116 *Leases*.
The amendments provide relief to lessees from applying KKIFRS 11016 guidance on lease modification accounting for rent concessions arising as a direct consequence of the Covid-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a Covid-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the Covid-19 related rent concession the same way it would account for the change under KIFRS 1116 if the change were not a lease modification.

The amendment was intended to apply until June 30, 2021, but as the impact of the COVID-19 pandemic is continuing, on March 31, 2021, the IASB extended the period of application of the practical expedient to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. However, the Group has not received COVID-19-related rent concessions, but plans to apply the practical expedient if it becomes applicable within allowed period of application.

4. Significant Accounting Policies

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

(1) Operating segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components. All operating segment operating results are reviewed regularly by the Group's chief executive officer (CEO) to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available. As discussed in *Note 30* the Group has four reportable segments which are the Group's strategic business units. The strategic business units offer different products and services and are managed separately because they require different technology and marketing strategies.

Segment results that are reported to the CEO include items directly attributable to a segment as well as those that can be allocated on a reasonable basis.

(2) Basis of consolidation

(i) Business combinations

A business combination is accounted for by applying the acquisition method, 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. The costs to issue debt or equity securities 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 acquisition date. If the contingent consideration is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

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.

(ii) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

4. Significant Accounting Policies(Continued)

(2) Basis of consolidation(continued)

(iii) Non-controlling interests

Non-controlling interests are measured initially at their proportionate share of the acquiree's identifiable net assets at the date of acquisition. Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

(iv) Loss of control

When the Group loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related NCI and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

(v) Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies.

Interests in associates are accounted for using the equity method. They are recognized initially at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and OCI of equity-accounted investees, until the date on which significant influence ceases.

(vi) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

(vii) Business combination of entities under common control

The assets and liabilities acquired under business combinations of entities under common control are recognized at the carrying amounts recognized previously in the consolidated financial statements of the ultimate parent. The difference between consideration transferred and carrying amounts of net assets acquired is recognized as part of capital surplus.

(3) 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 Group 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.

4. Significant Accounting Policies(Continued)

(4) Inventories

The cost of inventories is based on the moving-average method with the exception of cost of materials-in-transit, 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, arising from an increase 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.

(5) Non-derivative financial assets

(i) Recognition and initial measurement

The Group 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 Group 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.

(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 Group 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.

4. Significant Accounting Policies(Continued)

(5) Non-derivative financial assets, continued

On initial recognition of an equity investment that is not held for trading, the Group may irrevocably elect to present subsequent changes in the investment's fair value in OCI. Once the Group designates an equity investment, as at FVOCI the Group 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 24). In addition, on initial recognition, the Group 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 Group designates a financial asset as at FVTPL, the Group will not reclassify this item to amortized cost or FVOCI subsequently.

(b) Financial assets - Business model assessment

The Group 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 Group'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 Group'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 Group 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 Group 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 Group's claim to cash flows from specified assets (e.g. non-recourse features)

4. Significant Accounting Policies(Continued)

(5) Non-derivative financial assets, continued

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.

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.

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

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.

(iii) Derecognition

The Group 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 Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group 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.

(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 Group 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.

4. Significant Accounting Policies(Continued)

(6) 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 Group holds forward exchange contracts to manage foreign exchange risk. The Group 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 Group 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 consolidated 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 Group 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.

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.

4. Significant Accounting Policies(Continued)

(6) Derivative financial instruments, continued

(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 the 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.

(7) Impairment of financial assets

(i) Financial assets and contract assets

The Group 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 Group 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 Group 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 Group's historical experience and informed credit assessment that includes forward-looking information.

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

- the debtor is unlikely to pay its credit obligations to the Group in full, without recourse by the Group 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).

4. Significant Accounting Policies(Continued)

(7) Impairment of financial assets, continued

(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 Group expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

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

(iii) Credit-impaired financial assets

At each reporting date, the Group 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 Group on terms that the Group 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 Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Group 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 Group's procedures for recovery of amounts due.

4. Significant Accounting Policies(Continued)

(8) 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 Group'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.

(9) 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, 40
Memberships, Trademarks	Indefinite

4. Significant Accounting Policies(Continued)

(9) 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 Group 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.

(10) Government grants

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

Government grants whose primary condition is that the Group 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 Group for expenses incurred are recognized as other income (government grants) in profit or loss over the periods in which the Group recognizes the related costs as expenses.

(11) 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 Group 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:

	Useful lives (years)
Buildings	25~50

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)

(12) Impairment of non-financial assets

The carrying amounts of the Group'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 non-current 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 pre-tax 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.

(13) 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 Group assesses whether a contract is or contains a lease.

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

4. Significant Accounting Policies(Continued)

(13) Leases, continued

(i) As a lessee

The Group, 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 Group 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 consolidated 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 lease assets recognized useful lives from 1 year to 34 years by straight-lines.

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 Group's incremental borrowing rate. Generally, the Group 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 Group's estimate of the amount expected to be payable under a residual value guarantee or if the Group changes its assessment of whether it will exercise a purchase, extension or termination option.

The Group uses judgment when determining lease term for some lease contracts that include extension option. The assessment whether the Group 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 Group 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 Group recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

(ii) As a lessor

When the Group 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 Group 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 Group 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 Group applies K-IFRS No.1115 '*Revenue from Contracts with Customers*' to allocate the consideration in the contract.

4. Significant Accounting Policies(Continued)

(14) Contract assets and contract liability

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

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

Contract liabilities are the Group'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 Group’s rights to receive the payment. The Group offsets the contract assets and contract liabilities arising from one contract and presents them in the consolidated 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.

(15) 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, are classified as held for sale. 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 group 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.

(16) Borrowing costs

The Group 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 Group borrows funds specifically for the purpose of obtaining a qualifying asset, the Group determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred from that borrowings less any investment income arising from the temporary investment of those borrowings, during the reporting period. To the extent that the Group borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Group 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 Group capitalizes during the period shall not exceed the amount of borrowing costs incurred during that period.

4. Significant Accounting Policies(Continued)

(17) Non-derivative financial liabilities

The Group 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 Group recognizes financial liabilities in the consolidated statement of financial position when the Group 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 Group derecognizes a financial liability when its contractual obligations are discharged, cancelled or expired. The Group 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)

(18) 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 Group during an accounting period, the Group 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 Group'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 period in which they arise.

(iii) Retirement benefits: defined benefit plans

The Group'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 Group, 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 Group 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 Group recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

(iv) Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group 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.

4. Significant Accounting Policies (Continued)

(19) Provisions

Provisions are recognized when the Group 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 Group 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 Group 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)

(20) Emissions rights

The Group 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 Group 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 Group participated in the *Act on Allocation and Trading of Greenhouse Gas Emission* from 2015. One planning period is 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	526,775	526,775	526,775	521,842	521,842	2,624,009

As of December 31, 2021, there are no emission rights provided as collateral and the Group did not recognize emission rights and emission liabilities since the estimated quantity of greenhouse gases emission of 542,585 ton did not exceed allocated emission right.

(In ton, In millions of won)	2021(*1)		2020	
	Quantity	Book value	Quantity	Book value
Beginning balance	199,658	-	278,273	-
Free allocation	526,775	-	766,214	-
Purchase(disposal)	-	-	(247,317)	-
Governmental proposition	-	-	(523,116)	-
Estimated volume of emission	(542,585)	-	-	-
Borrowing(carry forward)	-	-	(199,658)	-
Other(*2)	-	-	(74,396)	-

Ending balance	183,848	-	-	-

4. Significant Accounting Policies (Continued)

(20) Emissions rights, continued

(*1) Governmental proposition, purchase(disposal), borrowing(carry forward) and quantity of 2021 will be decided at 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.

(21) Foreign currency

Transactions in foreign currencies are translated to the respective functional currencies of the Group 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 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.

(22) Equity capital

(i) Equity instruments

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)

(23) Revenue from contracts with customers

Under K-IFRS No. 1115, revenue is recognized when the Group 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 Group considers if significant benefits of financing is provided to the customer or the Group 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 Group 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 Group 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 Group 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 Group engages in the shipbuilding segment for building merchant ships and special vessels and manufacturing ships' digital control panel and the offshore, 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 Group 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 Group resale the asset in accordance with the contractual process. Consequently, if the Group's performance does not create an asset with an alternative use to the Group and the Group has enforceable right to payment for performance completed to date. The Group 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 Group's performance in transferring control of goods or services promised to a customer, towards complete satisfaction of that performance obligation. If the Group 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 Group without undue cost. Therefore, the Group 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 Group'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 Group'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)

(23) Revenue from contracts with customers, continued

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

Due to the nature of the order-made production industry being customized according to the terms presented to the customer, the Group 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. The Group 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 Group's performance in transferring control of goods or services promised to a customer, towards complete satisfaction of that performance obligation. If the Group 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 Group without undue cost. Therefore, the Group 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 Group'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 Group's performance.

The engine machinery segment and ship's digital control business of the shipbuilding segment supplies the ship's propulsion/power generation engines and ship's digital control panel 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 Group are transferred to and controlled by the customer, and the Group 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 Group transfers physical possession of the asset to the customer.

(ii) Significant payment terms

The shipbuilding segment collects by each stage of shipbuilding, 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 collect by the progress of the construction, including the advance payment, amount of work completed, the achievement amount of milestone, and the reserve for performance, and the engine machinery segment collects separately by the advance, middle and balance payments in accordance with the payment terms as specified in the contract.

Depending on the payment terms, there may be a significant financing component that adjusts the promised amount of consideration for the effects of the time value of money, if the difference occurs between when the Group expects to transfer the promised goods or services to the customer and when the customer pays for those goods or services.

4. Significant Accounting Policies (Continued)

(23) Revenue from contracts with customers, continued

(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 Group 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 Group 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 Group recognizes revenue by deducting the estimated amount incurred by the contract terms from the contract price.

(24) Finance income and finance costs

The Group’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 24).

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 Group’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.

4. Significant Accounting Policies (Continued)

(24) Finance income and finance costs, continued

In calculating interest income and expense, the effective interest rate is applied 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.

(25) 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 Group 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 Group 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 Group expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities.

For additional temporary differences in subsidiaries, associates and joint ventures, the Group can control when the temporary difference expires and all recognise deferred tax liabilities except where it is likely that the temporary difference will not expire in the foreseeable future. The Group 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 Group are considered.

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.

4. Significant Accounting Policies (Continued)

(25) Income tax, continued

(ii) Deferred tax, continued

Deferred tax assets and liabilities are measured at the tax rates that are expected to be applied 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 Group 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.

(26) Earnings (loss) per share

The Group presents basic earnings (loss) per share (EPS) data in the consolidated 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.

(27) Standards issued but not yet effective

A number of new standards are effective for annual reporting periods beginning after January 1, 2021 and earlier application is permitted. However, the Group has not early adopted the new or amended standards in preparing these consolidated financial statements.

(i) Amendments to K-IFRS 1001: *Classification of Liabilities as Current or Non-current*

The amendments to paragraphs 69 to 76 of K-IFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

- What is meant by a right to defer settlement
- That a right to defer must exist at the end of the reporting period
- That classification is unaffected by the likelihood that an entity will exercise its deferral right
- That only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and must be applied retrospectively. The Group is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require renegotiation.

(ii) Reference to the Conceptual Framework – Amendments to K-IFRS 1103

The amendments are intended to replace a reference to the Framework for the Preparation and Presentation of Financial Statements, issued in 1989, with a reference to the Conceptual Framework for Financial Reporting issued in March 2018 without significantly changing its requirements.
The Board also added an exception to the recognition principle of K-IFRS 1103 to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of K-IFRS 1037 or K-IFRS 2121 *Levies,* if incurred separately. At the same time, the Board decided to clarify existing guidance in K-IFRS 1103 for contingent assets that would not be affected by replacing the reference to the Framework for the Preparation and Presentation of Financial Statements. The amendments are effective for annual reporting periods beginning on or after January 1, 2022 and apply prospectively.

4. Significant Accounting Policies (Continued)

(27) Standards issued but not yet effective, continued

(iii) Property, Plant and Equipment: Proceeds before Intended Use – Amendments to K-IFRS 1016

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 recognises the proceeds from selling such items, and the costs of producing those items, in profit or loss.
The amendment is effective for annual reporting periods beginning on or after January 1, 2022 and must be applied retrospectively to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment. The amendments are not expected to have a material impact on the Group.

(iv) Onerous Contracts – Costs of Fulfilling a Contract – Amendments to K-IFRS 1037

The amendments specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making. The amendments apply a "directly related cost approach". The costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract. The amendments are effective for annual reporting periods beginning on or after January 1, 2022. The Group will apply these amendments to contracts for which it has not yet fulfilled all its obligations at the beginning of the annual reporting period in which it first applies the amendments.

(v) Definition of Accounting Estimates - Amendments to K-IFRS 1008

The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted as long as this fact is disclosed. The amendments are not expected to have a material impact on the Group.

(vi) Disclosure of Accounting Policies – Amendments to K-IFRS 1001 and K-IFRS Practice Statement 2

The amendments provide guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments to K-IFRS 1001 are applicable for annual periods

beginning on or after January 1, 2023 with earlier application permitted. Since the amendments to the Practice Statement 2 provide non-mandatory guidance on the application of the definition of material to accounting policy information, an effective date for these amendments is not necessary. The Group is currently assessing the impact of the amendments to determine the impact they will have on the Group's accounting policy disclosures.

4. Significant Accounting Policies (Continued)

(27) Standards issued but not yet effective, continued

(vii) Amendments to KIFRS 1012 "Income Taxes" – Narrowing the scope of the initial recognition exception of deferred income taxes

The amendments narrowed the scope of the initial recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary difference, thus to resolve accounting diversity in the recognizing of deferred tax assets and liabilities. Paragraphs 15 and 24 (initial recognition exemption of deferred income taxes) of KIFRS 1012 were amended to include an additional condition (3) where a deferred tax asset and liability shall be recognized for a temporary difference that arises on initial recognition of an asset or liability in a single transaction if that transaction give rise to equal amounts of taxable and deductible temporary differences. The amendments are effective for annual reporting periods beginning on or after January 1, 2023 with earlier adoption permitted. The amendments are not expected to have a material impact on the Group.

(viii) K-IFRS 2018-2022 annual correction

K-IFRS 1101 *First-time Adoption of International Financial Reporting Standards* – Subsidiary as a first-time adopter

The amendment permits a subsidiary that elects to apply paragraph D16(a) of K-IFRS 1101 to measure cumulative translation differences using the amounts reported by the parent, based on the parent's date of transition to K-IFRS. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(a) of K-IFRS 1101. The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted.

K-IFRS 1109 *Financial Instruments* – Fees in the '10 per cent' test for derecognition of financial liabilities

The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted. The Group will apply the amendments to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

The amendments are not expected to have a material impact on the Group.

5. Risk Management

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

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

This note presents information about the Group's exposure to each of the above risks, the Group's risk management objectives, policies and processes for measuring and managing risk, and the Group'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 Group's risk management framework.

The Group's risk management policies are established to identify and analyze the risks faced by the Group, 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 Group's activities. The Group, 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 Group Audit Committee oversees how management monitors compliance with the Group's risk management policies and procedures, and reviews the adequacy of the risk management framework in relation to the risks faced by the Group. The Group 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 Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's trade and other receivables from customers and investments.

(i) Trade and other receivables and contract assets

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. Most of the Group'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 Group 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 Group 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 percentage)	Not delayed	Not more than a year	Not more than 2 years	Not more than 3 years
Expected loss rate	0.67%	5~38%	47~68%	70~100%

5. Risk Management (Continued)

(1) Financial risk management, continued

2) Credit risk, continued

(ii) Investments

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

3) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group'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 Group's reputation.

The Group has historically been able to satisfy its cash requirements from cash flow from operations and debt or equity financing. If the Group cannot generate sufficient cash flow from operations to meet its cash requirements, the Group 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 Group'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 Group 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 Group. Generally, the Group seeks to apply hedge accounting in order to manage volatility in profit or loss.

(i) Currency risk

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

The Group hedges trade receivables and trade payables denominated in a foreign currency in respect of forecasted sales and purchases. The Group 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 Group 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 Group 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 Group's profit or loss is avoided.

(iii) Other market price risk

The Group 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 Group monitors the liability to equity ratio and net borrowing to equity ratio, which the Group defines as total liabilities divided by total equity and net borrowing divided by total equity.

The Group's liability to equity ratio and net borrowing to equity ratio as of December 31, 2021 and 2020 are as follows:

(In millions of won, except equity ratio)		2021	2020
Total liabilities	₩	9,484,647	8,438,873
Total equity		5,594,025	5,360,785
Cash and deposits(*1)		2,288,405	1,869,037
Borrowings(*2)		3,465,760	4,546,686
Liability to equity ratio		169.55%	157.42%
Net borrowing-to-equity ratio(*3)		21.05%	49.95%

(*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 periods ended December 31, 2021 and 2020 are as follows:

(In millions of won, except interest coverage ratio)		2021	2020
1. Operating income	₩	(800,263)	32,509
2. Interest expenses		125,635	155,574
3. Interest coverage ratio (1÷2)		(*)	0.21

6. Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021	2020
Cash	₩	87	135
Current deposit		2,216	4,311
Ordinary deposit		3,390	3,244
MMDA and others		2,131,698	1,307,133
	₩	2,137,391	1,314,823

7. Short-term and Long-term Financial Assets

Short-term and long-term financial assets as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021		2020	
		Current	Non-current	Current	Non-current
Financial instruments	₩	151,000	14	554,200	14
Financial assets measured at FVTPL		-	7,808	-	7,808
Financial assets measured at FVOCI		-	1,738	-	1,738
	₩	151,000	9,560	554,200	9,560

8. Restricted Financial Instruments

Financial instruments, which are restricted in use, as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)

Description		2021	2020	Restrictions
Long-term financial instruments	₩	14	14	Guarantee deposits for checking accounts

The Group has deposited ₩121,000 million in financial institutions to provide financial support to the Group’s partners as of December 31, 2021.

9. Trade and Other Receivables and Contract Assets

(1) Trade and other receivables as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021		2020	
		Current	Non-current	Current	Non-current
Trade receivables:					
Trade receivables	₩	1,478,538	195,329	1,343,794	182,389
Allowance for doubtful accounts		(626,294)	(164,220)	(589,566)	(136,277)
		852,244	31,109	754,228	46,112
Other receivables:					
Other accounts receivables		330,287	2,878	292,506	3,877
Allowance for doubtful accounts		(162,123)	(19)	(162,900)	-
Accrued income		10,529	-	4,118	-
Allowance for doubtful accounts		(1,899)	-	-	-
Loans		168,649	992	169,353	986
Allowance for doubtful accounts		(165,510)	(292)	(165,510)	(292)
Guarantee deposits		254	4,274	258	2,301
		180,187	7,833	137,825	6,872
	₩	1,032,431	38,942	892,053	52,984

(2) Changes in allowance for doubtful accounts in respect of trade and other receivables and contract assets for the quarter ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Beginning balance	₩	1,054,545	1,050,331
Impairment loss recognized		68,619	20,511
Reversal of allowance for doubtful accounts		(2,791)	(10,725)
Write-off		(16)	(5,572)
Ending balance	₩	1,120,357	1,054,545

10. Inventories

Inventories as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021			2020		
		Acquisition cost	Provision for inventory valuation	Carrying amount	Acquisition cost	Provision for inventory valuation	Carrying amount
Merchandise	₩	-	-	-	43	-	43
Work-in-progress		340,892	(14,603)	326,289	343,678	(16,880)	326,798
Raw materials		408,769	(6,663)	402,106	332,973	(11,857)	321,116
Supplies		16,100	-	16,100	14,813	-	14,813
Materials-in-transit		154,172	-	154,172	116,217	-	116,217
	₩	919,933	(21,266)	898,667	807,724	(28,737)	778,987

The reversals of write-down of inventories to net realizable value amounting to ₩7,471 million is added and ₩5,010 million are deducted from cost of sales for the year ended December 31, 2021 and 2020, respectively.

11. Other Current Assets and Other Non-current Assets

Other current assets and other non-current assets as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021		2020	
		Current	Non-current	Current	Non-current
Advanced payments	₩	571,642	-	539,400	-
Prepaid expenses		134,459	768	111,379	801
Accumulated impairment loss(*1)		(39,115)	-	(33,702)	-
Others(*2)		213,896	-	212,864	-
Accumulated impairment loss		(166,322)	-	(158,464)	-
Defined benefit assets		-	26,352	-	29,956
	₩	714,560	27,120	671,477	30,757

(*1) Prior to recognition of the provision for the onerous contract, the impairment loss on the related asset was recognized.
(*2) The Group has acquired vessels under construction due to cancellation of a shipbuilding contracts and recognized it by fair value which independent and expertise appraisal institution appraised.

12. Joint Operations

The joint operations as of December 31, 2021 and 2020 are summarized as follows:

Joint operation	Location	Main business	2021 Ownership (%)	2020 Ownership (%)
FDH JV (*1)	Kuwait	Chemical plant	33.33	33.33
FDH JV (*2)	Kuwait	Chemical plant	20.00	20.00

(*1) The Group holds a significant joint operation 'FDH JV' as of December 31, 2021 and 2020. FDH JV is a joint operation where the main purpose of arrangement is the construction of Clean Fuels Project MAB2 EPC PKG ordered by Kuwait National Petroleum Group. The Group recognizes the assets and liabilities relating to its interest in a joint operation and recognizes revenues and expenses relating to its interest in the joint operation.
(*2) The Group holds a significant joint operation 'FDH JV' as of December 31, 2021 and 2020. FDH JV is a joint operation where the main purpose of arrangement is the construction of the Al Zour Refinery Project Package 2 & 3 EPC PKG ordered by Kuwait Integrated Petroleum Industries Group. The Group recognizes the assets and liabilities relating to its interest in a joint operation and recognizes revenues and expenses relating to its interest in the joint operation.

13. Investment in an Associate

The Group purchased shares of KC LNG Tech Co., Ltd. from Korea Shipbuilding & Offshore Engineering Co., Ltd., the ultimate parent Group of the Group (See Note 42).

(1) Investment in an associate as of December 31, 2021 and December 31, 2020 is summarized as follows:

(In millions of won, except percentage of ownership)

Group	Location	Fiscal year end	Main business	2021 Ownership (%)	2021 Carrying amount
KC LNG Tech Co., Ltd.(*)	Korea	December	Other engineering services	16.60	₩ 2,790

Group	Location	Fiscal year end	Main business	2020 Ownership (%)	2020 Carrying amount
KC LNG Tech Co., Ltd.(*)	Korea	December	Other engineering services	16.60	₩ 946

(*) Although ownership is less than 20%, the Group includes the investment as an investment in an associate since the Group has a significant influence on the main operating and financial policy decisions of the entity.

(2) Condensed financial information of the associate as of and for the year ended December 31, 2021 is summarized as follows:

(In millions of won)

		Condensed financial information of the associate									
Associate	Year	Current assets	Non-Current assets	Current liabilities	Non-Current liabilities	Equity	Sales	Operating loss	Loss for the period	Other comprehensive income	Total comprehensive loss
KC LNG Tech Co., Ltd.	2021	₩ 2,726	15,263	12,737	757	4,495	4,939	(4,137)	(3,893)	-	(3,893)
	2020	₩ 2,390	9,434	17,035	1,402	(6,613)	867	(4,112)	(17,894)	-	(17,894)

(*) No dividends were received from the associate during the year ended December 31, 2021.

13. Investment in an Associate (Continued)

(3) Evaluation of investments in associates for the year ended December 31, 2021 are summarized as follows:

(In millions of won)

Associate	Year		Beginning balance	Acquisition (disposal)	Share of profit (loss) of equity accounted investees	Changes in equity of equity accounted investees	Dividends received	Ending balance
KC LNG Tech Co., Ltd.	2021	₩	946	2,490	(646)	-	-	2,790
	2020	₩	-	946	-	-	-	946

(4) Reconciliation from net assets of the associate to the carrying amount of investment in associate in the Group's consolidated financial statements as of December 31, 2021 is summarized as follows:

(In millions of won)

Associate	Year		Ending net assets	Percentage of the Group's ownership	Net value	Others	Ending carrying amount
KC LNG Tech Co., Ltd.	2021	₩	4,495	16.60%	746	2,044	2,790
	2020	₩	(6,613)	16.60%	(1,098)	2,044	946

14. Financial Assets measured at fair value

(1) Financial assets measured at FVOCI as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021	2020
		Non-current	Non-current
Unlisted equity securities:			
Unlisted equity securities (*)	₩	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, 2021 and 2020 are summarized as follows:

(In millions of won)		2021	2020
		Non-current	Non-current
Investments in capital(*):			
Machinery Financial Cooperative	₩	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
	₩	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 due to insufficient evidence or data with low credibility.

15. Investment Properties

(1) Changes in investment properties for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021		
		Land	Buildings	Total
Beginning balance	₩	476	3,831	4,307
Acquisition and others		-	-	-
Depreciation		-	(198)	(198)
Ending balance	₩	476	3,633	4,109
Acquisition cost		476	7,761	8,237
Accumulated depreciation		-	(4,128)	(4,128)

(In millions of won)		2020		
		Land	Buildings	Total
Beginning balance	₩	476	3,976	4,452
Acquisition and others		-	17	17
Depreciation		-	(162)	(162)
Ending balance	₩	476	3,831	4,307
Acquisition cost		476	7,761	8,237
Accumulated depreciation		-	(3,930)	(3,930)

(2) Revenue and expense from investment property for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Rental income	₩	29	58
Operating and maintenance expense arising from investment property that generated rental income		230	181

(3) Fair values from investment property as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021		2020	
		Book value	Fair value	Book value	Fair value
Land	₩	476	885	476	827
Buildings		3,633	7,320	3,831	7,530
	₩	4,109	8,205	4,307	8,357

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 Group calculated a fair value considering changes in the standard market price such as officially assessed individual land price after previous evaluation date in order to estimate the fair value of investment property as of December 31, 2021.

16. Property, Plant and Equipment

(1) Changes in property, plant and equipment for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)

		2021					
	Land	Buildings	Structures	Machinery and equipment	Construction 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	66,757	228,186
Disposals	(438)	(1,772)	(476)	(1,710)	-	(8,595)	(12,991)
Depreciation	-	(39,354)	(30,312)	(89,699)	-	(66,149)	(225,514)
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	347,491	5,986,255
Acquisition cost	3,141,860	1,890,467	1,525,092	2,921,312	107,517	1,728,856	11,315,104
Accumulated depreciation	-	(770,535)	(583,274)	(2,329,603)	-	(1,298,040)	(4,981,452)
Accumulated impairment	-	(62,749)	(115,203)	(86,120)	-	(83,325)	(347,397)

(*1) The amount of expenditures related to the acquisition of construction in-progress is ₩104,384 million and the amount of reclassification, after the acquisition is completed, is ₩65,919 million for the year ended December 31, 2021.
(*2) Reclassification due to the sale of the Seobu-jae dormitory site during the year ended December 31, 2021.

(In millions of won)

		2020					
	Land	Buildings	Structures	Machinery and equipment	Construction in-progress	Others	Total
Beginning balance	₩ 2,945,750	1,163,095	932,806	576,864	69,035	409,986	6,097,536
Acquisitions and others(*1)	28,340	17,691	14,179	85,503	17	75,986	221,716
Disposals	(503)	(924)	(31)	(5,649)	-	(4,449)	(11,556)
Business transfer(*2)	-	-	-	-	-	(180)	(180)
Depreciation	-	(40,193)	(31,623)	(91,710)	-	(75,683)	(239,209)
Land revaluation	174,117	-	-	-	-	-	174,117
Impairment	-	(47,598)	(71,648)	(58,806)	-	(44,066)	(222,118)
Ending balance	₩ 3,147,704	1,092,071	843,683	506,202	69,052	361,594	6,020,306
Acquisition cost	3,147,704	1,885,082	1,508,031	2,884,413	69,052	1,757,362	11,251,644
Accumulated depreciation	-	(733,969)	(553,501)	(2,288,391)	-	(1,317,181)	(4,893,042)
Accumulated impairment	-	(59,042)	(110,847)	(89,820)	-	(78,587)	(338,296)

(*1) The amount of expenditures related to the acquisition of construction in-progress is ₩37,889 million and the amount of reclassification, after the acquisition is completed, is ₩37,872 million for the year ended December 31, 2020.
(*2) It is a change as the Group has transferred ship's digital control business to Hyundai Global Service Co., Ltd. a related party, for the year ended December 31, 2020 (See Note 43).

(2) Construction-in-progress is mainly related to extension of plant facilities.

16. Property, Plant and Equipment (Continued)

(3) Impairment losses

The Group assessed machinery and other devices not in use at Gunsan shipyard for impairment, and as a result an impairment loss of ₩3,173 million was recognized (₩ 41,283 million in 2020) for buildings and other property, plant and equipment. Reflecting the physical and technological obsolescence of assets, the Group estimated the recoverable amount of the assets at Gunsan shipyard based on valuation methods, including the cost approach.

The Group assessed cash generating units ("CGUs") for impairment where indications of impairment existed due to a decrease in production and the market recession, as a result impairment loss was recognized in the amount of ₩13,172 million (₩112,885 million in 2020) related to the offshore business for property, plant and equipment for the period ended December 31, 2021. The estimated recoverable amount is the fair value less costs to sell of the individual assets, which is the 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 Group assessed impairment related to damage caused by typhoons and others, as a result impairment loss of ₩67,950 million was recognized for property, plant and equipment for the year ended December 31, 2020.

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:

Valuation method	Significant but unobservable input variables	Correlation between the main unobservable variable and fair value
Valuation based on officially assessed land price	Time adjustment (Rate of changes in land value)	If flexibility of land value increases (decreases), then fair value increases (decreases).
	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.

16. Property, Plant and Equipment (Continued)

(3) Impairment losses, continued

The Group tests for impairment on CGUs annually. The Group, in principle, defines the business unit as a 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 Group, 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.

Pre-tax discount rate applied 8.77%~10.65% (8.01%~9.19% in 2020). Cash flows after 5 years was estimated by applying a 1% growth rate (1% in 2020). All other assumptions are the same as disclosed as of December 31, 2020. If there are subsequent changes in major assumptions, an impairment loss may occur.

(4) Land revaluation

The Group applied the revaluation model on land. For the year ended December 31,2020 the Group revalued land by using the value which independent and expertise appraisal institution appraised on December 31, 2020. 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, 2021 are as follows:

(In millions of won)		2021	
		Revaluation model	Cost model
Land	₩	3,141,860	1,958,742

As a result of revaluation of land, accumulated gain on revaluation amounted to ₩875,794 million (net of tax effects) was recognized as other comprehensive income and accumulated revaluation loss amounted to ₩28,411 million in relation to land the Group holds as of December 31, 2021 was recognized as other non-operating expenses.

In addition, due to partial disposal of the revalued land, revaluation gain amounting to ₩156 million was reclassified to retained earnings during the year ended December 31, 2021.

16. 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
Valuation based on officially assessed land price	Time adjustment (Rate of changes in land value)	If flexibility of land value increases (decreases), then fair value increases (decreases).
	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) Temporary suspended assets
Book value of Gunsan shipyard and offshore business is ₩664,961 million (₩810,187 million in 2020) during the year ended December 31, 2021.

(6) Using property, plant and equipment after depreciation completed.
Book value of using property, plant and equipment after depreciation completed is ₩118 million (₩115 million in 2020) during the year ended December 31, 2021.

17. Right-of-use Assets

(1) Changes in right-of-use assets for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021			
		Land	Buildings	Others	Total
Beginning balance	₩	11,698	3,232	665	15,595
Additions and adjustment		4,746	6,223	1,938	12,907
Depreciation		(3,363)	(6,194)	(1,039)	(10,596)
Ending balance	₩	13,081	3,261	1,564	17,906
Acquisition cost		15,626	7,912	2,127	25,665
Accumulated depreciation		(2,545)	(4,651)	(563)	(7,759)

(In millions of won)		2020			
		Land	Buildings	Others	Total
Beginning balance	₩	2,950	4,568	1,085	8,603
Additions and adjustment		11,774	5,099	688	17,561
Derecognition and others		(171)	(100)	(9)	(280)
Depreciation		(2,855)	(6,335)	(1,099)	(10,289)
Ending balance	₩	11,698	3,232	665	15,595
Acquisition cost		15,287	13,160	2,406	30,853
Accumulated depreciation		(3,589)	(9,928)	(1,741)	(15,258)

17. Right-of-use Assets (Continued)

(2) Expenses recognized in profit or loss related to leases for the years ended December 31, 2021 and 2020 are as follows.

(In millions of won)		2021	2020
Depreciation on right-of-use assets(*):			
Lands	₩	3,363	2,855
Buildings		6,194	6,335
Others		1,039	1,099
	₩	10,596	10,289
Interest expense on lease liabilities		583	339
Short-term lease payment(*)		9,043	16,536
Payments for leases of low-value assets not short-term lease(*)		57	105
Variable lease payments not included in the measurement of the lease liabilities(*)		246	550

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

The total cash outflows related to leases for the years ended December 31, 2021 and 2020 amounted to ₩19,007 million and ₩27,024 million, respectively.

18. Intangible Assets

(1) Changes in development costs for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Beginning balance	₩	30,170	23,800
Acquisition and others		9,168	8,879
Amortization		(2,702)	(2,509)
Impairment(*)		(1)	-
Ending balance	₩	36,635	30,170
Acquisition cost		48,745	428,426
Accumulated amortization		(11,611)	(383,720)
Accumulated impairment		(499)	(14,536)

(*) Impairment loss recognized for development cost of engine department for the years ended December 31, 2021.

(2) Changes in other intangible assets for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Beginning balance	₩	34,792	33,990
Acquisition and others		12,053	982
Disposals and others		(3,266)	(38)
Amortization		(353)	(142)
Impairment(*1)		(403)	-
Ending balance(*2)	₩	42,823	34,792
Acquisition cost		44,846	39,420
Accumulated amortization		(329)	(3,338)
Accumulated impairment		(1,694)	(1,290)

(*1) Impairment loss recognized for other intangible assets, membership and development cost of engine department for the years ended December 31, 2021.
(*2) The carrying amounts of the intangible assets with indefinite useful lives are ₩31,872 million and ₩31,504 million as of December 31, 2021 and 2020 respectively.

(3) Details of research and development costs, ordinary development costs and development cost amortization included in intangible asset for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)			2021	2020
Research and development costs	Selling, general and administrative expenses	₩	2,962	4,151
	Government subsidies		(11)	-
		₩	2,951	4,151
Ordinary development costs	Selling, general and administrative expenses		65,293	67,749
	Government subsidies		(106)	-
		₩	65,187	67,749
Development cost amortization	Manufacturing costs		2,449	2,004

Selling, general and administrative expenses		253	-
Others		-	505
	₩	2,702	2,509

18. Intangible Assets (Continued)

(4) Changes in goodwill for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2020
Beginning balance	₩	455
Business transfer(*)		(455)
Ending balance	₩	-
Acquisition cost		-

(*) The Group has transferred ship's digital control business to Hyundai Global Service Co., Ltd. a related party, for the year ended December 31, 2020(See Note 43).

19. 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, 2021 and 2020 are summarized as follows:

(In millions of won)		2021		2020	
		Current	Non-current	Current	Non-current
Borrowings	₩	1,240,813	1,422,700	2,397,344	1,787,186
Bonds		265,970	537,100	110,000	252,320
Discount on bonds		(15)	(808)	(75)	(88)
	₩	1,506,768	1,958,992	2,507,269	2,039,418
Lease liabilities		6,052	12,746	7,731	8,612

(2) Details of the timing of the cash outflow the lease liabilities under contract as of December 31, 2021 and 2020 are as follows:

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

(*) Undiscounted lease payments

(In millions of won)		2020					
		Carrying amount	Contractual cashflow(*)	6 months more or less	6~12 months	1~3 years	More than 3 years
Lease liabilities	₩	16,343	18,216	5,472	2,644	3,735	6,365

(*) Undiscounted lease payments

20. Trade and Other Payables

Trade and other payables as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021		2020	
		Current	Non-current	Current	Non-current
Trade payables	₩	1,180,098	-	947,104	-
Other accounts payables		164,153	-	191,835	-
Accrued expenses		401,678	-	506,709	-
Deposits received		-	249	-	212
	₩	1,745,929	249	1,645,648	212

21. Borrowings and Bonds

(1) Short-term borrowings as of December 31, 2021 and 2020 are as follows:

(In millions of won) Type of borrowing	Lender	Annual interest rate (%)		2021	2020
General loan	Standard Chartered Bank Korea Limited and others	-	₩	-	190,000
General loan in foreign currency	FDH JV ZOR	2.50		12,775	9,673
Invoice loan	Industrial & Commercial Bank of China and others	-		-	9,248
Usance L/C	Industrial Bank of Korea and others	0.25~1.96		648,763	450,626
Pre-shipment credit	Export-Import Bank of Korea	-		-	102,248
				661,538	761,795
Current portion of long-term borrowings				579,275	1,635,549
			₩	1,240,813	2,397,344

(2) Long-term borrowings as of December 31, 2021 and 2020 are as follows:

(In millions of won) Type of borrowing	Lender	Annual interest rate (%)		2021	2020
General loan	The Korea Development Bank and others	2.33~3.84	₩	1,438,500	2,097,000
General loan in foreign currency	KEB Hana Bank and others	2.03~3.84		533,475	717,983
Commercial Paper	Korea Investment & Securities Co., Ltd.	3.30		30,000	250,000
Pre-shipment credit	Export-Import Bank of Korea	-		-	357,752
				2,001,975	3,422,735
Current portion of long-term borrowings				(579,275)	(1,635,549)
			₩	1,422,700	1,787,186

21. Borrowings and Bonds (Continued)

(3) Bonds as of December 31, 2021 and 2020 are as follows:

(In millions of won)

Description	Issue	Maturity	Annual interest rate (%)		2021	2020	Guarantee(*)
2rd debenture	2019.02.25	2021.11.25	3.90	₩	-	110,000	Debenture
3rd debenture	2019.05.29	2022.02.28	3.75		100,000	100,000	Debenture
Floating rate note	2019.12.12	2022.12.12	1.15		165,970	152,320	Secured bond
4th-1 debenture	2021.03.05	2023.03.03	1.92		60,000	-	Debenture
4th-2 debenture	2021.03.05	2024.03.05	3.50		240,000	-	Debenture
Floating rate note	2021.04.01	2024.03.28	1.08		237,100	-	Secured bond
					803,070	362,320	
Discount on bonds					(823)	(163)	
Current portion of bonds					(265,970)	(110,000)	
Current portion of discount on bonds					14	75	
				₩	536,291	252,232	

(*) The Group is provided with guarantees from financial institution issued for floating rate note.

(4) Aggregate maturities of the Group's borrowings and bonds as of December 31, 2021 and 2020 are as follows:

(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

(In millions of won)

		December 31, 2020		
Periods		Borrowings	Bonds	Total
2021.01.01 ~ 2021.12.31	₩	2,397,344	110,000	2,507,344
2022.01.01 ~ 2025.12.31		1,787,186	252,320	2,039,506
	₩	4,184,530	362,320	4,546,850

21. Borrowings and Bonds (Continued)

(5) Changes in liabilities arising from financing cash flows for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)

			2021			
			Borrowings	Bonds	Lease liabilities	Total
Beginning balance		₩	4,184,530	362,157	16,343	4,563,030
Cash flows from financing activities	Borrowings		1,701,312	525,365	-	2,226,677
	Repayments		(3,268,319)	(110,000)	(9,340)	(3,387,659)
Non-cash flows	The effects of changes in foreign exchange rates		45,990	24,229	124	70,343
	Amortization of bond 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 relating to the decrease in lease liabilities for the year ended December 31, 2021, is classified as cash flows from operating activities.

(In millions of won)

			2020			
			Borrowings	Bonds	Lease liabilities	Total
Beginning balance		₩	3,530,621	371,778	8,653	3,911,052
Cash flows from financing activities	Borrowings		4,511,355	-	-	4,511,355
	Repayments		(3,771,638)	-	(9,561)	(3,781,199)
Non-cash flows	The effects of changes in foreign exchange rates		(85,808)	(9,772)	(111)	(95,691)
	Amortization of bond discounts		-	151	-	151
	Others		-	-	17,634	17,634
Cash flows from operating activities(*)			-	-	(272)	(272)
Ending balance		₩	4,184,530	362,157	16,343	4,563,030

(*) Interest expense relating to the decrease in lease liabilities for the year ended December 31, 2020, is classified as cash flows from operating activities.

22. Employee Benefits

(1) Recognized liabilities for defined benefit obligations as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Present value of defined benefit obligations	₩	780,644	693,107
Other long-term benefits		33,198	36,325
		813,842	729,432
Fair value of plan assets(*)		(780,644)	(693,107)
Liabilities recognized under defined benefit plans	₩	33,198	36,325

(*) The fair value of plan assets amounting to ₩26,352 million(₩29,956 million in 2020), 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 ₩806,996 million(₩723,063 million in 2020) as of December 31, 2021 (See Note 11).

(2) Plan assets as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Retirement pension(*)	₩	805,944	721,717
Transfer to National Pension Fund		1,052	1,346
	₩	806,996	723,063

(*) The retirement pension is invested in principal and interest guaranteed instruments and funds with bonds mixed as of December 31, 2021.

(3) Expenses recognized in profit or loss for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Current service costs	₩	67,204	72,981
Past service costs		40,265	-
Interest on obligations		15,880	15,848
Expected return on plan assets		(16,262)	(15,439)
	₩	107,087	73,390

For the years ended December 31, 2021 and 2020, amounting to ₩6,053 million and ₩23,916 million were incurred, respectively, as additional retirement benefits.

22. Employee Benefits (Continued)

(4) Changes in the defined benefit liabilities for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Beginning balance	₩	792,432	771,213
Current service costs		67,204	72,981
Past service costs		40,265	-
Interest cost		15,881	15,848
Benefits paid		(77,822)	(85,135)
Transfers to related parties		2,814	(626)
Actuarial losses			
Population statistical assumption		-	-
Financial assumption		(1,802)	(30,849)
Experience adjustment		37,870	(12,936)
Business transfer(*)		-	(1,064)
Ending balance	₩	813,842	729,432

(*) It is a change as the Group has transferred digital control business to Hyundai Global Service Co., Ltd., a related party, for the year ended December 31, 2020 (See Note 43).

(5) Changes in the fair value of plan assets for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Beginning balance	₩	723,063	699,487
Benefits paid		(64,384)	(77,440)
Contributions paid into the plan		135,000	85,000
Expected return on plan assets		16,262	15,439
Transfers from related parties		-	2,061
Actuarial gains and losses in other comprehensive loss		(2,945)	(1,484)
Ending balance	₩	806,996	723,063

The Group 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 Group expects to pay ₩69,900 and ₩64,554 million in contributions to its defined benefit plans in the following year, as of December 31, 2021 and 2020, respectively.

(6) Expected payment date of the defined benefit liabilities as of December 31, 2021 is as follows:

(In millions of won)		2022.01.01 ~ 2022.12.31	2023.01.01 ~ 2026.12.31	2027.01.01 ~ 2031.12.31	2032.01.01 ~	Total
Expected payment	₩	33,519	258,277	298,167	1,675,049	2,265,012

22. Employee Benefits (Continued)

(7) Principal actuarial assumptions as of December 31, 2021 and 2020 are as follows:

(In percentage)	2021	2020
Discount rate	2.72	2.29
Future salary growth	2.11	1.64
Future mortality (Males, at age 45)	0.20	0.20

(8) Weighted average durations of the defined benefit obligations as of December 31, 2021 and 2020 are as follows:

(In years)	2021	2020
Weighted average duration	10.66	10.54

(9) Reasonably possible changes as of December 31, 2021 and 2020 to each relevant actuarial assumption would have affected the defined benefit obligation by the amounts shown below.

(In millions of won)		2021		2020	
		Increase	Decrease	Increase	Decrease
Discount rate (1% movement)	₩	(72,743)	85,811	(62,429)	77,888
Future salary growth (1% movement)		74,759	(65,139)	67,792	(55,418)

23. Provisions

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

(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

(*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 group have to pay to employees at the end of the year according to the judgment of the Supreme Court.
(*2) For the year ended December 31, 2021, the changes in the amount of the pre-recognition of impairment loss for the related assets are included.

(2) Changes in provisions for the year ended December 31, 2020 are as follows:

(In millions of won)		2020				
		Provision for construction losses	Provision for construction warranty	Provision for product warranty	Other provisions(*1)	Total
Beginning balance	₩	160,194	405,834	59,997	35,979	662,004
Additions		101,282	22,183	36,755	6,926	167,146
Reversals		(123,510)	(30,411)	(1,505)	(30,187)	(185,613)
Utilization		-	(42,138)	(16,599)	-	(58,737)
Others(*2)		(24,416)	-	-	-	(24,416)
Business transfer(*3)		(150)	-	(1,358)	-	(1,508)
Ending balance		113,400	355,468	77,290	12,718	558,876
Current	₩	113,400	95,548	62,002	12,718	283,668
Non-current		-	259,920	15,288	-	275,208

(*1) Other provisions are recognized for the construction obligation and the estimated amount of arbitration due to the construction performance guarantee.
(*2) For the year ended December 31, 2020, the changes in the amount of the pre-recognition of impairment loss for the related assets are included.
(*3) It is a change as the Group has acquired ship's digital control business from Hyundai Global Service Co., Ltd., a related party, during the year ended December 31, 2020 (See Note 43).

24. Derivative Financial Instruments

The Group has entered into derivative instrument contracts related to foreign currency forwards with KEB Hana Bank and other 15 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, 2021 are as follows:

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

Hedge accounting	Type	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, 2021 are as follows:

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

Description	Type	Currency Sell	Currency Buy	Contract amount	Weighted average exchange rate (In won)	Average maturities	Number of contracts
Fair value hedge	Foreign exchange forward contracts	USD	KRW	8,044,888	1,147.87	2023-05-10	2,232
		EUR	KRW	15,437	1,425.56	2022-04-26	6
Cash flow hedge	Foreign exchange forward contracts	KRW	GBP	3,140	1,474.08	2023-03-15	4
		USD	EUR	18,622	0.83	2022-09-19	2
	Foreign exchange swap contracts	KRW	USD	904,670	1,145.15	2023-08-06	12

- Terms of settlement: Netting the settlement or collecting total.
- The contract amount is denominated in selling currency. The monetary unit of the contract amount is denominated in the selling currency.

24. Derivative Financial Instruments (Continued)

(3) Book values related to derivatives as of December 31, 2021 are as follows:

(In millions of won)

			Derivatives				Firm commitment			
			Assets		Liabilities		Assets		Liabilities	
Description	Type		Current	Non-current	Current	Non-current	Current	Non-current	Current	Non-current
Fair value hedge	Foreign exchange forward contracts	₩	9,165	4,445	147,626	145,956	96,769	145,688	5,356	4,445
Cash flow hedge	Foreign exchange forward contracts		186	83	1,041	-	-	-	-	-
	Foreign exchange swap contracts		2,017	38,595	75	75	-	-	-	-
		₩	11,368	43,123	148,742	146,031	96,769	145,688	5,356	4,445

(4) Gains and losses on the valuation and transaction of derivatives for the year ended December 31, 2021 are as follows:

(In millions of won)

Description	Type		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	₩	10,647	-	31,152	570,024	450,160	20,908	-
Cash flow hedge	Foreign exchange forward contracts		-	597	-	-	-	-	(745)
	Foreign exchange swap contracts		-	-	72,876	-	-	-	11,260
For trading	Foreign exchange forward contracts		-	-	988	2,380	-	-	-
		₩	10,647	597	105,016	572,404	450,160	20,908	10,515

For the year ended December 31, 2021, the Group applies cash flow hedge accounting, for which the Group accounted the effective portion of the hedge amounting to ₩7,718 million, net of tax of ₩2,797 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 27 months.

25. Common Stock and Capital Surplus

(1) Common stock

(i). Capital stock as of December 31, 2021 and 2020 are as follows:

(In Thousands of won)	2021			
	Authorized Shares	Issued Shares	Par value	Capital Stock
Common stock	160,000,000	88,773,116	5,000	443,865,580

(ii). Changes in capital stock for the year ended December 31, 2021 are as follows:

(In Thousands of won)		2021	2020
Beginning balance	₩	70,773,116	353,865,580
Capital increase		18,000,000	90,000,000
Ending balance	₩	88,773,116	443,865,580

(2) Capital surplus

(In millions of won)		2021	2020
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	-
Establishment costs of corporation in June, 2019		(1,729)	(1,729)
New stock issue costs of capital increase in September, 2021		(11,577)	-
Appropriations of retained earnings (*)		(2,500,000)	-
	₩	3,118,365	4,639,942

(*) At the annual shareholder`s meeting on March 22, 2021, capital surplus of ₩2,500,000 million was transferred to retained earnings.

(3) Dividends

The Group has no dividends paid for the periods ended December 31, 2021 and 2020.

26. Capital Adjustments

Capital adjustments as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Repayment of hybrid bonds	₩	(1,411)	(1,411)

27. Accumulated Other Comprehensive Income

(1) Accumulated other comprehensive income as of December 31, 2021 and 2020 are summarized as follows:

(In millions of won)		2021	2020
Changes in financial assets measured at FVOCI	₩	(11)	(459)
Gain (loss) on valuation of derivatives		5,736	(1,983)
Revaluation of property, plant and equipment		875,793	875,950
Overseas operation translation gains (losses)		(30)	(35)
	₩	881,488	873,473

(2) Other comprehensive income (loss) for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021		
		Before tax amount	Tax effect	After tax amount
Changes in financial assets measured at FVOCI	₩	(57)	15	(42)
Gain (loss) on valuation of derivatives		10,515	(2,797)	7,718
Overseas operation translation		(39,013)	10,377	(28,636)
Actuarial gains and losses		5	-	5
	₩	(28,550)	7,595	(20,955)

(In millions of won)		2020		
		Before tax amount	Tax effect	After tax amount
Gain (loss) on valuation of derivatives	₩	332	(88)	244
Overseas operation translation gains (losses)		(35)	-	(35)
Actuarial gains and losses		42,301	(11,252)	31,049
Revaluation of property, plant and equipment		188,100	(50,035)	138,065
	₩	230,698	(61,375)	169,323

28. Retained Earnings (Accumulated Deficit)

(1) Retained earnings (Accumulated deficits) as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Retained earnings(deficit)	₩	1,151,718	(505,085)

(2) Changes in retained earnings (deficit) for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Beginning balance	₩	(505,085)	(104,922)
		2,500,000	-
Loss for the period		(814,228)	(431,446)
Actuarial gains and losses		(28,636)	31,049
Reclassification of revaluation surplus		156	234
Reclassification of changes in financial assets measured at FVOCI		(489)	-
Ending balance	₩	1,151,718	(505,085)

29. Revenue

(1) Sales for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Construction contracts	₩	6,594,523	6,624,883
Goods sold		1,539,116	1,529,137
Services		177,637	157,990
	₩	8,311,276	8,312,010

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

(In millions of won)		Shipbuilding	Offshore, Industrial Plant and Engineering	Others	Total
Beginning balance	₩	10,393,184	490,550	1,866,892	12,750,626
Increase during the year(*)		12,577,798	2,196,383	2,630,476	17,404,657
Sales recognized		(6,320,638)	(426,442)	(1,564,196)	(8,311,276)
Ending balance	₩	16,650,344	2,260,491	2,933,172	21,844,007

(*) The increase includes the impact from changes in the contract amount.

As of December 31, 2021, the Group 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.

29. Revenue (Continued)

Periods when the ending balance is expected to be recognized as revenues are as follows:

(In millions of won)		2022	2023	After 2024	Total
Expected amount	₩	9,784,832	8,591,160	3,468,015	21,844,007

(3) Accumulated revenues and costs of construction and others related to construction in progress as of December 31, 2021 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	₩	5,445,147	5,727,475	(282,328)	93,560	2,698,431	1,887,547	210,517
Offshore, Industrial Plant and Engineering(*)		3,489,617	3,667,820	(178,203)	224,947	138,280	239,751	4,310
	₩	8,934,764	9,395,295	(460,531)	318,507	2,836,711	2,127,298	214,827

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

Among the receivables on construction contracts, the amount of retentions in accordance with the contract terms amounts to ₩190,284 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.

(4) As of December 31, 2021, the information about significant construction contracts is as follows:

(In millions of won)						Contract asset		Trade receivable	
	Contract	Contract date	Contract due(*1)	Progress		Total	Allowance for doubtful accounts	Total	Allowance for doubtful accounts
Offshore, Industrial Plant and Engineering	SHUQAIQ	2013.08.04	2018.05.31	100.00%	₩	-	-	193,873	-
	CFP	2014.04.13	2018.10.18	99.61%		70,249	-	21,756	-
	ZOR	2015.10.13	2019.07.27	91.41%		-	-	96,947	-
	King's Quay FPS Project	2018.10.08	2021.08.30	100.00%		-	-	-	-
	SHWE	2021.02.01	2024.04.01	9.20%		-	-	-	-
	FPSO Petrobras 78 Project	2021.05.08	2025.11.07	1.41%		-	-	864	-
	Shenandoah FPS Project	2021.08.05	2024.09.26	1.21%		-	-	54,906	-
	NASR 2	2014.07.08				(*2)			

(*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.

29. Revenue (Continued)

(*2) As there are contractual confidentiality obligations and the clients disagree with disclosing this information, the Group omits the related disclosures after reporting it to audit committee. As of December 31, 2021, the Group omitted the related disclosures for seven contracts. However, because the date of contracts of NASR 2 are disclosed in securities registration statement, business report, investment prospectus, report on material factors, and important management matters under the Korea Exchange Disclosure Rules due to the Capital Market Act of Korea, the Group has disclosed the related information.

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

(i) Effect of changes in total contract costs

For the year ended December 31, 2021, the estimated total contract costs and total contract revenue for contracts in progress as of December 31, 2020 have changed. Accordingly, 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 contract revenue(*1)	Change of total estimated contract cost	Effect on profit or loss of contract			Change of contract assets	Change of contract liabilities
				Current period	Future period	Total		
Shipbuilding	₩	458,972	260,195	206,508	(7,731)	198,777	(179,214)	(2,559)
Offshore, Industrial Plant and Engineering(*2)		69,290	6,239	60,154	2,897	63,051	(2,428)	8,595
	₩	528,262	266,434	266,662	(4,834)	261,828	(181,642)	6,036

(*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) is 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 Group 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:

29. Revenue (Continued)

(In millions of won)

		Effect of profit or loss in current period		Effect of profit or loss in future period		Changes of contract assets		Changes of contract liabilities	
		10% increase	10% decrease	10% increase	10% decrease	10% increase	10% decrease	10% increase	10% decrease
Shipbuilding	₩	(186,309)	126,204	(183,537)	243,642	(36,332)	37,177	12,137	(11,870)
Offshore, Industrial Plant and Engineering(*)		(3,197)	1,901	(10,576)	11,872	(560)	559	1,067	(1,079)
	₩	(189,506)	128,105	(194,113)	255,514	(36,892)	37,736	13,204	(12,949)

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

(6) Source of revenue

(In millions of won)

		2021	2020
Revenue from contracts with customers	₩	8,300,600	8,438,383
Investment property rentals		29	58
Hedging gains (losses)		10,647	(126,431)
	₩	8,311,276	8,312,010

(7) Disaggregation of revenue from contracts with customers

Disaggregation of revenue from contracts with customers for the years ended December 31, 2021 and 2020 is as follows:

(In millions of won)

		2021	2020
Major products/service lines			
Shipbuilding	₩	6,311,510	5,973,997
Offshore, Industrial Plant and Engineering		426,507	902,152
Engine and Machinery		1,490,141	1,496,890
Others		72,471	65,402
	₩	8,300,629	8,438,441
Primary geographical markets			
Korea	₩	3,254,167	3,743,984
North America		171,870	396,375
Asia		2,410,717	1,480,251
Europe		2,194,640	2,759,791
Others		269,235	58,040
	₩	8,300,629	8,438,441
Duration of contract			
Short-term contract	₩	552,597	525,482
Long-term contract		7,748,032	7,912,959
	₩	8,300,629	8,438,441
Timing of revenue recognition			
Goods and services transferred at a point in time	₩	1,714,450	1,710,510
Goods and services transferred over time		6,586,179	6,727,931
	₩	8,300,629	8,438,441

29. Revenue (Continued)

(8) Contract balance

The information about receivables, contract assets and contract liabilities from contracts with customers as of December 31, 2021 and 2020 is as follows:

(In millions of won)		2021	2020
Trade receivables	₩	1,673,867	1,526,183
Allowance for doubtful accounts		(790,514)	(725,843)
	₩	883,353	800,340
Contract assets	₩	2,836,711	2,624,966
Contract liabilities(*)	₩	(2,618,586)	(1,420,267)

(*) The amount of ₩1,253,183 million included in contract liabilities (₩1,420,267 million) as of December 31, 2020 has been recognized as revenue for the year ended December 31, 2021.

(9) Incremental cost to fulfill a contract recognized as an asset

The Group pays commission fees in relation to the contract, which are recognized as incremental costs in accordance with K-IFRS 1115, prescribing that incremental costs are costs incurred to obtain a contract with a customer that would not have been 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)		2021	2020
Beginning balance	₩	50,464	93,218
Increase		74,430	27,930
Amortization(*)		(46,451)	(46,268)
Reversal		(5,414)	(24,416)
Ending balance	₩	73,029	50,464

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

30. Operating Segments

The Group 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, ship's control panel(*) and others
(ii) Offshore, Industrial Plant and Engineering: Manufacturing and installation of offshore facilities, floating units, 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

(*) The Group has transferred ship's digital control business to Hyundai Global Service Co., Ltd., a related party, for the period ended December 31, 2020 (See Note 43).

30. Operating Segments (Continued)

(1) The financial performance of each reportable segment for the years ended December 31, 2021 and 2020 is as follows:

(In millions of won)

	2021				
	Sales	InterGroup sales	Operating Profit (loss)	Profit (Loss) for the period	Depreciation, amortization(*)
Shipbuilding	₩ 6,320,638	-	(192,071)	(169,980)	128,064
Offshore and Industrial Plant Engineering	426,740	(298)	(169,261)	(189,748)	23,433
Engine and Machinery	1,491,725	-	132,618	113,264	53,770
Others	72,471	-	(571,549)	(567,764)	34,096
Consolidated adjustments	(298)	298	-	-	-
	₩ 8,311,276	-	(800,263)	(814,228)	239,363

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

(In millions of won)

	2020				
	Sales	InterGroup sales	Operating Profit (loss)	Profit (Loss) for the period	Depreciation, amortization(*)
Shipbuilding	₩ 5,877,136	-	175,523	(25,230)	123,316
Offshore and Industrial Plant Engineering	896,979	(291)	(97,681)	(290,283)	41,318
Engine and Machinery	1,472,784	-	131,883	92,826	52,751
Others	65,402	-	(177,216)	(208,759)	34,926
Consolidated adjustments	(291)	291	-	-	-
	₩ 8,312,010	-	32,509	(431,446)	252,311

(*) Depreciation on the right-of-use assets for the period ended December 31, 2020 is included.

(2) Assets and liabilities of each reportable segment as of December 31, 2021 and 2020 are as follows:

(In millions of won)

		2021	
		Total assets	Total liabilities
Shipbuilding	₩	3,583,839	3,753,820
Offshore and Industrial Plant Engineering		809,976	999,735
Engine and Machinery		1,035,976	922,514
Others		9,649,646	3,808,578
Consolidated adjustment		(766)	-
	₩	15,078,671	9,484,647

(In millions of won)

		2020	
		Total assets	Total liabilities
Shipbuilding	₩	2,343,593	2,368,849
Offshore and Industrial Plant Engineering		566,583	856,781
Engine and Machinery		928,045	835,214
Others		9,961,848	4,378,320
Consolidated adjustment		(411)	(291)

	₩	13,799,658	8,438,873

31. Selling, General and Administrative Expenses

Selling, general and administrative expenses for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Salaries	₩	132,722	81,834
Bonus		37,523	41,867
Post-employment benefit costs		30,949	32,690
Employee welfare		38,789	37,254
Depreciation		23,026	25,066
Amortization		253	-
Bad debt expenses		63,740	3,888
Ordinary development costs		65,187	67,749
Advertising		5,435	1,940
Printing		684	563
Power		1,523	1,475
Warranty expenses		56,394	14,368
Insurance		530	547
Office supplies		473	634
Supplies		1,460	1,083
Utilities		64	74
Repairs		804	1,578
Travel		2,056	2,073
Research		2,951	4,151
Training		843	725
Service contract expenses		47,612	55,756
Transportation		813	414
Freight		2,610	3,256
Ceremony expenses		524	151
Rent		1,783	1,767
Data processing		11,757	13,669
Entertainment		418	310
Taxes and dues		2,165	3,279
Service charges		46,197	33,793
Automobile maintenance		2,235	2,228
Sales commissions		2,783	1,770
Others		6,751	5,666
	₩	591,054	441,618

32. Nature of Expenses

The classifications of expenses by nature for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Changes in inventories	₩	(119,680)	20,534
Purchase of inventories		5,278,364	4,879,530
Depreciation		225,712	239,371
Depreciation on right-of-use assets		10,596	10,289
Amortization		3,055	2,651
Employee benefits(*1)		1,180,298	843,568
Others(*2)		2,533,194	2,283,558
	₩	9,111,539	8,279,501

(*1) Additional amount arising from an ordinary wage lawsuit is included.
(*2) Total expenses by nature consist of cost of sales and selling, general and administrative expenses.

33. Finance Income and Finance Costs

Finance income and finance costs for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Finance income:			
Interest income	₩	25,084	30,348
Gain on disposal of financial instruments measured at FVTPL		988	5,251
Dividend income		34	34
Gain on foreign currency translation		91,658	110,363
Gain on foreign currency transactions		292,079	255,848
Gain on valuation of derivatives		72,741	297,341
Gain on derivatives transactions		31,288	60,529
Reversal of other provisions		185	2,466
	₩	514,057	762,180
Finance costs:			
Interest expense	₩	125,635	155,574
Loss on disposal of financial instruments measured at FVTPL		2,380	593
Loss on foreign currency translation		84,741	201,834
Loss on foreign currency transactions		210,359	234,772
Loss on valuation of derivatives		470,564	38,397
Loss on derivatives transactions		99,460	142,494
Other provision additions		6,594	6,926
Others		-	-
	₩	999,733	780,590

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

Other non-operating income and other non-operating expenses for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Other non-operating income:			
Gain on disposal of property, plant and equipment	₩	8,422	3,853
Gain on disposal of intangible assets		1,556	16
Gain on disposal of non-current assets held for sale		-	1,318
Gain on valuation of firm commitments		450,160	73,351
Gain on disposal of right-of-use assets		1,240	5
Reversal of other allowance for doubtful accounts		28	4
Miscellaneous income		9,896	10,412
	₩	471,302	88,959
Other non-operating expenses:			
Other bad debt expenses	₩	2,116	5,902
Commissions		8,524	3,243
Warranty		2,932	1,281
Impairment loss on property, plant and equipment		16,345	222,118
Impairment loss on intangible assets		404	-
Impairment loss on other current assets		7,858	38,592
Loss on disposal of property, plant and equipment		8,944	8,141
Loss on disposal of intangible assets		2,296	-
Loss on revaluation of property, plant and equipment		-	13,983
Loss on disposal of non-current assets held for sale		2,668	506
Loss on valuation of firm commitments		20,908	241,887
Donations		2,466	3,077
Loss on disposal of right-of-use assets		-	21
Miscellaneous expenses		220,705	104,419
	₩	296,166	643,170

35. Income Tax Expense

(1) Components of income tax benefit for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Current tax expense	₩	632	341
Adjustment for prior periods		-	21,638
Deferred tax arising from temporary differences		(305,262)	(69,271)
Income tax recognized outside profit or loss		7,410	(61,375)
Total income tax benefit	₩	(297,220)	(108,667)

35. Income Tax Expense (Continued)

(2) Income taxes recognized directly other than profit or loss for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Changes of financial assets measured at FVOCI	₩	(162)	-
Gain (loss) on valuation of derivatives		(2,797)	(88)
Actuarial gains and losses		10,377	(11,252)
Revaluation of property, plant and equipment		(8)	(50,035)
	₩	7,410	(61,375)

Income taxes related to changes of financial assets measured at FVOCI, gain (loss) on valuation of derivatives, actuarial gains and losses and others are recognized in other comprehensive incomes.

(3) Reconciliations of the effective tax rates for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Loss before income tax	₩	(1,111,448)	(540,112)
Tax rate		26.60%	26.60%
Income tax using each component's statutory tax rate		(295,645)	(143,670)
Adjustment for:			
- Tax effect of non-deductible expenses		4,386	3,867
- Tax effect of tax-exempt income		(1)	(1)
- Tax incentives		(386)	-
- Current adjustments for prior periods		-	21,638
- Others		(5,599)	9,499
Income tax benefit	₩	(297,220)	(108,667)
Effective tax rate		(*)	(*)

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

(4) Deferred tax assets and deferred tax effects arising from temporary differences for the periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Deferred assets at the end of the year	₩	837,656	532,394
Deferred assets at the beginning of the year		532,394	463,123
Deferred tax effects arising from temporary differences	₩	305,262	69,271

35. Income Tax Expense (Continued)

(5) As of December 31, 2021 and 2020, 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 periods ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021		
		Beginning balance	Change	Ending 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

(In millions of won)		2020		
		Beginning balance	Change	Ending balance
Allowance for doubtful accounts	₩	269,763	1,078	270,841
Defined benefit liabilities		154,034	11,982	166,016
Plan assets		(155,718)	(22,660)	(178,378)
Derivatives		4,026	(9,169)	(5,143)
Accrued expenses		20,211	(1,079)	19,132
Gains and losses on foreign exchange translations		(4,557)	32,119	27,562
Others		31,157	60,465	91,622
		318,916	72,736	391,652
Tax losses carried forward		121,856	53	121,909
Tax incentives carried forward		22,351	(3,518)	18,833
	₩	463,123	69,271	532,394

(8) The Group judges that deferred tax assets are recoverable, because it is probable that future taxable profit will be available as the Group can record the average profits for the periods after the current period exceeding the amount of the unused tax losses that would be reversed in each fiscal year.

36. Earnings per share

(1) Basic earnings per share for the years ended December 31, 2021 and 2020 is as follows:

(In millions of won, In thousands of shares)		2021	2020
Earnings(Loss) for the period	₩	(814,228)	(431,446)
Weighted average number of ordinary shares outstanding(*)		76,001	70,773
Earnings per share *(In won)*	₩	(10,713)	(6,096)

(*) The weighted average number of ordinary shares outstanding for the years ended December 31, 2021 and 2020 are as follows:

(In shares)	2021		
	Number of shares outstanding	Weighted average (In days)	Weighted average number of shares outstanding
Beginning balance	70,773,116	365/365	70,773,116
Stock increase	18,000,000	106/365	5,227,397
Weighted average number of ordinary shares outstanding	88,773,116		76,000,513

(In shares)	2020		
	Number of shares outstanding	Weighted average (In days)	Weighted average number of shares outstanding
Beginning balance	70,773,116	366/366	70,773,116
Weighted average number of ordinary shares outstanding	70,773,116		70,773,116

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

37. Cash Generated from Operations

(1) Cash generated from operations for the years ended December 31, 2021 and 2020 is as follows:

(In millions of won)		2021	2020
Earnings(loss) for the period	₩	(814,228)	(431,446)
Adjustments for:			
Post-employment benefit costs		107,087	73,390
Depreciation		225,712	239,371
Depreciation on right-of-use assets		10,596	10,289
Amortization		3,056	2,651
Bad debt expenses		63,740	3,888
Reversal of other allowance doubtful accounts (Other non-operating income)		(28)	(4)
Other bad debt expenses (Other non-operating expenses)		2,116	5,902
Finance income		(189,518)	(438,085)
Finance costs		680,940	395,805
Other non-operating income		(461,379)	(78,544)
Other non-operating expenses		59,424	525,248
Income tax expenses		(297,220)	(108,667)
Changes in assets and liabilities:			
Trade receivables		(64,727)	366,522
Other receivables		(44,552)	13,118
Contract assets		(211,099)	(235,716)
Inventories		(119,680)	20,534
Derivatives		40,679	26,077
Firm commitments		22,528	22,407
Other current assets		(36,784)	12,923
Other non-current assets		33	33
Trade payables		229,697	(85,972)
Other payables		(137,687)	70,790
Advances from customers		-	(866)
Contract liabilities		1,187,720	(302,785)
Retirement benefits paid		(77,821)	(85,135)
Succession of retirement benefits		2,814	(626)
Plan assets		(70,617)	(9,621)
Provisions		744,111	(83,724)

37. Cash Generated from Operations (Continued)

(2) Significant non-cash transactions for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Reclassification of current portion of long-term borrowings	₩	579,275	1,858,112
Reclassification of construction-in-progress		65,919	24,097
Reclassification of current portion of long-term loans		(705)	14,986
Change in other payables related to acquisition of property, plant and equipment		(6,789)	(4,534)
Increase in right-of-use assets and lease liabilities		11,410	16,944
Revaluation of property, plant and equipment		-	188,100

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

(1) Categories of financial instruments as of December 31, 2021 and 2020 are summarized as follows:

(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	₩	-	-	-	2,137,391
Short-term financial assets		-	-	-	151,000
Trade and other receivables		-	-	-	1,032,431
Contract assets		-	-	-	2,836,711
Derivative assets (current)		11,368	-	-	-
Long-term financial assets		-	7,808	1,738	14
Long-term trade and other receivables		-	-	-	38,942
Derivative assets (non-current)		43,123	-	-	-
	₩	54,491	7,808	1,738	6,196,489
Short-term financial liabilities	₩	-	-	-	1,506,768
Lease liabilities (current)		-	-	-	6,052
Trade and other payables		-	-	-	1,745,929
Other provisions (current)		-	-	-	19,127
Derivative liabilities (current)		148,742	-	-	-
Long-term financial liabilities		-	-	-	1,958,992
Lease liabilities (non-current)		-	-	-	12,746
Long-term trade and other payables		-	-	-	249
Derivative liabilities (non-current)		146,031	-	-	-
	₩	294,773	-	-	5,249,863

38. Categories of Financial Instruments and Income and Costs by Categories (Continued)

(In millions of won)

		2020			
		Fair value-hedging instruments	Financial instruments measured at FVTPL	Equity investments measured at FVOCI	Financial instruments measured at amortized cost
Cash and cash equivalents	₩	-	-	-	1,314,823
Short-term financial assets		-	-	-	554,200
Trade and other receivables		-	-	-	892,053
Contract assets		-	-	-	2,624,966
Derivative assets (current)		156,620	-	-	-
Long-term financial assets		-	7,808	1,738	14
Long-term trade and other receivables		-	-	-	52,984
Derivative assets (non-current)		68,482	-	-	-
	₩	225,102	7,808	1,738	5,439,040
Short-term financial liabilities	₩	-	-	-	2,507,269
Lease liabilities (current)		-	-	-	7,731
Trade and other payables		-	-	-	1,645,648
Other provisions (current)		-	-	-	12,718
Derivative liabilities (current)		12,775	-	-	-
Long-term financial liabilities		-	-	-	2,039,418
Lease liabilities (non-current)		-	-	-	8,612
Long-term trade and other payables		-	-	-	212
Derivative liabilities (non-current)		24,621	-	-	-
	₩	37,396	-	-	6,221,608

(2) Financial instruments income and costs by categories for the years ended December 31, 2021 and 2020 are as follows:

(In millions of won)

		2021				
		Profit (loss)	Other comprehensive income (loss)	Interest Income /expense(*)	Dividend income	Impairment loss
Fair value-hedging instruments	₩	(455,946)	7,718	-	-	-
Financial instruments measured at FVTPL		(1,358)	-	-	34	-
Financial instruments measured 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.

(In millions of won)

2020				
Net income (loss)	Other comprehensive income	Interest Income /expense(*)	Dividend income	Impairment loss

Fair value-hedging instruments	₩ (117,870)	244	-	-	-
Financial instruments measured at FVTPL	4,691	-	-	34	-
Financial instruments measured at amortized cost	(208,690)	-	(106,820)	-	(9,786)

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

39. Risk of Financial Instruments

(1) Credit risk

1) Exposure to credit risk

The carrying amount of financial assets and contract assets represents the maximum credit exposure. The maximum exposure to credit risk as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
Cash and cash equivalents(*1)	₩	2,137,391	1,314,688
Fair value-hedging instruments		54,491	225,102
Financial instruments measured at FVTPL		7,808	7,808
Financial instruments measured at amortized cost(*2)		4,061,347	4,124,217
	₩	6,261,037	5,671,815

(*1) Cash held as of December 31, 2021 and 2020 is excluded.
(*2) The carrying amounts of contract assets as of December 31, 2021 and 2020 are included.

The maximum exposure to credit risk for financial guarantee contracts is ₩52,054 million and ₩104,735 million as of December 31, 2021 and 2020 (See Note 42).

The maximum exposure to credit risk for financial instruments measured at amortized cost (including contract assets) by geographic region as of December 31, 2021 and 2020 is as follows:

(In millions of won)		2021	2020
Korea	₩	965,601	1,552,082
North America		56,892	20,784
Asia		1,439,877	1,026,744
Europe		1,448,116	1,515,331
Others		150,861	9,276
	₩	4,061,347	4,124,217

2) Impairment loss

(i) Impairment loss on trade and other receivables and contract assets for the periods ended December 31, 2021 and 2020 is as follows:

(In millions of won)		2021	2020
Impairment loss on trade and other receivables and contract assets	₩	65,828	9,786

39. 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, 2021 and 2020 are as follows:

(In millions of won)		2021		2020	
		Gross	Impairment	Gross	Impairment
Not past due	₩	4,252,426	(364,932)	3,866,671	(349,643)
0~6 months past due		38,655	(28,647)	29,558	(5,935)
6~12 months past due		13,242	(12,903)	6,383	(5,590)
1~3 years past due		32,523	(30,526)	65,302	(42,212)
More than three years past due		691,195	(683,349)	656,634	(651,165)
	₩	5,028,041	(1,120,357)	4,624,548	(1,054,545)

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

For the periods ended December 31, 2021 and 2020, impairment losses arising from in other receivables are recorded as other non-operating income (loss) and the details are as follows:

(In millions of won)		2021	2020
Other bad debt expenses	₩	2,116	5,902
Reversal of other allowance doubtful accounts		(28)	(4)
	₩	2,088	5,898

3) The analysis of the aging of financial assets that are past due as of December 31, 2021 and 2020, but not impaired is summarized as follows:

(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	₩	20,191	10,009	339	1,997	7,846

(In millions of won)		2020				
		Carrying amount	6 months or less	6~12 months	1~3 years	More than 3 years
Financial instruments measured at amortized cost	₩	52,975	23,623	793	23,090	5,469

39. Risk of Financial Instruments (Continued)

(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, 2021 are summarized as follows:

(In millions of won)		2021					
		Carrying amount	Contractual cash flow	6 months or less	6~12 months	1~3 years	More than 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		1,746,177	1,746,177	1,745,928	-	249	-
Lease liabilities		18,798	20,998	3,492	3,026	6,957	7,523
Derivative financial liabilities:							
Forward exchange contracts used for hedging		294,773	308,334	73,547	78,402	152,927	3,458
	₩	5,525,508	5,648,423	2,306,504	1,175,274	2,155,664	10,981

As of December 31, 2021, the Group did not include payment guarantee contracts amounting to ₩19,127 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 Group may be obliged to cover in connection with financial guarantee contracts is ₩52,054 million, other than the financial guarantee contract (See Note 42).

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

39. 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, 2020 are summarized as follows:

(In millions of won)

		2020					
		Carrying amount	Contractual cash flow	6 months or less	6~12 months	1~3 years	More than 3 years
Non-derivative financial liabilities:							
Borrowings	₩	4,184,530	4,321,424	1,166,639	1,313,557	1,841,228	-
Bonds		362,157	374,895	4,921	114,921	255,053	-
Trade and other payables		1,645,860	1,645,860	1,645,648	-	212	-
Lease liabilities		16,343	18,216	5,472	2,644	3,735	6,365
Derivative financial liabilities:							
Forward exchange contracts used for hedging		1,718	1,740	1,621	95	24	-
	₩	6,210,608	6,362,135	2,824,301	1,431,217	2,100,252	6,365

As of December 31, 2020, the Group did not include payment guarantee contracts amounting to ₩12,718 million, which are recognized as financial liabilities, due to uncertain timing of expenditure. As of December 31, 2020, the maximum amount of guarantee that the Group may be obliged to cover in connection with financial guarantee contracts is ₩104,735 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, 2021 and 2020 are summarized as follows:

(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	-

(In millions of won)

		2020					
		Carrying amount	Expected cash flows	6 months or less	6~12 months	1~3 years	More than 3 years
Currency swap							
Assets	₩	1,561	1,584	1,584	-	-	-
Liabilities		(35,678)	(35,919)	(2,814)	(9,515)	(23,590)	-
Forward exchange							
Assets		72	76	-	-	76	-
Liabilities		(99)	(102)	(66)	(17)	(19)	-
	₩	(34,144)	(34,361)	(1,296)	(9,532)	(23,533)	-

39. Risk of Financial Instruments (Continued)

(3) Currency risk

1) Exposure to currency risk

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

(In millions of won)		2021					
		USD	EUR	CNY	JPY	Others	Total
Cash and cash equivalents	₩	276,911	79	-	153	49,782	326,925
Trade and other receivables		466,481	20,831	-	226	207,871	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.

(ii) The Group's exposure to foreign currency risk as of December 31, 2020 is as follows:

(In millions of won)		2020					
		USD	EUR	CNY	JPY	Others	Total
Cash and cash equivalents	₩	345,322	132	-	212	15,088	360,754
Trade and other receivables		477,353	5,688	-	226	152,340	635,607
Contract assets		2,475,439	6,531	-	-	80,799	2,562,769
		3,298,114	12,351	-	438	248,227	3,559,130
Trade and other payables		(345,213)	(28,320)	(745)	(2,237)	(248,054)	(624,569)
Borrowings and bonds		(1,233,373)	(98,790)	-	-	(6,763)	(1,338,926)
Other provision		-	-	-	-	(12,718)	(12,718)
		(1,578,586)	(127,110)	(745)	(2,237)	(267,535)	(1,976,213)
Net exposure to statement of financial position		1,719,528	(114,759)	(745)	(1,799)	(19,308)	1,582,917
Derivative contracts(*)		185,855	1,845	-	-	7	187,707
Net exposure	₩	1,905,383	(112,914)	(745)	(1,799)	(19,301)	1,770,624

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

39. Risk of Financial Instruments (Continued)

(3) Currency risk, continued

1) Exposure to currency risk, continued

(iii) Exchange rates have been applied for the periods ended December 31, 2021 and 2020 are as follows:

(In won)		Average rate		Year-end spot rate	
		2021	2020	2021	2020
USD	₩	1,144.42	1,180.05	1,085.50	1,088.00
EUR		1,352.79	1,345.99	1,342.34	1,338.24
CNY		177.43	170.88	186.26	166.96
JPY(100)		1,041.45	1,105.07	1,030.24	1,054.26

2) Sensitivity analysis

A weakening of the won, against the USD, EUR, CNY, JPY and others as of December 31, 2021 and 2020 would have changed profit or loss by the amounts shown below. This analysis is based on foreign currency exchange rate variances that the Group 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 loss	
		2021	2020
USD (3 percent strengthening)	₩	35,793	57,161
EUR (3 percent strengthening)		(3,161)	(3,387)
CNY (3 percent strengthening)		(22)	(22)
JPY (3 percent strengthening)		(321)	(54)

A strengthening of the won against the above currencies as of December 31, 2021 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 Group's interest-bearing financial instruments as of December 31, 2021 and 2020 is as follows:

(In millions of won)		2021	2020
Fixed interest rate instruments:			
Financial assets	₩	2,381,935	1,908,326
Financial liabilities		(1,923,313)	(3,120,674)
	₩	458,622	(1,212,348)
Floating interest rate instruments:			
Financial assets	₩	3,126	3,091
Financial liabilities		(1,543,270)	(1,426,175)
	₩	(1,540,144)	(1,423,084)

39. Risk of Financial Instruments (Continued)

(4) Interest rate risk, continued

2) Fair value sensitivity analysis for fixed rate instruments

Interest rate risk arises from savings and borrowings with floating interest rates. The Group properly hedges the risk in borrowings with floating interest rates through interest rate swaps. Interest rate swap contracts as of December 31, 2021 are as follows:

(In thousands of foreign currency)

Counterparties	Amount	Interest rate		Expiration date
Korea Development Bank	USD 100,000	Receives floating interest rate	USD LIBOR(3M)+1.92%	2024.02.26
		Pays fixed interest rate	2.21%	
KEB Hana Bank	USD 100,000	Receives floating interest rate	USD LIBOR(3M)+2.824%	2023.07.21
		Pays fixed interest rate	2.81%	
KEB Hana Bank and others	USD 200,000	Receives floating interest rate	USD LIBOR(3M)+0.95%	2024.03.28
		Pays fixed interest rate	1.47%	
KEB Hana Bank and others	USD 140,000	Receives floating interest rate	USD LIBOR(3M)+0.95%	2022.12.12
		Pays fixed interest rate	1.80%	
KEB Hana Bank and others	USD 250,000	Receives floating interest rate	USD LIBOR(3M)+1.90%	2023.03.29
		Pays fixed interest rate	2.10%	

3) Cash flow sensitivity analysis for floating interest rate instruments

A change of 100 basis points in interest rates as of December 31, 2021 and 2020 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 or loss	
		100 bp increase	100 bp decrease
2021			
Floating interest rate instruments	₩	(15,401)	15,401
Interest rate swap		9,365	(9,365)
Net cash flow sensitivity	₩	(6,036)	6,036
2020			
Floating interest rate instruments	₩	(14,231)	14,231
Interest rate swap		6,304	(6,304)
Net cash flow sensitivity	₩	(7,927)	7,927

39. 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, 2021 are as follows:

(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
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		-	-	-	2,137,391
Financial instruments		-	-	-	151,014
Trade and other receivables		-	-	-	1,071,373
Contract assets		-	-	-	2,836,711
		-	-	-	6,196,489
Total financial assets	₩	54,491	7,808	1,738	6,196,489
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		-	-	-	1,746,178
Lease liabilities		-	-	-	18,798
Other provisions		-	-	-	19,127
		-	-	-	5,249,863
Total financial liabilities	₩	294,773	-	-	5,249,863

(*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 ₩271 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.

39. Risk of Financial Instruments (Continued)

(ii) The fair values and the carrying amounts of financial assets and liabilities as of December 31, 2020 are as follows:

(In millions of won)		December 31, 2020			
		Fair value-hedging instruments	Financial instruments measured at FVTPL	Equity investments measured at FVOCI	Financial instruments measured at 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		225,102	-	-	-
		225,102	7,808	1,738	-
Financial assets not measured at fair value:					
Cash and cash equivalents		-	-	-	1,314,823
Financial instruments		-	-	-	554,214
Trade and other receivables		-	-	-	945,037
Contract assets		-	-	-	2,624,966
		-	-	-	5,439,040
Total financial assets	₩	225,102	7,808	1,738	5,439,040
Financial liabilities measured at fair value:					
Derivative liabilities	₩	37,396	-	-	-
Financial liabilities not measured at fair value:					
Borrowings		-	-	-	4,184,530
Bonds		-	-	-	362,157
Trade and other payables		-	-	-	1,645,860
Lease liabilities		-	-	-	16,343
Other provision		-	-	-	12,718
		-	-	-	6,221,608
Total financial liabilities	₩	37,396	-	-	6,221,608

(*1) Includes the amounts of financial assets that were recorded at their acquisition cost because the fair values cannot be measured reliably as of December 31, 2020 are ₩271 million.
(*2) Includes the amounts of financial assets that were recorded at their acquisition cost because the fair values cannot be measured reliably as of December 31, 2020 are ₩1,738 million.

39. Risk of Financial Instruments (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, 2021 and 2020 are as follows:

(In percentage)	2021	2020
Derivatives	4.01	2.88

3) Fair value hierarchy

The Group 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, 2021 and 2020 are as follows:

(In millions of won)		Level 1	Level 2	Level 3	Total
2021:					
Financial assets measured at FVTPL	₩	-	-	7,537	7,537
Derivative assets		-	54,491	-	54,491
Derivative liabilities		-	294,772	-	294,772
2020:					
Financial assets measured at FVTPL	₩	-	-	7,537	7,537
Derivative assets		-	225,102	-	225,102
Derivative liabilities		-	37,396	-	37,396

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 Group 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.

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.

39. Risk of Financial Instruments (Continued)

(5) Fair value, continued

3) Fair value hierarchy, continued

- 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 value 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, 2021 and 2020 are as follows:

(In millions of won)

		2021	2020	Valuation techniques	Input variables
Derivatives (including forward exchanges):					
Derivative assets	₩	54,491	225,102	Cash flow discount model	Foreign currency forward price, discount rate and others
Derivative liabilities		294,773	37,396	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 year ended December 31, 2021 and 2020 are as follows:

(In millions of won)

		Financial assets measured at FVTPL	
		2021	2020
Beginning balance	₩	7,537	4,998
Transfer to Level 3		-	2,539
Ending balance	₩	7,537	7,537

2) The valuation techniques and input variables used in measuring Level 3 fair values as of December 31, 2021 and 2020 are as follows:

(In millions of won)

		2021	2020	Valuation techniques	Input variables	Significant unobservable input variables	Ranges of significant unobservable input variables
Financial assets measured at FVTPL:							
Machinery Financial Cooperative	₩	4,998	4,998	Net asset value model	-	-	-
Construction Guarantee Cooperative		2,539	2,539	Net asset value model	-	-	-

39. Risk of Financial Instruments (Continued)

(8) Offsetting of financial assets and financial liabilities

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

(In millions of won)		2021			
		Total recognized financial 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

2) The details of financial assets and financial liabilities offsetting arrangements as of December 31, 2020 are as follows:

(In millions of won)		2020			
		Total recognized financial 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	₩	160	(100)	60	60
Financial liabilities					
Trade and other payables		1,466	(100)	1,366	1,366

40. Commitments and Contingencies

(1) As of December 31, 2021, the Group has entered into general loan agreements with Korea Development Bank and others amounting to ₩1,806,000 million and USD 520,000 thousand.

(2) As of December 31, 2021, the Group has entered into with KEB Hana Bank and others for the opening of the Group's exports and imports letters of credit amounting to ₩210,900 million and USD 1,280,488 thousand.

(3) As of December 31, 2021, the Group has entered into credit facilities agreements for credit secured loan with Export-Import Bank of Korea and others amounting to ₩114,000 million.

(4) As of December 31, 2021, in connection with the Group's contract performance guarantees, the Group has been provided with guarantees amounting to ₩2,627,022 million and USD 11,344,301 thousand by various financial institutions. Among these, the Group has also been provided with payment guarantees, in relation to ship advances from customers, amounting to USD 9,058,838 thousand by Export-Import Bank of Korea and others and the Group has provided its ships under construction and construction materials as collateral.

41. 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 Parent Group and 18 other firms
Litigation content	Korea Gas Corporation filed a suit against 19 firms including the Parent Group claiming compensation (amounting to ₩166,000 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	₩166,000 million
The progress of litigation	In progress after filing appeals on October 14, 2015. Plaintiff partially won(₩116.1 billion) the first trial on January 13, 2022
Future litigation schedule and countermeasures	Ruling of first trial was accepted. (Plaintiff and defendant didn`t appeal till deadline on February 4, 2022)
The effect on the Group as a result of litigation	The Group recognized provision amount of ₩10.5 billion, assuming that the Group would have to pay the amount if the group lost a suit at the end of year. The Group paid compensation amount of ₩10.5 billion as they agreed with other defendants in January, 2022.

(2) Ordinary wage lawsuit (Supreme Court 2016 da 7975)

Date of filing	December 28, 2012
Litigant	Plaintiff: Jeong and nine others, Defendant: The Parent Group
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. Plaintiff filled appeals and the third trial is in progress (Supreme Court 2016 da 7975) on January 28, 2016. The reversed and remanded suit (Busan High Court 2022 na 29) was receipted on January 3, 2022.
Future litigation schedule and countermeasures	Currently, the reversed and remanded procedure at the Busan High Court is in progress.
The effect on the Group as a result of litigation	The Group recognized other provision amount ₩565.1 billion by estimating amount the Group have to pay to employees at the end of the year according to the aforementioned judgment of the Supreme Court. Final judgment amount may differ from estimation depending on the result of the reversed and remanded suit.

41. Litigations (Continued)

(3) KOC Claim Arbitration

Date of filing	February 17, 2020
Litigant	Plaintiff: Kuwait Oil Group, Defendant: The Parent Group and Korea Shipbuilding & Offshore Engineering Co., Ltd
Litigation content	The Kuwait Oil Group (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 Court of International 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 Group submitted refutation document for plaintiff`s statement on May 7,2021. The KOC submitted response and The Group submitted refutation document on June 25, 2021. Start of `Document Production' procedure on July 16, 2021. Complete of `Document Production' procedure on November 16, 2021.
Future litigation schedule and countermeasures	The Group will submit a response to the statement of plaintiff.
The effect on the Group as a result of litigation	If the Group loses the case, it would make an additional loss due to the compensation. Currently, the impact on the Group's financial statements, if any, cannot be reliably estimated.

In addition to the cases mentioned above, the Group is currently a defendant in 39 lawsuits involving claims amounted to ₩199,800 million. Currently, the impact on the Group's financial statements, if any, cannot be reliably estimated.

Meanwhile, as of June 17, 2019, the Parent Group and Korea Shipbuilding & Offshore Engineering Co., Ltd. was filed a suit for invalidity of spin-off that occurred on June 1, 2019.

42. Related Parties

(1) As of December 31, 2021, related parties with the Group are as follows:

Ultimate Parent	Main business
Korea Shipbuilding & Offshore Engineering Co., Ltd.	Research, development and investment

Associate	Main business
KC LNG Tech Co., Ltd.	Other engineering services

Others (large-scale corporate conglomerate)	Main business
Hyundai Heavy Industries Holdings Co., Ltd.	Investment
Hyundai Genuine Co., Ltd(*1)	Other engineering services
Hyundai Samho Heavy Industries Co., Ltd.	Shipbuilding
Hyundai Mipo Dockyard Co., Ltd.	Shipbuilding
Hyundai Hyms Co., Ltd.	Sale and manufacture of machinery equipment for shipbuilding
KOMAS Corporation	Shipping
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 Heavy Industries Power Systems Co., Ltd.	Power/industrial boiler business
Yantai Hyundai Moon Heavy Industries Co., Ltd.	Sale and manufacture of industrial boilers
Hyundai Seentec Co., Ltd.	Design of boilers
Hyundai Infra Solutions Co., Ltd.(*1)	Manufacture of transportation and unloading equipment
Hyundai Doosan Infracore Co., Ltd(*1)	Sale and manufacture of construction equipment
HYUNDAI-VIETNAM SHIPBUILDING CO., LTD.	Shipbuilding
Hyundai Transformers and Engineering India Private. Ltd.	Sale and manufacture of transformers
PHECO Inc.(*2)	Design services for offshore facilities
Hyundai Heavy Industries Brazil - Manufacturing and Trading of Construction Equipment	Manufacture, trade and repair of heavy 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 West Africa Limited	Manufacture of other transport equipment
Hyundai Arabia Compnay 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 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.(*1)	Other business
Other related parties	Other business

42. Related Parties (Continued)

(*1) Newly included as a related party in the year ended December 31, 2021.
(*2) Liquidation procedures completed in the year ended December 31, 2021.

(2) Transactions with related parties

1) Significant transactions for the years ended December 31, 2021 and 2020 with related parties are as follows:

(In millions of won)

		2021		
		Sales and others	Purchases and others(*2)	
		Sales(*1)	Purchase of raw materials	Purchase of others
Ultimate Parent				
Korea Shipbuilding & Offshore Engineering Co., Ltd.	₩	7,994	14,080	68,620
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	2,285
Hyundai Construction Equipment Co., Ltd.		14,576	268	4,326
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	2,743
		986,525	360,001	46,390
	₩	997,009	374,152	115,010

(*1) Includes disposal of property, plant and equipment, finance income and others.
(*2) Includes ₩897 million of lease payment.

42. Related Parties (Continued)

(In millions of won)		2020		
		Sales and others	Purchases and others(*3)	
		Sales(*1)	Purchase of raw materials	Purchase of others
Ultimate Parent				
Korea Shipbuilding & Offshore Engineering Co., Ltd.	₩	8,339	15,972	78,404
Others (large-scale corporate conglomerate)				
Hyundai Robotics Co., Ltd.		660	-	-
Hyundai Electric & Energy Systems Co., Ltd.		22,491	65,369	32,724
Hyundai Construction Equipment Co., Ltd.		14,845	6	2,239
Hyundai Heavy Industries Holdings Co., Ltd.		2,519	-	-
Hyundai Samho Heavy Industries Co., Ltd.		478,676	1,649	13,891
Hyundai Mipo Dockyard Co., Ltd.		356,255	14,324	244
Hyundai Engineering & Technology Co., Ltd.		630	18,738	-
Hyundai Oilbank Co., Ltd.		132	43,805	452
Hyundai Hyms Co., Ltd.		626	47,829	95
Hyundai Heavy Industries Mos Co., Ltd.		4,909	133,633	-
Hyundai Global Service Co., Ltd.(*2)		18,553	8,458	42,993
Hyundai Heavy industries Power Systems Co., Ltd.		11,702	50,122	202
Hyundai Arabia Company L.L.C.		810	-	-
International Maritime Industries Company		37,983	-	-
Others		5,033	1,694	5,840
		955,824	385,627	98,680
	₩	964,163	401,599	177,084

(*1) Includes disposal of property, plant and equipment, finance income and others.
(*2) In addition to the above transactions, the Group has transferred ship's digital control business for ₩12,291 million to Hyundai Global Service Co., Ltd. which is related party.
(*3) Includes ₩1,107 million of lease payment.

42. Related Parties (Continued)

2) Outstanding balances as of December 31, 2021 and 2020 with related parties are as follows:

(In millions of won)		2021			
		Trade receivables and other receivables		Trade payables and other payables	
		Trade receivables	Other receivables	Trade payables	Other Payables(*)
Ultimate Parent					
Korea Shipbuilding & Offshore Engineering Co., Ltd.	₩	449	1,271	14,059	692
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 ₩775 million of lease liabilities.

(In millions of won)		2020			
		Trade receivables and other receivables		Trade payables and other payables	
		Trade receivables	Other receivables	Trade payables	Other Payables(*)
Ultimate Parent					
Korea Shipbuilding & Offshore Engineering Co., Ltd.	₩	1,709	550	18,414	691
Others (large-scale corporate conglomerate)					
Hyundai Robotics Co., Ltd.		104	191	32	-
Hyundai Electric & Energy Systems Co., Ltd.		2,341	3,634	28,542	209
Hyundai Construction Equipment Co., Ltd.		1,292	585	181	123
Hyundai Heavy Industries Holdings Co., Ltd.		19	-	-	-
Hyundai Samho Heavy Industries Co., Ltd.		106,349	287	1,340	93,719
Hyundai Mipo Dockyard Co., Ltd.		94,177	84	1,879	96,682
Hyundai Engineering & Technology Co., Ltd.		13	13	1,693	-
Hyundai Oilbank Co., Ltd.		4	153	16,498	-
Hyundai Hyms Co., Ltd.		20	1	1,899	1
Hyundai Heavy Industries Mos Co., Ltd.		448	266	14,852	-
Hyundai Global Service Co., Ltd.		3,033	648	22,811	556
Hyundai Heavy Industries Power Systems Co., Ltd.		98	3,633	2,484	-
Hyundai Arabia Group L.L.C.		13,473	167,232	-	-
International Maritime Industries Group		2,720	-	-	19,343
Others		322	678	1,296	114
		224,413	177,405	93,507	210,747
	₩	226,122	177,955	111,921	211,438

(*) Includes ₩944 million of lease liabilities.

The details of allowance for doubtful receivables for the related parties for the year ended December 31, 2021 and 2020 are as follows:

(In millions of won)	2021			2020		
	Beginning balance	Impairment loss recognized	Ending balance	Beginning balance	Impairment loss recognized	Ending balance
₩	180,705	2,127	182,832	175,229	5,476	180,705

3) The details of fund transactions with related parties for the year ended December 31, 2021 and 2020 are as follows:

(In thousands of foreign currency)		2021				
		Currency	Beginning balance	Increase	Impairment loss recognized	Ending balance
Hyundai Arabia Company L.L.C.	Loans	USD	150,000	-	-	150,000
	Allowance for doubtful accounts	USD	(150,000)	-	-	(150,000)

42. Related Parties (Continued)

(In thousands of foreign currency)

		2020				
		Currency	Beginning balance	Increase	Impairment loss recognized	Ending balance
Hyundai Arabia Group L.L.C.	Loans	USD	146,000	4,000	-	150,000
	Allowance for doubtful accounts	USD	(146,000)	-	(4,000)	(150,000)

4) The details of the Group's participation in the additional capital increase in the associate for the year ended December 31, 2021, are as follows:

(In millions of won)

Related party	Transaction	Group		Acquired amount	Note
Korea Shipbuilding & Offshore Engineering Co., Ltd.	Paid-in capital increase	KC LNG Tech Co., Ltd.(*)	₩	2,490	All of shares held

(*) The Group participated in the KC LNG Tech capital increase by issuing new stocks related with Korean cargo hold (KMS) business, and capital increase amount is ₩2,490 million.

(3) As of December 31, 2021, the Group has provided performance guarantees in relation to "JAZAN Refinery and Terminal Project Package 2" (contract amount: USD 345,668 thousand) which is being built by Hyundai Arabia Compnay L.L.C. The Group has also 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, 2021, the Group 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 Group will execute with Saudi Engines Manufacturing Group.

(5) As of December 31, 2021, the Group has provided guarantee for debts up to ₩ 52,054 million 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 total debt of employee stock ownership association members is ₩ 47,322 million in December, 2021. Meanwhile, the obligation to provide joint guarantee has been deleted from March 8, 2022. The Group provide collateral corresponding amount to 10% (₩ 4,100 million) of employee stock ownership acquisition loans.

(6) The Group was newly established by dividing the Group from the Korea Shipbuilding & Offshore Engineering Co., Ltd. (Hyundai Heavy Industries Co., Ltd. before spin-off, existing entity) in 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 Group
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, 2021, the Group has been provided with constructive obligations by Korea Shipbuilding & Offshore Engineering Co., Ltd for SHWE Phase 3 EPCIC Project construction contracts, amounting to USD 422,341 thousand.

42. Related Parties (Continued)

(8) As of December 31, 2021, the Group has been provided with constructive obligations by Korea Shipbuilding & Offshore Engineering Co., Ltd for SHENANDOAH FPS Project construction contracts, amounting to USD 578,935 thousand.

(9) Compensation for key management of the Group for the years ended December 31, 2021 and 2020 is as follows:

(In millions of won)		2021	2020
Short-term salaries	₩	1,938	1,355
Post-employment benefit costs		1,015	327
	₩	2,953	1,682

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

43. Non-current Assets Held for Sale

(1) Non-current assets held for sale as of December 31, 2021 and 2020 are as follows:

(In millions of won)		2021	2020
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.

(2) Business transfer

The Group`s board of directors decided to transfer ship’s digital control business to Hyundai Global Service Co., Ltd., a related party, as of May 21, 2020. The disposal group are summarized as follows:

(In millions of won)		Amount
Assets:		
Cash and cash equivalents	₩	2,986
Trade and other receivables		630
Inventories		16,982
Property, plant and equipment		635
	₩	21,233
Liabilities:		
Trade and other payables	₩	5,986
Liabilities for defined benefit plans		1,064
Provision for construction losses		150
Provision for product warranty		1,358
	₩	8,558

The above disposal group was sold during the year ended December 31, 2020 (date of transfer June 1, 2020), and the difference between the carrying amount and the selling price was recognized as a loss on disposal of non-current asset held for sale in other non-operating expenses.