Taihan Cable & Solution Co., Ltd.
and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2022 and 2021
with the independent auditor's report

Taihan Cable & Solution Co., Ltd.
and its subsidiaries

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Independent auditor's report

(English Translation of a Report Originally Issued in Korean)

The Shareholders and Board of Directors
Taihan Cable & Solution Co., Ltd.

Opinion

We have audited the accompanying consolidated financial statements of Taihan Cable & Solution Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

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

Basis of opinion

We conducted our audit in accordance with Korean Standards on Auditing ("KSA"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the 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.

Assessment on recoverability of deferred tax assets

As described in note 2.3.21 to the consolidated financial statements, the Group assesses the carrying amount of deferred tax assets at the end of each reporting period and recognizes deferred tax assets to the extent that it is probable that taxable income will be available against which the deductible temporary differences can be utilized.

Assessing the recoverability of deferred tax assets requires complex procedures as management's judgment is necessary in estimating future taxable income and the period in which tax credits will be utilized. Because the estimation of future taxable income involves significant management judgement and inherent uncertainty existing in key variables such as expected sales and operating expenses, we identified the assessment on recoverability of deferred tax assets as a key audit matter.

The main audit procedures that we have performed for this key audit matter are as follows:

- We assessed key variables such as sales and operating expenses, which are used for estimating future taxable income by inspecting recent business forecasts and past performance reported to the Board of Directors.
- We compared the actual operating performance available before the reporting date with the expected future taxable income for evaluating the accuracy of the estimation for taxable income.
- We assessed when the tax loss carryforwards and deductible temporary differences provided by the Group will be available.

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that

are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

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

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

The engagement partner in charge of the audit resulting in this independent auditor's report is Jaeyoung Oh.

Ernst & Young Han Young

March 22, 2023

This audit report is effective as of March 22, 2023 the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Taihan Cable & Solution Co., Ltd.
and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2022 and 2021

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

Na, Hyoung Kyun
Chief Executive Officer
Taihan Cable & Solution Co., Ltd.

Taihan Cable & Solution Co., Ltd. and its subsidiaries
Consolidated statements of financial position
as of December 31, 2022 and 2021
(Korean won in thousands)

	Notes		2022		2021
Assets					
Current assets					
Cash and cash equivalents	5,6,7	₩	217,217,061	₩	147,921,442
Short-term financial instruments	5,6		4,372,801		3,787,580
Financial assets at fair value through profit or loss	5,6,9		70,471,681		-
Financial assets at amortized cost	5,6,9		1		1
Trade receivables	5,6,8,35		326,158,772		319,683,893
Short-term loans	5,6,8,35		244,280		360,544
Other financial assets	5,6,8,35		20,033,752		10,925,595
Inventories, net	10		418,456,408		350,061,900
Current tax assets	32		1,468,210		634,346
Other current assets	11		86,240,309		105,783,105
			1,144,663,275		939,158,406
Non-current assets					
Long-term financial instruments	5,6		53,700		52,100
Financial assets at fair value through profit or loss	5,6,9		22,262,829		19,090,981
Financial assets at fair value through OCI	5,6,9		8,858		8,858
Investment in associates and joint ventures	12		5,167,295		3,388,460
Long-term loans	5,6,8		71,027		37,380
Other financial assets	5,6,8		7,207,287		6,782,474
Property, plant and equipment, net	13,14,36,37		376,418,738		385,561,325
Intangible assets, net	15,37		8,507,908		8,779,587
Investment properties, net	16,37		1,706,769		1,904,842
Deferred tax assets	32		51,603,789		53,825,858
Other non-current assets	11		2,593,396		2,280,344
			475,601,596		481,712,209
Total assets		₩	**1,620,264,871**	₩	**1,420,870,615**

(Continued)

Taihan Cable & Solution Co., Ltd. and its subsidiaries
Consolidated statements of financial position
as of December 31, 2022 and 2021 (cont'd)
(Korean won in thousands)

	Notes	2022	2021
Liabilities			
Current liabilities			
Trade payables	5,6,17,35	₩ 262,140,461	₩ 269,958,705
Short-term borrowings	5,6,18	82,076,206	350,523,381
Current portion of long-term borrowings	5,6,18	20,000,000	19,236,926
Other current financial liabilities	5,6,17,35	41,774,930	36,213,442
Income tax payable	32	133,476	451,884
Current provisions	20	8,812,880	9,754,656
Other current liabilities	21	73,240,163	71,610,994
		488,178,116	757,749,988
Non-current liabilities			
Long-term borrowings	5,6,18	210,000,000	230,000,000
Other non-current financial liabilities	5,6,17,35	6,569,015	5,221,057
Net employee defined benefit liabilities	19	31,367,712	38,204,766
Non-current provisions	20	932,573	1,612,024
Deferred tax liabilities	32	1,013,152	321,991
		249,882,452	275,359,838
Total liabilities		738,060,568	1,033,109,826
Equity attributable to equity holders of the parent			
Issued capital	22	124,447,301	428,236,505
Other components of equity	23	588,574,839	(200,601,651)
Accumulated other comprehensive loss	24	(95,126,264)	(77,197,519)
Retained earnings	25	248,527,965	222,862,612
		866,423,841	373,299,947
Non-controlling interests		15,780,462	14,460,842
Total equity		882,204,303	387,760,789
Total liabilities and equity		**₩ 1,620,264,871**	**₩ 1,420,870,615**
		TRUE	TRUE

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

Taihan Cable & Solution Co., Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2022 and 2021

(Korean won in thousands, except per share amounts)

	Notes	2022	2021
Sales	26,27,37	₩ 2,450,545,975	₩ 1,997,709,556
Cost of sales	26,27,31,37	2,312,166,890	1,872,932,579
Gross profit		**138,379,085**	**124,776,977**
Selling and administrative expenses	28,31	90,205,351	85,314,854
Operating profit		**48,173,734**	**39,462,123**
Non-operating income and expenses			
Other non-operating income	5,29	45,566,382	27,857,301
Other non-operating expenses	5,29	40,344,913	16,306,578
Finance income	5,30	30,450,716	8,814,624
Finance costs	5,30	52,049,008	36,710,839
Loss on investment of associates and joint ventures	12	(418,458)	(514,760)
Profit before tax from continuing operations		**31,378,453**	**22,601,871**
Income tax expense (benefit)	32	9,547,747	(2,556,581)
Profit for the year from continuing operations		**21,830,706**	**25,158,452**
Discontinued operations			
Profit after tax for the year from discontinued operations	-	-	3,778,885
Profit for the year		₩ **21,830,706**	₩ **28,937,337**

(Continued)

Taihan Cable & Solution Co., Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2022 and 2021 (cont'd)

(Korean won in thousands, except per share amounts)

	Notes	2022		2021	
Other comprehensive income (loss):					
Other comprehensive income (loss) that will not be reclassified					
to profit or loss in subsequent periods (net of tax):					
Remeasurement gain					
on the net defined benefit plans	19		5,082,175		1,691,678
Gain (loss) on valuation of derivatives	5,8,24		(20,317,529)		(4,264,082)
Net other comprehensive loss that					
will not be reclassified					
to profit or loss in subsequent periods (net of tax):			**(15,235,354)**		**(2,572,404)**
Other comprehensive income that may be reclassified					
to profit or loss in subsequent periods (net of tax):					
Share of other comprehensive income (loss) of associates and joi	12		197,292		(34,364)
Exchange differences on translation of foreign operations	24		2,273,584		4,369,149
Net other comprehensive income that					
may be reclassified					
to profit or loss in subsequent periods (net of tax):			**2,470,876**		**4,334,785**
Total other comprehensive income (loss)					
for the year, net of tax		₩	**(12,764,478)**	₩	**1,762,381**
Profit for the year attributable to:					
Equity holders of the parent		₩	20,583,178	₩	27,929,566
Non-controlling interests			1,247,528		1,007,771
		₩	**21,830,706**	₩	**28,937,337**
Total comprehensive income attributable to:	24				
Equity holders of the parent			7,736,608		29,614,950
Non-controlling interests			1,329,620		1,084,768
		₩	**9,066,228**	₩	**30,699,718**
Earnings per share for continuing operations:					
Basic earnings from continuing operations attributable					
to ordinary equity holders of the parent	33	₩	18	₩	28
Diluted earnings from continuing operations					
to ordinary equity holders of the parent	33		18		28
Earnings per share:					
Basic earnings for the year attributable					
to ordinary equity holders of the parent	33	₩	18	₩	32
Diluted earnings for the year attributable					
to ordinary equity holders of the parent	33		18		32

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

Taihan Cable & Solution Co., Ltd. and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2022 and 2021
(Korean won in thousands)

	Attributable to the equity holders of the parent						
	Issued capital	**Other components of equity**	**Accumulated other comprehensive loss**	**Retained earnings**	**Equity attributable to equity holders of the parent**	**Non-controlling interests**	**Total equity**
As of January 1, 2021	₩ 428,236,505	₩ (199,847,865)	₩ (77,191,226)	₩ 193,241,369	₩ 344,438,783	₩ 15,195,531	₩ 359,634,314
Profit for the year	-	-	-	27,929,566	27,929,566	1,007,771	28,937,337
Remeasurement gain on the net defined benefit plans	-	-	-	1,691,677	1,691,677	-	1,691,677
Loss on valuation of derivatives	-	-	(4,264,082)	-	(4,264,082)	-	(4,264,082)
Share of other comprehensive loss of associates and joint ventur	-	-	(34,364)	-	(34,364)	-	(34,364)
Exchange differences on translation of foreign operations	-	-	4,292,153	-	4,292,153	76,996	4,369,149
Total comprehensive income (loss)	-	-	(6,293)	29,621,243	29,614,950	1,084,767	30,699,717
Exercise of share-based payment	-	(4,072,721)	-	-	(4,072,721)	-	(4,072,721)
Disposal of treasury shares	-	646,421	-	-	646,421	-	646,421
Gain on disposal of treasury shares	-	2,672,514	-	-	2,672,514	-	2,672,514
Changes of consolidation scope	-	-	-	-	-	(1,819,456)	(1,819,456)
As of December 31, 2021	**₩ 428,236,505**	**₩ (200,601,651)**	**₩ (77,197,519)**	**₩ 222,862,612**	**₩ 373,299,947**	**₩ 14,460,842**	**₩ 387,760,789**

	Issued capital	**Other components of equity**	**Accumulated other comprehensive income (loss)**	**Retained earnings**	**Equity attributable to equity holders of the parent**	**Non-controlling interests**	**Total equity**
As of January 1, 2022	₩ 428,236,505	₩ (200,601,651)	₩ (77,197,519)	₩ 222,862,612	₩ 373,299,947	₩ 14,460,842	₩ 387,760,789
Profit for the year	-	-	-	20,583,178	20,583,178	1,247,528	21,830,706
Remeasurement gain on the net defined benefit plans	-	-	-	5,082,175	5,082,175	-	5,082,175
Loss on valuation of derivatives	-	-	(20,317,529)	-	(20,317,529)	-	(20,317,529)
Share of other comprehensive income of associates and joint ver	-	-	197,292	-	197,292	-	197,292
Exchange differences on translation of foreign operations	-	-	2,191,492	-	2,191,492	82,092	2,273,584
Total comprehensive income (loss)	-	-	(17,928,745)	25,665,353	7,736,608	1,329,620	9,066,228
Capital reduction without refund	(342,589,204)	342,586,404	-	-	(2,800)	-	(2,800)
Paid-in capital increase	38,800,000	446,615,915	-	-	485,415,915	-	485,415,915
Exercise of share-based payment	-	(136,987)	-	-	(136,987)	-	(136,987)
Disposal of treasury shares	-	19,576	-	-	19,576	-	19,576
Gain on disposal of treasury shares	-	91,582	-	-	91,582	-	91,582
Changes of consolidation scope	-	-	-	-	-	(10,000)	(10,000)
As of December 31, 2022	**₩ 124,447,301**	**₩ 588,574,839**	**₩ (95,126,264)**	**₩ 248,527,965**	**₩ 866,423,841**	**₩ 15,780,462**	**₩ 882,204,303**

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

Taihan Cable & Solution Co., Ltd. and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2022 and 2021

(Korean won in thousands)

	Notes	2022	2021
Operating activities			
Profit for the year		₩ 21,830,706	₩ 28,937,337
Adjustments to reconcile profit before tax to net cash flows provided by operating activities	34	57,403,381	45,584,976
Working capital adjustments:	34	(107,734,588)	(72,481,629)
Interest received		5,138,073	499,877
Interest paid		(19,783,092)	(19,024,544)
Dividens received		3,042	2,780
Income tax paid		(3,462,200)	(2,833,201)
Net cash flows used in operating activities		**(46,604,678)**	**(19,314,404)**
Investing activities			
Decrease in long-term/short-term financial instruments		(17,821)	4,996,276
Decrease in long-term/short-term loans		645,529	888,578
Decrease in financial assets at fair value through profit or loss		101,205,442	33,167,047
Decrease in fair value through other comprehensive income		-	47,500
Decrease in amortised cost measurement financial assets		-	-
Proceeds from sale of property, plant and equipment		1,770,272	277,210
Decrease in other financial assets		27,136	1,544,539
Receipt of government grants		117,214	364,317
Increase in long-term/short-term financial instruments		-	(27,191)
Increase in long-term/short-term loans		(499,259)	(719,114)
Redemption of government grants		(29,608)	-
Increase in fianncial assets at fair value through profit or loss		(170,700,002)	-
Increase in investment in associates and joint ventures		(2,000,000)	(3,937,584)
Acquisition of property, plant and equipment		(13,335,122)	(7,374,015)
Acquisiton of intangible assets		(1,884,301)	(981,043)
Increase in other financial assets		(930,827)	(2,236,100)
Net cash flows provided by (used in) investing activities		**(85,631,347)**	**26,010,420**
Financing activities	34		
Proceeds from short-term borrowings		568,503,999	691,004,530
Increase of paid-in capital		485,413,115	-
Proceeds from long-term borrowings		-	249,000,000
Increase in leasehold deposits		10,441	31,000
Repayment of short-term borrowings		(833,034,539)	(462,182,790)
Repayment of current portion of long-term borrowings		(19,236,926)	(467,049,093)
Decrease in other financial liabilities		(5,737,943)	(4,926,158)
Decrease in leasehold deposits		(10,600)	(192,915)
Net cash flows provided by financing activities		**195,907,547**	**5,684,574**
Exchange differences on translation of foreign operations		**988,042**	**1,035,029**
Net increase in cash and cash equivalents		**64,659,564**	**13,415,619**
Cash and cash equivalents as of January 1		**147,921,442**	**130,557,141**
Effect of exchange rate fluctuations on cash and cash equivalents		**4,636,055**	**4,205,956**
Changes of consolidation scope		**-**	**(257,274)**
Cash and cash equivalents as of December 31	**7**	**₩ 217,217,061**	**₩ 147,921,442**

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

1. Corporate information

1.1 The Group

Taihan Cable & Solution Co., Ltd. (the "Company" or "Parent Company"), the parent company of Taihan Cable & Solution Co., Ltd. and its subsidiaries (collectively referred to as the "Group"), was incorporated on February 21, 1955 under the laws of the Republic of Korea to engage in manufacturing, processing and selling electric wires, cables and related products. The Group's headquarters locates in Anyang-si, Gyeonggi-do, Korea, and its plant is located in Dangjin-si, Choongcheongnam-do. On December 27, 1968, the Group offered its shares for public ownership and all shares were listed on the Korea Stock Exchange.

As of December 31 2022 and 2021, the Group's shareholders are as follow:

	2022		2021	
	Common stocks		Common stocks	
Shareholders	Number of shares	Percentage of ownership(%)	Number of shares	Percentage of ownership(%)
Hoban Engineering Co., Ltd.	499,044,607	40.10	342,589,205	40.00
Treasury stock	6,840,777	0.55	6,877,479	0.80
Others	738,587,625	59.35	507,006,325	59.20
Total	1,244,473,009	100.00	856,473,009	100.00

1.2 Subsidiaries

1.2.1 Details of subsidiaries as of December 31, 2022 and 2021 are as follows:

<2022>

			Percentage of ownership(%)		
Company	Main business	Location	Parent	Subsidiaries	Non-controlling
T.E.USA, Ltd.	Sales of cable	U.S.A.	100	-	-
TCV Co., Ltd.	Manufacturing and sales of cable	Vietnam	100	-	-
Malesela T.E.C, Ltd.(*)	Manufacturing and Sales of cable	Republic of South Africa	49	-	51
Velvetsky nine Ltd.	Manufacturing and Sales of cable	Republic of South Africa	-	100	-
Saudi-taihan Co., Ltd.	Manufacturing and Sales of cable equipment	Saudi Arabia	60	-	40
Taihan Netherlands B.V.	Sales of cable	Netherlands	100	-	-
Taihan C&S Co., Ltd	Construction	Korea	100	-	-

1.2.1 Details of subsidiaries as of December 31, 2022 and 2021 are as follows(cont'd):

(*) Although percentage of ownership is less than 50%, the Group can appoint majority of the board of directors based on the agreement and has the authority to approve key operational decisions, thus the Group is deemed to have control.

<2021>

			Percentage of ownership(%)		
Company	Main business	Location	Parent	Subsidiaries	Non-controlling
T.E.USA, Ltd.	Sales of cable	U.S.A.	100	-	-
TCV Co., Ltd.	Manufacturing and sales of cable	Vietnam	100	-	-
Malesela T.E.C, Ltd. (*1)	Manufacturing and Sales of cable	Republic of South Africa	49	-	51
Velvetsky nine Ltd.	Manufacturing and Sales of cable	Republic of South Africa	-	100	-
Saudi-taihan Co., Ltd.	Manufacturing and Sales of cable equipment	Saudi Arabia	60	-	40
Taihan Netherlands B.V.	Sales of cable	Netherlands	100	-	-
Taihan C&S Co., Ltd	Construction	Korea	100	-	-
TEC 2nd Co., Ltd. (*2)	Finance	Korea	-	-	100

(*1) Although percentage of ownership is less than 50%, the Group can appoint majority of the board of directors based on the agreement and has the authority to approve key operational decisions, thus the Group is deemed to have control.

(*2) Although the percentage of ownership is less than 50%, the Group has control over the Group based on the judgment that comprehensively considers the criteria for determining control, such as 'power', 'variable profit' and 'relation of power to variable return' rather than determining the percentage of ownership in the subsidiary companies.

1.2.2 Changes of consolidation scope as of December 31, 2022 and 2021 are as follows:

<2022>

Company	Detail of Change	Description
TEC 2nd Co., Ltd	Exclusion	Liquidation

<2021>

Company	Detail of Change	Description
Consus Muju-Pine Stone Real estate Investment Trust	Exclusion	Liquidation

1.2.3 Condensed financial statements of subsidiaries as of and for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Company	Asset	Liabilities	Equity	Sales	Net income	Comprehensive income
TCV Co., Ltd.	₩ 57,922	₩ 25,321	₩ 32,601	₩ 129,089	₩ 3,440	₩ 4,224
T.E.USA, Ltd.	85,025	60,659	24,366	192,154	3,489	4,775
Malesela T.E.C, Ltd. (*)	49,392	19,402	29,990	87,840	2,346	2,364
Saudi-taihan Co., Ltd.	4,696	2,407	2,289	3,765	128	310
Taihan C&S Co., Ltd	1,078	300	778	1,644	(5)	(5)
Taihan Netherlands B.V.	16,547	16,306	241	11,635	(229)	(225)

(*) Malesela T.E.C, Ltd.'s financial information was prepared based on consolidated financial statements including its subsidiary, Velvetsky nine Ltd.

<2021>

Company	Asset	Liabilities	Equity	Sales	Net income	Comprehensive income
TCV Co., Ltd.	₩ 60,315	₩ 31,938	₩ 28,377	₩ 84,319	₩ 132	₩ 2,848
T.E.USA, Ltd.	104,152	84,561	19,591	149,960	3,309	4,757
Malesela T.E.C, Ltd. (*)	45,941	18,315	27,626	64,460	742	724
Saudi-taihan Co., Ltd.	4,336	2,356	1,980	3,022	156	371
Taihan C&S Co., Ltd	1,062	279	783	1,439	32	32
Taihan Netherlands B.V.	5,164	4,699	465	1,183	(586)	(578)
TEC 2nd Co., Ltd.	29	-	29	-	-	-

(*) Malesela T.E.C, Ltd.'s financial information was prepared based on consolidated financial statements including its subsidiary, Velvetsky nine Ltd.

1.2.4 Non-controlling interest of subsidiaries are as follows (Korean won in millions)

	Net income attributed to non-controlling interest		Comprehensive income attributed to non-controlling interest		Accumulated non-controlling interest	
Company	2022	2021	2022	2021	2022	2021
Consus Muju-Pine Stone Real estate Investment Trust	₩ -	₩ 567	₩ -	₩ 567	₩ -	₩ -
TEC 2nd Co., Ltd.	-	-	-	-	-	10
Saudi-taihan Co., Ltd.	51	63	124	149	485	362
Malesela T.E.C, Ltd.	1,196	378	1,206	369	15,295	14,089
Total	1,247	1,008	1,330	1,085	15,780	14,461

2. Basis of preparation and summary of significant accounting policies

2.1 Basis of preparation

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

The consolidated financial statements have been prepared on a historical cost basis, except for derivative instruments and debt and equity instruments that have been measured at fair value. The consolidated financial statements are presented in Korean won (KRW or ₩) and all values are rounded to the nearest millions, except when otherwise indicated.

The consolidated financial statements provide comparative information in respect of the previous period. In addition, the Group presents an additional statement of financial position at the beginning of the earliest period presented when there is a retrospective application of an accounting policy, a retrospective restatement, or a reclassification of items in the consolidated financial statements and these significantly affect the financial position at the beginning of the earliest period presented.

2.2 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Group as of December 31, 2022. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if, and only if, the Group has:

- Power over the investee (i.e., existing rights that give it the current ability to direct the relevant activities of the investee)
- Exposure, or rights, to variable returns from its involvement with the investee, and
- The ability to use its power over the investee to affect its returns

When the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- The contractual arrangement with the other vote holders of the investee
- Rights arising from other contractual arrangements
- The Group's voting rights and potential voting rights

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date the Group gains control until the date the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

2.2 Basis of consolidation (cont'd)

If the Group loses control over a subsidiary, it derecognizes the related assets (including goodwill), liabilities, non-controlling interest and other components of equity while any resultant gain or loss is recognized in profit or loss. Any investment is recognized at fair value.

2.3 Summary of significant accounting policies

2.3.1 Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred measured at acquisition date fair value and the amount of any non-controlling interests in the acquiree. For each business combination, the Group elects whether to measure the non-controlling interests in the acquiree at fair value or at the proportionate share of the acquiree's identifiable net assets. Acquisition-related costs are expensed as incurred and included in expenses.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date. This includes the separation of embedded derivatives in host contracts by the acquiree.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Contingent consideration classified as an asset or liability that is a financial instrument and within the scope of KIFRS 1009 *Financial Instrument* is measure at fair value with changes in fair value recognized either in either profit or loss or as a change to OCI. Contingent consideration that is classified as equity is not re-measured and subsequent settlement is accounted for within equity. If the contingent consideration is not within the scope of KIFRS 1009, it is measured in accordance with the appropriate KIFRS.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquirer are assigned to those units.

Where goodwill has been allocated to a cash-generating unit (CGU) and part of the operation within that unit is disposed of the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the cash-generating unit retained.

2.3.2 Investment in associates and joint ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

2.3.2 Investment in associates and joint ventures(cont'd)

The Group's investments in its associate and joint venture are accounted for using the equity method. Under the equity method, the investment in an associate or a joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the associate or joint venture since the acquisition date. Goodwill relating to the associate or joint venture is included in the carrying amount of the investment and is not tested for impairment individually.

The consolidated statement of comprehensive income reflects the Group's share of the results of operations of the associate or joint venture. Any change in OCI of those investees is presented as part of the Group's OCI. In addition, when there has been a change recognized directly in the equity of the associate or joint venture, the Group recognizes its share of any changes, when applicable, in the consolidated statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the associate or joint venture are eliminated to the extent of the interest in the associate or joint venture.

The aggregate of the Group's share of profit or loss of an associate and a joint venture is shown on the face of the consolidated statement of comprehensive income outside operating profit and represents profit or loss after tax and non-controlling interests in the subsidiaries of the associate or joint venture.

The financial statements of the associate or joint venture are prepared for the same reporting period as the Group. When necessary, adjustments are made to bring the accounting policies in line with those of the Group.

After application of the equity method, the Group determines whether it is necessary to recognize an impairment loss on its investment in its associate or joint venture. At each reporting date, the Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, then recognizes the loss as 'Share of profit of an associate and a joint venture' in the consolidated statement of comprehensive income.

Upon loss of significant influence over the associate or joint control over the joint venture, the Group measures and recognizes any retained investment at its fair value. Any difference between the carrying amount of the associate or joint venture upon loss of significant influence or joint control and the fair value of the retained investment and proceeds from disposal is recognized in profit or loss.

2.3.3 Current versus non-current classification

The Group presents assets and liabilities in the consolidated statement of financial position based on current/non-current classification.

An asset is current when it is:

- Expected to be realized or intended to be sold or consumed in the normal operating cycle
- Held primarily for the purpose of trading
- Expected to be realized within twelve months after the reporting period, or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least
- twelve months after the reporting period

All other assets are classified as non-current.

A liability is current when:

- It is expected to be settled in the normal operating cycle
- It is held primarily for the purpose of trading
- It is due to be settled within twelve months after the reporting period, or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.3.4 Fair value measurement

The Group measures financial instruments, such as, derivatives, at fair value at each balance sheet date. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an ordinary transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- In the principal market for the asset or liability, or
- In the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the Group.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

All assets and liabilities for which fair value is measured or disclosed in the consolidated financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognized in the consolidated financial statements on a recurring basis, the Group determines whether transfers have occurred between Levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, the Group has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

Fair value related disclosures for financial instruments and non-financial assets that are measured at fair value or where fair values are disclosed, are summarized in the following notes:

	Notes
➢ Disclosure for valuation methods, significant estimates and assumptions	6
➢ Quantitative disclosures of fair value measurement hierarchy	6
➢ Financial instruments (Include instruments measured at amortized cost)	5, 6
➢ Investment properties	6, 9

2.3.5 Foreign Currencies

The Group’s consolidated financial statements are presented in Korean won, which is also the Group’s functional currency. Each entity, the Group determines the functional currency and items included in the financial statements of each entity are measured using that functional currency. The Group uses the direct consolidation method and reclassifies the gain or loss to profit or loss reflecting the amount of the direct use of the consolidation method when disposing of a foreign operation.

Transactions and balances
Transactions in foreign currencies are initially recorded by the Group entities at their respective functional currency spot rates at the date the transaction first qualifies for recognition.
Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange at the reporting date.

2.3.5 Foreign Currencies (cont'd)

Differences arising on settlement or translation of monetary items are recognized in profit or loss with the exception of monetary items that are designated as part of the hedge of the Group's net investment of a foreign operation. These are recognized in other comprehensive income until the net investment is disposed, at which time, the cumulative amount is reclassified to the income statement. Tax charges and credits attributable to exchange differences on those monetary items are also recorded in other comprehensive income.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. The gain or loss arising on retranslation of non-monetary items is treated in line with the recognition of gain or loss on change in fair value of the item (i.e., translation differences on items whose fair value gain or loss is recognized in other comprehensive income or profit or loss is also recognized in other comprehensive income or profit or loss, respectively).

The transaction date for determining the exchange rate to be applied on the initial recognition of the related asset, expense, income (or part of it) is the date when the Group first recognizes the relating non-monetary asset or non-monetary liability by making a prepayment or receiving an advance for the consideration. If there are multiple prepayments or advances received, the Group determines the transaction date based on each respective prepayment or advances received.

Group companies
On consolidation, the assets and liabilities of foreign operations are translated into Korean won at the rate of exchange prevailing at the reporting date and their income statements are translated at average exchange rates during the reporting period. The exchange differences arising on translation for consolidation are recognized in other comprehensive income. On disposal of a foreign operation, the component of other comprehensive income relating to that particular foreign operation is recognized in profit or loss.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition are treated as assets and liabilities of the foreign operation and translated at the spot rate of exchange at the reporting date.

2.3.6 Property, plant and equipment

Construction in progress is stated at cost, net of accumulated impairment losses, Property, plant and equipment is stated at cost, net of accumulated depreciation and accumulated impairment losses, if any. Such cost includes the cost of replacing part of the property, plant and equipment and borrowing costs for long-term construction projects if the recognition criteria are met. When significant parts of property, plant and equipment are required to be replaced at intervals, the Group recognizes such parts as individual assets with specific useful lives and depreciates them accordingly. Likewise, when a major inspection is performed, its cost is recognized in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognized in profit or loss as incurred. The present value of the expected cost for the decommissioning of an asset after its use is included in the cost of the respective asset if the recognition criteria for a provision are met.

2.3.6 Property, plant and equipment (cont'd)

Except for land, property, plant and equipment is depreciated using the following useful lives and depreciation methods.

Classification	Useful lives(Year)	Depreciation Method
Buildings	20 – 40	Straight-line Method
Structures	20 – 40	Straight-line Method
Machinery and equipment	5 – 35	Straight-line Method
Vehicles	5	Straight-line Method
Right-of-use asset	1 – 23	Straight-line Method
Other property, plant and equipment ("Other PP&E")	5	Straight-line Method

Property, plant and equipment are derecognized either when they have been disposed of (i.e., the date when the acquirer obtains control of the asset) or when they are permanently withdrawn from use and no future economic benefit is expected from their disposal. The gain or loss from the disposal is the difference between the net proceeds on disposal and the carrying amount of the asset, and is recognized in profit or loss in the period of derecognition.

The assets' residual values, useful lives and methods of depreciation are reviewed at each financial year end, and adjusted prospectively, if appropriate.

2.3.7 Leases

At inception of a contract, the Group shall assess whether the contract is, or contains a lease. A contract is, or contains, a lease if the contract conveys the right to the use of identified the asset for a period of time in exchange of consideration.

Group as a lessee

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognizes lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

(1) Right-of-use assets

The Group recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received.

Classification	Useful lives (years)	Depreciation method
Land and structures	1 – 23	Straight line method
Equipment	5	Straight line method
Vehicles	1 – 4	Straight line method
Others	1 – 5	Straight line method

If ownership of the leased asset transfers to the Group at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

Right-of-use asset is subject to impairment and detailed accounting policies are described in Note 2.3.12, *accounting policy on impairment of non-financial asset*.

2.3.7 Leases (cont'd)

(2) Lease liabilities

At the commencement date of the lease, the Group recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments less any lease incentives receivable) and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating a lease, if the lease term reflects the Group exercising the option to terminate. The variable lease payments that do not depend on an index or a rate are recognized as expense in the period on which the event or condition that triggers the payment occurs or conditions (if not incurred in producing inventory assets)

In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (For example, changes in future lease payments due to changes in the index or rate recognized to calculate the lease payments.), or an assessment of the option of purchase the underlying asset

Other financial liability includes lease liability (see Note 17).

(3) Short-term leases and leases of low value underlying assets

Short-term lease (those for term of under 12 months, have no option-to-purchase) is excluded from lease recognition. Lease for office equipment regarded as low-value assets is also excluded from lease-recognition by the Group. Any lease payments emerged from short-term lease and lease of low value assets is recognized as expenses over lease term for straight-line basis.

Group as a lessor
A lease is classified as an operating lease if it transfers substantially no risk and rewards related to ownership of an underlying asset from lessor to lessee. Income from lease payments shall recognized as straight-line basis over lease term. According to the nature of Group operation, the revenue can be included to revenue in statement of comprehensive income. A lessor shall add initial direct costs incurred in obtaining an operating lease to the carrying amount of the underlying asset and recognize those costs as an expense over the lease term. Any contingent rental fee shall be recognized as revenue when received.

A lease is classified as a financial lease if it transfers substantially risk and rewards related to ownership of an underlying asset from lessor to lessee. Lease payments receivables are recognized as same amounts of net investments in the lease. Interest incomes are recognized as applying effective interest rate method to remaining receivables amount by the Group.

2.3.8 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

2.3.9 Investment properties

Investment properties are measured initially at cost, including transaction costs. However, other costs occurred from ordinary management performance are expensed in the period in which they occur. Subsequent to initial recognition, investment properties are stated at depreciated cost less any accumulated impairment losses.

Investment properties are derecognized either when they have been disposed of (i.e., the date when the acquirer obtains control of the asset) or when they are permanently withdrawn from use and no future economic

2.3.9 Investment properties(cont'd)

benefit is expected from their disposal. The difference between the net disposal proceeds and the carrying amount of the asset is recognized in the income statement in the period of derecognition. The amount of

consideration to be included in the gain or loss from derecognition of the investment property is determined in accordance with the requirements of KIFRS 1115 for determining the transaction price.

Transfers are made to (or, from) investment property only when there is a change in use. For a transfer from investment property to owner-occupied property, the deemed cost for subsequent accounting is the fair value at the date of change in use. If owner-occupied property becomes an investment property, the Group accounts for such property in accordance with the policy stated under property, plant and equipment up to the date of change in use.

2.3.10 Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Excluding capitalized development costs, are not capitalized and the related expenditure is reflected in the consolidated statement of comprehensive income in the year in which the expenditure is incurred.

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are considered to modify the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization expense on intangible assets with finite lives is recognized in the consolidated statement of comprehensive income as the expense category that is consistent with the function of the intangible assets.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash-generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

Intangible assets are amortized using the following useful lives and amortization methods.

Classification	Useful lives(Year)	Amortization Method
Goodwill	Indefinite	-
Membership	Indefinite	-
Industrial right	5 – 10	Straight-line Method
Other intangible asset	5 – 10	Straight-line Method
Development costs	5	Straight-line Method

Intangible assets are derecognized either when they have been disposed of (i.e., the date when the acquirer obtains control of the asset) or when they are permanently withdrawn from use and no future economic benefit is expected from their disposal. Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognized in the consolidated statements of income and other comprehensive income when the asset is derecognized.

Research and development costs
Research and development costs are expensed as incurred. However, in the case of development costs associated with an individual project, i) can provide technical feasibility to complete an intangible asset for use or sale, ii) have the intention and ability to complete, use or sell the intangible asset, iii) have sufficient resources to do, iv) demonstrate how an intangible asset can generate future economic benefits, v) can be measured reliably and reliably.

2.3.10 Intangible assets (cont'd)

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses. Amortization of the asset begins when development is complete and the asset is available for use. It is amortized over the period of expected future benefit. Amortization is recorded in cost of sales. During the period of development, the asset is tested for impairment annually.

2.3.11 Inventories

Inventories are valued at the lower of cost and net realizable value. Initial cost of inventories includes acquisition of inventories, production or conversion costs and other costs incurred in bringing each product to its present location and conditions. Unit cost of inventories is determined by using the gross average method except for materials-in-transit which are stated at cost by specific identification method.

The Group includes the estimated valuation gains and losses on equity as a result of the hedging transaction in the event of a hedging contract that satisfies the cash flow hedge requirements with respect to the purchase of raw materials. On the other hand, net realizable value is determined by subtracting the expected additional completion costs and selling costs from the expected selling price of the normal operating process.

2.3.12 Impairment of non-financial assets

The Group assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs of disposal and its value in use. Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are 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. In determining fair value less costs of disposal, recent market transactions are taken into account. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded companies or other available fair value indicators.

The Group bases its impairment calculation on detailed budgets and forecast calculations, which are prepared separately for each of the Group's CGUs to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of five years. For longer periods, a long-term growth rate is calculated and applied to project future cash flows after the fifth year.

Impairment losses of continuing operations, including impairment on inventories, are recognized in the consolidated statement of comprehensive income in expense categories consistent with the function of the impaired asset.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the Group estimates the asset's or CGU's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years.

The following assets have specific characteristics for impairment testing:

2.3.12 Impairment of non-financial assets (cont'd)

Goodwill
Goodwill is tested for impairment annually and when circumstances indicate that the carrying value may be impaired.

Impairment is determined for goodwill by assessing the recoverable amount of each CGU (or group of CGUs) to which the goodwill relates. When the recoverable amount of the CGU is less than its carrying amount, an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods.

Intangible assets
Intangible assets with indefinite useful lives are tested for impairment annually, individually or at the CGU level, as appropriate, and when circumstances indicate that the carrying value may be impaired.

2.3.13 Cash and cash equivalents

Cash and cash equivalents in the consolidated statements of financial position comprise cash at banks and on hand and short-term deposits with a maturity of three months or less upon the acquisition, which are subject to an insignificant risk of changes in value.

2.3.14 Financial instruments – initial recognition and subsequent measurement

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

1) Financial assets

Initial recognition and measurement
Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income (OCI), and fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient, the Group initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under KIFRS 1115.

In order for a financial asset to be classified and measured at amortized cost or fair value through OCI, it needs to give rise to cash flows that are 'solely payments of principal and interest (SPPI)' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the market place (regular way trades) are recognized on the trade date, i.e., the date that the Group commits to purchase or sell the asset.

Subsequent measurement
For purposes of subsequent measurement, financial assets are measured by as follows:

- Financial assets at amortized cost (debt instruments)
- Financial assets measured at fair value through OCI with recycling of cumulative gains and losses (debt instruments)
- Financial assets measured at fair value through OCI with no recycling of cumulative gains and losses upon derecognition (equity instruments)
- Financial assets at fair value through profit or loss

2.3.14 Financial instruments – initial recognition and subsequent measurement (cont'd)

Financial assets at amortized cost (debt instruments)
This category is the most relevant to the Group. The Group measures financial assets at amortized cost if both of the following conditions are met:

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

Financial assets at amortized cost are subsequently measured using the effective interest rate (EIR) method and are subject to impairment. Gains and losses are recognized in profit or loss when the asset is derecognized, modified or impaired.

Financial assets at fair value through OCI (debt instruments)
The Group measures debt instruments at fair value through OCI if both of the following conditions are met:

- The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling; and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

For debt instruments at fair value through OCI, interest income, foreign exchange revaluation and impairment losses or reversals are recognized in the statement of profit or loss and computed in the same manner as for financial assets measured at amortized cost. The remaining fair value changes are recognized in OCI. Upon derecognition, the cumulative fair value change recognized in OCI is recycled to profit or loss.

Financial assets measured at fair value through OCI (equity instruments)
Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under KIFRS 1032 *Financial Instruments: Presentation* and are not held for trading. The classification is determined on an instrument-by-instrument basis.

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognized as other income in the statement of comprehensive income when the right of payment has been established, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in OCI. Equity instruments designated at fair value through OCI are not subject to impairment assessment.

The Group elected to classify irrevocably its non-listed equity investments under this category.

Financial assets at fair value through profit or loss
Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Derivatives, including separated embedded derivatives, are also classified as held for trading unless they are designated as effective hedging instruments. Financial assets with cash flows that are not solely payments of principal and interest are classified and measured at fair value through profit or loss, irrespective of the business model. Notwithstanding the criteria for debt instruments to be classified at amortized cost or at fair value through OCI, as described above, debt instruments may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduces, an accounting mismatch.

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognized in the statement of comprehensive income.

The category includes derivatives and listed equity instruments which are not elected to recognize changes in fair value in OCI. Dividends on listed equity instruments are recognized in the statement of profit or loss at the time the right are established.

2.3.14 Financial instruments – initial recognition and subsequent measurement (cont'd)

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if: the economic characteristics and risks are not closely related to the host; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the hybrid contract is not measured at fair value through profit or loss. Embedded derivatives are measured at fair value with changes in fair value recognized in profit or loss. Reassessment only occurs if there is either a change in the terms of the contract that significantly modifies the cash flows that would otherwise be required or a reclassification of a financial asset out of the fair value through profit or loss category.

A derivative embedded within a hybrid contract containing a financial asset host is not accounted for separately. The financial asset host together with the embedded derivative is required to be classified in its entirety as a financial asset at fair value through profit or loss.

Derecognition
A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the Group's consolidated statement of financial position) when:

- The rights to receive cash flows from the asset have expired, or
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Group continues to recognize the transferred asset to the extent of its continuing involvement. In that case, the Group also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

Impairment of financial assets
Further disclosures relating to impairment of financial assets are also provided in the following notes:

	Notes
➢ Disclosures for significant assumptions	38
➢ Trade receivables and other financial assets	8
➢ Contract assets	11

The Group recognizes an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognized in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date. The Group sets the provision matrix based on its past credit loss experience adjusted to reflect forward-looking information for a particular debtor and the economic environment.

2.3.14 Financial instruments – initial recognition and subsequent measurement (cont'd)

The Group considers a financial asset in default when contractual payments are 1 year past since the occurrence. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

2) Financial liabilities

Initial recognition and measurement
Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs. The Group's financial liabilities include trade and other payables, borrowings, debentures and other non-current liabilities.

Subsequent measurement
The measurement of financial liabilities depends on their classification, as described below:

Financial liabilities at fair value through profit or loss
Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. This category also includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by KIFRS 1009. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments.

Gains or losses on liabilities held for trading are recognized in the statement of comprehensive income.

Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in KIFRS 1009 are satisfied. The group did not designate any financial liabilities as at fair value through profit or loss.

Loans and borrowings
This category is relevant to the Group. After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortized cost using the EIR method. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are a necessary part of the EIR.

This category generally applies to interest-bearing loans and borrowings. For more information, see Note 5.

Derecognition
A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognized in the statement of comprehensive income.

2.3.14 Financial instruments – initial recognition and subsequent measurement (cont'd)

3) Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, to realize the assets and settle the liabilities simultaneously.

2.3.15 Derivative financial instruments and hedge accounting

The Group uses derivative financial instruments, such as forward currency contracts, interest rate swaps and forward commodity contracts, to hedge its foreign currency risks, interest rate risks and commodity price risks, respectively. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

For the purpose of hedge accounting, hedges are classified as:

- Fair value hedges when hedging the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment
- Cash flow hedges when hedging the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction or the foreign currency risk in an unrecognized firm commitment
- Hedges of a net investment in a foreign operation

At the inception of a hedge relationship, the Group formally designates and documents the hedge relationship to which the Group wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation includes identification of the hedging instrument, the hedged item, the nature of the risk being hedged and how the Group will assess whether the hedging relationship meets the hedge effectiveness requirements (including the analysis of sources of hedge ineffectiveness and how the hedge ratio is determined). A hedging relationship qualifies for hedge accounting if it meets all of the following effectiveness requirements:

- There is 'an economic relationship' between the hedged item and the hedging instrument.
- The effect of credit risk does not 'dominate the value changes' that result from that economic relationship.
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group actually hedges and the quantity of the hedging instrument that the Group actually uses to hedge that quantity of hedged item.

Hedges that meet the strict criteria for hedge accounting are accounted for, as described below:

Cash flow hedges
The effective portion of the gain or loss on the hedging instrument is recognized in OCI in the cash flow hedge reserve, while any ineffective portion is recognized immediately in the statement of comprehensive income. The cash flow hedge reserve is adjusted to the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item.

The Group uses forward currency contracts as hedged of its exposure to foreign currency risk in forecast transactions and firm commitments, as well as forward commodity contracts for its exposure to volatility in the commodity prices. The ineffective portion relating to commodity contracts is recognized in other operating income or expense (Refer to Note 8 for more details).

The Group designates only the spot element of forward contracts as a hedging instrument. The forward element is recognized in OCI and accumulated in a separate component of equity under cost of hedging reverse.

2.3.15 Derivative financial instruments and hedge accounting (cont'd)

The amounts accumulated in OCI are accounted for, depending on the nature of the underlying hedged transaction. If the hedged transaction subsequently results in the recognition of a non-financial item, the amount accumulated in equity is removed from the separate component of equity and included in the initial cost or other carrying amount of the hedged asset or liability. This is not a reclassification adjustment and will not be recognized in OCI for the period. This also applies where the hedged forecast transaction of a non-financial asset or non-financial liability subsequently becomes a firm commitment for which fair value hedge accounting is applied.

If cash flow hedge accounting is discontinued, the amount that has been accumulated in OCI must remain in accumulated OCI if the hedged future cash flows are still expected to occur. Otherwise, the amount will be immediately reclassified to profit or loss as a reclassification adjustment. After discontinuation, once the hedged cash flow occurs, any amount remaining in accumulated OCI must be accounted for depending on the nature of the underlying transaction as described above.

2.3.16 Treasury shares

Own equity instruments that are reacquired (treasury shares) are recognized at cost and deducted from equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Group's own equity instruments. The difference between the carrying amount and the disposal consideration is accounted for as other capital surplus.

2.3.17 Employee benefits

Short term employee benefits
The Group recognizes in profit or loss the amount of short-term employee benefits that will be settled within 12 months from the end of the accounting period in which the employee provides the related service in exchange for the service. Short-term employee benefits are measured at undiscounted amounts.

Long term employee benefits
The Group discounts the future benefits acquired in exchange for services provided during the current and prior periods to present value for other long-term employee benefits that will not be paid within 12 months from the end of the reporting period in which the employees provided the related services. Changes resulting from the remeasurement are recognized in profit or loss in the period in which they occur.

Pension benefits
The Group operates a defined benefit pension plan and contribution pension plan in Korea, which require contributions to be made to a separately administered fund.

The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Remeasurements, comprising of actuarial gains and losses, the effect of the asset ceiling, excluding net interest (not applicable to the Group) and the return on plan assets (excluding net interest), are recognized immediately in the consolidated statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Remeasurements are not reclassified to profit or loss in subsequent periods.

Past service costs are recognized in profit or loss on the earlier of:

- The date of the plan amendment or curtailment, and
- The date that the Group recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The Group recognizes the following changes in the net defined benefit obligation under 'cost of sales' and 'selling and administrative expenses' in the consolidated statements of income and other comprehensive income:

2.3.17 Employee benefits (cont'd)

When an employee renders services for a certain period of time, the amount contributed by the Group, in exchange for the services, is expensed except for those included as part of acquisition costs of a plan asset. The contribution made by the Group in excess of the required funding amount for services rendered until the end of the reporting period is recorded as an asset to the extent that future contribution can be reduced or returned in cash due to the excessive contribution whereas the contribution amount that falls short of the required funding amount is recorded as pension liabilities.

2.3.18 Equity-settled transactions

Employees of the Group receive remuneration in the form of share-based payments, whereby employees render services as consideration for equity instruments. The cost of equity-settled transactions is determined by the fair value at the date when the grant is made using an appropriate valuation model, further details of which are given in Note 23.

That cost is recognized in employee benefits expense, together with a corresponding increase in equity (other capital reserves), over the period in which the service and, where applicable, the performance conditions are fulfilled (the vesting period. The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Group's best estimate of the number of equity instruments that will ultimately vest. The expense or credit in the statement of comprehensive income for a period represents the movement in cumulative expense recognized as at the beginning and end of that period.

Service and non-market performance conditions are not taken into account when determining the grant date fair value of awards, but the likelihood of the conditions being met is assessed as part of the Group's best estimate of the number of equity instruments that will ultimately vest. Market performance conditions are reflected within the grant date fair value. Any other conditions attached to an award, but without an associated service requirement, are considered to be non-vesting conditions. Non-vesting conditions are reflected in the fair value of an award and lead to an immediate expensing of an award unless there are also service and/or performance conditions.

No expense is recognized for awards that do not ultimately vest because non-market performance and/or service conditions have not been met. Where awards include a market or non-vesting condition, the transactions are treated as vested irrespective of whether the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

When the terms of an equity-settled award are modified, the minimum expense recognized is the grant date fair value of the unmodified award, provided the original terms of the award are met. An additional expense, measured as of the date of modification, is recognized for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee.

Where an award is cancelled by the entity or by the counterparty, any remaining element of the fair value of the award is expensed immediately through profit or loss.

The dilutive effect of outstanding options is reflected as additional share dilution in the computation of diluted earnings per share (further details are given in Note 33).

2.3.19 Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) 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. When the Group expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the consolidated statements of income and other comprehensive income net of any reimbursement.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognized as a finance cost.

At the end of each reporting period, the Group reviews the balance of the provision, adjusts it to reflect the best estimate as of the end of the reporting period, and reverses the related provision if resources with economic benefits for the performance of the obligation are no longer likely to be leaked. Provisions are used only for expenditures related to initial recognition.

Provisions for construction warranties
The Group provides warranties for general repairs of defects that existed at the time of sale, as required by law. Provisions related to these assurance-type warranties are recognized when the product is sold or the service is provided to the customer. Initial recognition is based on historical experience. The initial estimate of warranty-related costs is revised annually

Provisions for restoration
The provisions are incurred by the obligations for restoration related to rental asset, and related assets are recognized as right-of-use assets.
Costs for restoration are measured as present value of expected future cash flow for obligation, and pre-tax discount rate that reflects internal risk of restoration at hand. Expected costs for restoration are reviewed at each closing date. And impacts on changes in costs or discount rates are added or deducted to carrying amount of the related assets.

Provisions for onerous contract
When an onerous contract goes, those present obligation related to contract is measured and recognized as provisions. Impairment loss at assets consumed for fulfilling onerous contract are recognized before the provisions are recognized.

An onerous contract means that a contract which non-avoidable costs that is required to fulfilling an obligation exceeds benefits expected to be received by the contract. Non-avoidable costs represent net minimal cost, and it is low cost between costs required to fulfill obligation and penalties payable when the Group does not fulfill the obligations.

2.3.20 Revenue from Contracts with Customers

The Group engage in manufacturing, processing and selling electric wires, cables and related products. Revenue from contracts with customers is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

1) Variable consideration
If the consideration in a contract includes a variable amount, the Group estimates the amount of consideration to which it will be entitled in exchange for transferring the goods to the customer. The variable consideration is estimated at contract inception and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the associated uncertainty with the variable consideration is subsequently resolved. Some contracts for the sale of electronics equipment provide customers with a right of return and volume rebates. The rights of return and volume rebates give rise to variable consideration.

2.3.20 Revenue from Contracts with Customers (cont'd)

2) Significant financing component

Generally, the Group receives short-term advances from its customers. Using the practical expedient in KIFRS 1115, the Group does not adjust the promised amount of consideration for the effects of a significant financing component if it expects, at contract inception, that the period between the transfer of the promised good or service to the customer and when the customer pays for that good or service will be one year or less.

3) Identifying performance obligations

The Group identifies distinct performance obligations such as cable sales, overseas transport, installation services, etc. in an integrated contract with the customer, and determines when it satisfies the performance obligations by performing the promised goods or services to the customer and recognizes revenue over a point or period.

For overseas customers, the Group enters into a contract to provide transportation and insurance services even after control of the goods is transferred to the customer. The Group separates the transport-related services provided after the transfer of control of the goods to the customer into separate performance obligations.

4) Allocation of transaction price

The Group allocates the transaction price on the basis of relative stand-alone selling prices to a number of performance obligations identified in a single contract. The Group uses a 'market valuation adjustment approach' to estimate the stand-alone selling price of each performance obligation, and, in particular, 'expected cost margin add-on approach' to predict expected costs and add appropriate margins to some transactions. However, the 'residual approach' is used in limited situations where both of the preceding methods of estimation are difficult to use.

5) Principal versus agent considerations

Sometimes the Group enters into contracts with its foreign customers to provide transportation and insurance services for goods delivered. Under these contracts, the Group provides procurement services (i.e., selects suitable suppliers and manages the ordering and performance status of services).

In these contracts, the Group is not considered to be primarily responsible for fulfilling the promise to provide the transportation and insurance services. The Group has determined that it does not control the services before they are provided to customers by other service providers, and hence, is an agent rather than principal in these contracts. The Group deducts the amount of transportation and insurance services from its revenue.

6) Contract balance

Contract assets

A contract asset is the right to consideration in exchange for goods or services transferred to the customer. If the Group performs by transferring goods or services to a customer before the customer pays consideration or before payment is due, a contract asset is recognized for the earned consideration that is conditional.

Trade receivables

A receivable represents the Group's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due). Refer to accounting policies of financial assets in Note 2.3.14.

Contract liabilities

A contract liability is the obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Group transfers goods or services to the customer, a contract liability is recognized when the payment is made or the payment is due (whichever is earlier). Contract liabilities are recognized as revenue when the Group fulfills performance obligations as per the contract.

2.3.21 Taxes

1) Current income tax
Current income tax assets and liabilities for the current year are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, at the reporting date in the countries where the Group operates and generates taxable income.

Current income tax relating to items recognized directly in equity is recognized in equity and not in the consolidated statement of comprehensive income. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

2) Deferred tax
Deferred tax is provided using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- When the deferred tax liability arises from the initial recognition of goodwill
- An asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future

Deferred tax assets are recognized for all deductible temporary differences, the carry forward of unused tax credits and any unused tax losses. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized, except:

- When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in OCI or directly in equity.

Tax benefits acquired as part of a business combination, but not satisfying the criteria for separate recognition at that date, are recognized subsequently if new information about facts and circumstances change. The adjustment is either treated as a reduction in goodwill (as long as it does not exceed goodwill) if it was incurred during the measurement period or recognized in profit or loss.

2.3.21 Taxes (cont'd)

The Group offsets deferred tax assets and deferred tax liabilities if and only if it has a legally enforceable right to set off current tax assets and current tax liabilities and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

3) Sales tax

Expenses and assets are recognized net of the amount of sales tax, except:

- When the sales tax incurred on a purchase of assets or services is not recoverable from the taxation authority, in which case, the sales tax is recognized as part of the cost of acquisition of the asset or as part of the expense item, as applicable
- When receivables and payables are stated with the amount of sales tax included

The net amount of sales tax recoverable from, or payable to, the taxation authority is included as part of receivables or payables in the consolidated statement of financial position.

2.3.22 Government grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. When the grant relates to an expense item, it is recognized as income on a systematic basis over the periods that the related costs, for which it is intended to compensate, are expensed. When the grant relates to an asset, it is recognized as income in equal amounts over the expected useful life of the related asset.

When the Group receives grants of non-monetary assets, the asset and the grant are recorded at nominal amounts and released to profit or loss over the expected useful life in a pattern of consumption of the benefit of the underlying asset by equal annual instalments. When loans or similar assistance are provided by governments or related institutions, with an interest rate below the current applicable market rate, the effect of this favorable interest is regarded as a government grant. The loan or assistance is initially recognized and measured at fair value and the government grant is measured as the difference between the initial carrying value of the loan and the proceeds received.

2.4 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, 2022. The Group has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.

Onerous Contracts – Costs of Fulfilling a Contract – Amendments to KIFRS 1037
An onerous contract is a contract under which the unavoidable costs of meeting the obligations under the contract costs (i.e., the costs that the Group cannot avoid because it has the contract) exceed the economic benefits expected to be received under it.

The amendments specify that when assessing whether a contract is onerous or loss-making, an entity needs to include costs that relate directly to a contract to provide goods or services including both incremental costs (e.g., the costs of direct labor and materials) and an allocation of costs directly related to contract activities (e.g., depreciation of equipment used to fulfil the contract and costs of contract management and supervision). 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 Group applied the amendments to the contracts for which it had not fulfilled all of its obligations at the beginning of the reporting period.

Prior to the application of the amendments, the Group had not identified any contracts as being onerous as the unavoidable costs under the contracts, which were the costs of fulfilling them, comprised only incremental costs directly related to the contracts. As a result of the amendments, certain other directly related costs have been included by the Group in determining the costs of fulfilling the contracts. The Group, therefore, recognized an onerous contract provision as of January 1, 2022, which increased as of December 31, 2022 (see Note 27).

In accordance with the transitional provisions, the Group applies the amendments to contracts for which it has not yet fulfilled all of its obligations, at the beginning of the annual reporting period in which it first applies the amendments (the date of initial application) and has not restated its comparative information. These amendments had no impact on the consolidated financial statements of the Group.

Reference to the Conceptual Framework – Amendments to KIFRS 1103
The amendments replace a reference to a previous version of the IASB's *Conceptual Framework* with a reference to the current version issued in March 2018 without significantly changing its requirements.

The amendments add an exception to the recognition principle of KIFRS 1103 *Business Combinations* to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* or KIFRS Interpretation 2121 *Levies*, if incurred separately. The exception requires entities to apply the criteria in KIFRS 1037 or KIFRS Interpretation 2121, respectively, instead of the Conceptual Framework, to determine whether a present obligation exists at the acquisition date.

The amendments also add a new paragraph to KIFRS 1103 to clarify that contingent assets do not qualify for recognition at the acquisition date.

In accordance with the transitional provisions, the Group applies the amendments prospectively, i.e., to business combinations occurring after the beginning of the annual reporting period in which it first applies the amendments (the date of initial application).

These amendments had no impact on the consolidated financial statements of the Group as there were no contingent assets, liabilities or contingent liabilities within the scope of these amendments that arose during the period.

2.4 New and amended standards and interpretations (cont'd)

Property, Plant and Equipment: Proceeds before Intended Use – Amendments to KIFRS 1016
The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment, any proceeds of the sale of items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss.

In accordance with the transitional provisions, the Group applies the amendments retrospectively only to items of PP&E made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment (the date of initial application).

These amendments had no impact on the consolidated financial statements of the Group as there were no sales of such items produced by property, plant and equipment made available for use on or after the beginning of the earliest period presented.

KIFRS 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 KIFRS 1101 to measure cumulative translation differences using the amounts reported in the parent's consolidated financial statements, based on the parent's date of transition to KIFRS, if no adjustments were made for consolidation procedures and for the effects of the business combination in which the parent acquired the subsidiary. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(a) of KIFRS 1101. These amendments had no impact on the consolidated financial statements of the Group as it is not a first-time adopter.

KIFRS 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. There is no similar amendment proposed for KIFRS 1039 Financial Instruments: Recognition and Measurement. In accordance with the transitional provisions, the Group 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 date of initial application).

These amendments had no impact on the consolidated financial statements of the Group as there were no modifications of the Group's financial instruments during the period.

KIFRS 1041 Agriculture – Taxation in fair value measurements
The amendment removes the requirement in paragraph 22 of KIFRS 1041 that entities exclude cash flows for taxation when measuring the fair value of assets within the scope of KIFRS 1041. These amendments had no impact on the consolidated financial statements of the Group as it did not have assets in scope of KIFRS 1041 as of the reporting date.

3. Significant accounting judgments, estimates and assumptions

The preparation of the Group's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

3.1 Judgments

In the process of applying the Group's accounting policies, management has made the following judgments, which have the most significant effect on the amounts recognized in the consolidated financial statements:

3.1.1 Revenue from contracts with customers

The judgments that significantly affect the determination of the amount and timing of revenue from contracts with customers applied by the Group is described in Note 2.3.20.

3.1.2 Consolidation of a structured entity

A structured entity is an entity whose voting or similar rights are not designed to be the primary factor in determining who controls the entity.

In assessing whether a Group has power over a structured entity, factors such as the purpose and form of the structured entity, its practical ability to direct the relevant activities of the structured entity, the nature of its relationship with the structured entity, and the size of its exposure to variability of returns of the structured entity were considered. The Group included TEC 2nd Co., Ltd. in the consolidation scope considering the factors required for control, such as "power", "variable profit", and "the association between power and variable profit." For the year ended December 31, 2022, TEC 2nd Co., Ltd. is liquidated and accordingly excluded from the scope of consolidation.

3.1.3 Consolidation of entities in which the Group holds less than a majority of voting right (de facto control)

In assessing whether a Group has power over an investee, the Group considered 'contractual arrangements between investors and other voting right holder', 'right arising from other contractual arrangements', and 'the voting right and potential voting rights of the Group'. The Group holds 49% of shares in Malesela T.E.C., Ltd, and may appoint a majority of the board members under the inter-shareholder arrangements while holding the right to approve key operational decisions. As a result, it was determined that the Group has control over the investee.

3.1.4 Determining the lease term of contracts with renewal and termination options – Group as lessee

The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The Group recognizes right of use assets and lease liabilities by confirming whether there is extension on contract before it ends.

3.2 Estimates and assumptions

The Group uses a provision matrix to calculate ECLs for trade receivables and contract assets. The provision matrix is initially based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. For instance, if forecast economic conditions (i.e., gross domestic product) are expected to deteriorate over the next year which can lead to an increased number of defaults in the manufacturing sector, the historical default rates are adjusted. At every reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analyzed.

3.2 Estimates and assumptions (cont'd)

The assessment of the correlation between historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and of forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions may also not be representative of customer's actual default in the future. The information about the ECLs on the Group's trade receivables and contract assets is disclosed in Note 39**.**

3.2.1 Impairment of non-financial assets

The Group assesses, at each reporting date, whether there is an indication that an asset may be impaired. Goodwill and intangible assets with indefinite useful lives are tested for impairment annually, or when circumstances indicate that the carrying value may be impaired. Other non-financial assets are tested for impairment when circumstances indicate that its carrying amount may not be recoverable. In determining a value in use, management estimates future cash flows to be derived from the asset or CGU, and applies the appropriate discount rate to those future cash flows.

3.2.2 Provision for expected credit losses of trade receivables and contract assets

The Group uses a provision matrix to calculate ECLs for trade receivables and contract assets. The provision matrix is initially based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. For instance, if forecast economic conditions (i.e., gross domestic product) are expected to deteriorate over the next year which can lead to an increased number of defaults in the manufacturing sector, the historical default rates are adjusted. At every reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analyzed.

The assessment of the correlation between historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and of forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions may also not be representative of customer's actual default in the future. The information about the ECLs on the Group's trade receivables and contract assets is disclosed in Note 38.

3.2.3 Share-based payments

The Group measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Estimating fair value for share-based payment transactions requires determination of the most appropriate valuation model, which depends on the terms and conditions of the grant. This estimate also requires determination of the most appropriate inputs to the valuation model including the expected life of the share option, volatility and dividend yield and making assumptions about them. The assumptions and models used for estimating fair value for share-based payment transactions are disclosed in Note 23.

3.2.4 Deferred tax assets

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which unused tax losses can be utilized.

The management of the Group requires significant judgement to determine the amount of deferred tax assets that can be recognized based on future tax policies and the timing and level of taxable income.

3.2.5 Defined benefit plans

The cost of the defined benefit pension plan and other post-employment medical benefits and the present value of the pension obligation are determined using actuarial valuations. An actuarial valuation involves making various assumptions that may differ from actual developments in the future. These include the determination of the discount rate, future salary increases, mortality rates and future pension increases. Due to the complexities involved in the valuation and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. All assumptions are reviewed at each reporting date.

In determining the appropriate discount rate, management considers the interest rates of corporate bonds in currencies consistent with the currencies of the post-employment benefit obligation with at least an ‘AA’ rating or above, as set by an internationally acknowledged rating agency. The mortality rate is based on publicly available mortality tables for the specific countries. Future salary increases and pension increases are based on expected future inflation rates for the respective countries. Further details about pension obligations are provided in Note 19.

3.2.6 Fair value measurement of financial instruments

When the fair values of financial assets and financial liabilities recorded in the statement of financial position cannot be measured based on quoted prices in active markets, their fair value is measured using valuation techniques including the discounted cash flow (DCF) model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgement is required in establishing fair values. Judgements include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions relating to these factors could affect the reported fair value of financial instruments.

3.2.7 Development costs

The Group capitalizes costs for product development costs. Initial capitalization of costs is based on management’s judgement that technical and economic feasibility can be demonstrated, usually when a product development cost has reached a defined milestone according to an established project management model. Development costs to be capitalized are determined based on management's assumptions of to future expected cash flows, its discount rates and period in which economic benefits will be generated (refer to Note 15).

3.2.8 Uncertainty in estimating gross contract income and total contract cost

The amount of the contract asset is affected by the progress of the measurement based on the cumulative contract cost. In addition, the total contract cost is estimated based on future estimates such as material costs, labor costs, and construction period. Fluctuations to the balance of contract assets is sensitive to the estimated amount of future contract costs.

3.2.9 Leases - Estimating the incremental borrowing rate

The Group cannot readily determine the interest rate implicit in the lease, therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment.

4. Standard issued but not yet effective

The standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below.

KIFRS 1117 *Insurance Contracts*

In 2021, the IASB issued KIFRS 1117 *Insurance Contracts*, a comprehensive new accounting standard for insurance contracts covering recognition and measurement, presentation and disclosure. Once effective, KIFRS 1117 will replace KIFRS 1104 *Insurance Contracts* that was issued in 2007. KIFRS 1117 applies to all types of insurance contracts (i.e., life, non-life, direct insurance and re-insurance), regardless of the type of entities that issue them, as well as to certain guarantees and financial instruments with discretionary participation features. A few scope exceptions will apply. The overall objective of KIFRS 1117 is to provide an accounting model for insurance contracts that is more useful and consistent for insurers. In contrast to the requirements in KIFRS 1104, which are largely based on grandfathering previous local accounting policies, KIFRS 1117 provides a comprehensive model for insurance contracts, covering all relevant accounting aspects. The core of KIFRS 1117 is the general model, supplemented by:

- A specific adaptation for contracts with direct participation features (the variable fee approach); and
- A simplified approach (the premium allocation approach) mainly for short-duration contracts.

KIFRS 1117 is effective for reporting periods beginning on or after January 1, 2023, with comparative figures required. Early application is permitted, provided the entity also applies KIFRS 1109 and KIFRS 1115 on or before the date it first applies KIFRS 1117. This standard is not applicable to the Group.

Amendments to KIFRS 1001: *Classification of Liabilities as Current or Non-current*
The amendments to paragraphs 69 to 76 of KIFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

• What is meant by a right to defer settlement
• That a right to defer must exist at the end of the reporting period
• That classification is unaffected by the likelihood that an entity will exercise its deferral right
• 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, 2024 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.

Definition of Accounting Estimates - Amendments to KIFRS 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.

Disclosure of Accounting Policies - Amendments to KIFRS 1001

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 KIFRS 1001 are applicable for annual periods beginning on or after January 1, 2023 with earlier application permitted. The amendments are not expected to have a material impact on the Group.

4. Standard which are issued already but not yet effective (cont'd)

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. The group is considering disclosure of important accounting policy information to ensure that it is consistent with the requirements of this amendment.

5. Classification of financial instruments by category

5.1 Financial instrument by category as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	Financial assets at fair value through profit or loss	Financial assets at amortized cost	Financial assets at fair value through OCI	Financial liabilities at fair value through profit or loss	Financial guarantee contract liabilities	Financial liabilities at amortized cost	Total
Cash and cash equivalents	₩ -	₩ 217,217	₩ -	₩ -	₩ -	₩ -	₩ 217,217
Long-term/short-term financial instruments	-	4,427	-	-	-	-	4,427
Trade receivables	-	326,159	-	-	-	-	326,159
Loans	-	315	-	-	-	-	315
Other financial assets	9,448	17,793	-	-	-	-	27,241
Debt instrument and equity instrument	92,735	-	9	-	-	-	92,744
Total financial assets	₩ 102,183	₩ 565,911	₩ 9	₩ -	₩ -	₩ -	₩ 668,103
Trade payables	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 262,140	₩ 262,140
Borrowings	-	-	-	-	-	312,076	312,076
Other financial liabilities	-	-	-	9,808	974	37,562	48,344
Total financial liabilities	₩ -	₩ -	₩ -	₩ 9,808	₩ 974	₩ 611,778	₩ 622,560

<2021>

	Financial assets at fair value through profit or loss	Financial assets at amortized cost	Financial assets at fair value through OCI	Financial liabilities at fair value through profit or loss	Financial guarantee contract liabilities	Financial liabilities at amortized cost	Total
Cash and cash equivalents	₩ -	₩ 147,921	₩ -	₩ -	₩ -	₩ -	₩ 147,921
Long-term/short-term financial instruments	-	3,840	-	-	-	-	3,840
Trade receivables	-	319,684	-	-	-	-	319,684
Loans	-	398	-	-	-	-	398
Other financial assets	4,803	12,905	-	-	-	-	17,708
Debt instrument and equity instrument	19,091	-	9	-	-	-	19,100
Total financial assets	₩ 23,894	₩ 484,748	₩ 9	₩ -	₩ -	₩ -	₩ 508,651
Trade payables	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 269,959	₩ 269,959
Borrowings	-	-	-	-	-	599,760	599,760
Other financial liabilities	-	-	-	1,789	1,160	35,088	38,037
Total financial liabilities	₩ -	₩ -	₩ -	₩ 1,789	₩ 1,160	₩ 904,807	₩ 907,756

5.2 Gain (loss) on financial instruments by category for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Financial assets at fair value through profit or loss:		
Financial income etc.	₩ 15,669	₩ 3
Financial expense etc.	-	(767)
Other comprehensive income (loss)	(12,131)	(3,407)
Financial assets at amortized cost:		
Financial income etc.	36,286	861
Financial expense etc.	(16,970)	(6,046)
Financial liabilities at fair value through profit or loss:		
Financial income etc.	-	6,513
Financial expense etc.	(5,489)	(1,712)
Other comprehensive income (loss)	(8,186)	(857)
Financial guarantee contract liabilities:		
Financial income etc.	854	1,105
Financial expense etc.	(668)	(1,372)
Financial liabilities at amortized cost:		
Financial income etc.	17,138	333
Financial expense etc.	(63,073)	(26,814)

6. Fair value

6.1 Book value and fair value of financial instruments as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Book value	Fair value	Book value	Fair value
Financial assets				
Cash and cash equivalents	₩ 217,217	₩ (*)	₩ 147,921	₩ (*)
Long-term/short-term financial instruments	4,427	(*)	3,840	(*)
Debt instrument and equity instrument	92,744	92,744	19,100	19,100
Trade receivables	326,159	(*)	319,684	(*)
Loans	315	(*)	398	(*)
Derivative assets	9,448	9,448	4,803	4,803
Other financial assets	17,793	(*)	12,905	(*)
Total	₩ 668,103		₩ 508,651	
Financial liabilities				
Trade payables	₩ 262,140	(*)	₩ 269,959	(*)
Borrowings	312,076	(*)	599,760	(*)
Derivative liabilities	9,808	9,808	1,789	1,789
Other financial liabilities	38,536	(*)	36,248	(*)
Total	₩ 622,560		₩ 907,756	

(*) As the carrying amounts are considered to be a reasonable approximation of the fair values, the carrying amounts have been stated as the fair values.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in the highest and best use.

The Group use valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use unobservable inputs.

Management assessed the fair value of cash and cash equivalents, trade receivables, other financial assets, trade payables and other current liabilities as similar to carrying amounts because the maturity of these instruments is short-term.

The fair values of the Group's interest-bearing borrowings and loans are determined by using the DCF method using discount rate that reflects the issuer's borrowing rate as of the end of the reporting period. The Group assesses that non-performance risk as of December 31, 2022 is insignificant.

6.2 Fair value hierarchy and valuation technique

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognized in the financial statements at fair value on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

As of December 31 2022 and 2021, details of the financial instruments, which are measured at fair value or of which the fair values are disclosed, are as follows (Korean won in millions):

<2022>

	Level 1	Level 2	Level 3	Total
Financial assets:				
Fair value through profit or loss	₩ -	₩ 70,473	₩ 22,262	₩ 92,735
Fair value through OCI	-	-	9	9
Derivative assets	-	9,448	-	9,448
Total	₩ -	₩ 79,921	₩ 22,271	₩ 102,192
Financial liabilities:				
Derivative liabilities	₩ -	₩ 9,808	₩ -	₩ 9,808
Total	₩ -	₩ 9,808	₩ -	₩ 9,808

<2021>

	Level 1	Level 2	Level 3	Total
Financial assets:				
Fair value through profit or loss	₩ -	₩ -	₩ 19,091	₩ 19,091
Fair value through OCI	-	-	9	9
Derivative assets	-	4,803	-	4,803
Total	₩ -	₩ 4,803	₩ 19,100	₩ 23,903
Financial liabilities:				
Derivative liabilities	₩ -	₩ 1,789	₩ -	₩ 1,789
Total	₩ -	₩ 1,789	₩ -	₩ 1,789

6.3 Disclosure of Level 3

Valuation method, input variables and their effects on the financial instruments grouped into Level 3 as of December 31, 2022 are as follows:

	Valuation method	Input variables
Non-listed equity instruments Debt instruments	Asset approach	Net asset value

7. Cash and cash equivalents

Cash and cash equivalents are as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Cash	₩ 345	₩ 216
Deposits in banks and others	216,872	147,705
Total	₩ 217,217	₩ 147,921

8. Trade receivable and other financial assets:

8.1 Trade receivable and other financial assets as of December 31, 2022 and 2021 as follows (Korean won in millions):

		2022			2021		
		Face value	Allowance for doubtful accounts	Book value	Face value	Allowance for doubtful accounts	Book value
Trade accounts receivable		₩ 362,045	₩ (35,886)	₩ 326,159	₩ 354,349	₩ (34,665)	₩ 319,684
Loans	Short-term loans	299,400	(299,156)	244	299,572	(299,211)	361
	Long-term loans	92,071	(92,000)	71	92,037	(92,000)	37
	Sub total	391,471	(391,156)	315	391,609	(391,211)	398
Other current Financial assets	Other accounts receivable	5,143	(2,853)	2,290	7,759	(2,882)	4,877
	Accrued income	6,712	(6,672)	40	6,677	(6,672)	5
	Derivative assets	9,448	-	9,448	4,803	-	4,803
	Deposits received for guarantees	8,200	-	8,200	1,241	-	1,241
	Lease receivables	56	-	56	-	-	-
	Sub total	29,559	(9,525)	20,034	20,480	(9,554)	10,926
Other non-current Financial assets	Other accounts receivable	2,500	(316)	2,184	2,500	(316)	2,184
	Guarantee deposits	5,023	-	5,023	4,598	-	4,598
	Sub total	7,523	(316)	7,207	7,098	(316)	6,782
	Total	₩ 790,598	₩ (436,883)	₩ 353,715	₩ 773,536	₩ (435,746)	₩ 337,790

8.2 Changes in allowance for doubtful accounts of receivable, loans and other financial assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	Jan. 1, 2022	Impairment(Reversals)	Others	Dec. 31, 2022
Trade receivables	₩ 34,665	₩ 1,225	₩ (4)	₩ 35,886
Short-term loans	299,211	(55)	-	299,156
Long-term loans	92,000	-	-	92,000
Other current financial assets	9,554	-	(29)	9,525
Other non-current financial assets	316	-	-	316
Total	₩ 435,746	₩ 1,170	₩ (33)	₩ 436,883

8.2 Changes in allowance for doubtful accounts of receivable, loans and other financial assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions): (cont'd)

<2021>

	Jan. 1, 2021	Impairment(Reversals)	Others	Dec. 31, 2021
Trade receivables	₩ 47,757	₩ (16)	₩ (13,076)	₩ 34,665
Short-term loans	308,882	(229)	(9,442)	299,211
Long-term loans	92,000	-	-	92,000
Other current financial assets	9,723	-	(169)	9,554
Other non-current financial assets	316	-	-	316
Total	₩ 458,678	₩ (245)	₩ (22,687)	₩ 435,746

8.3 Financial derivatives

The Group entered into financial derivative contracts for foreign currency risk, raw material price risk and Interest rate risk to hedge with Daishin Securities Co., Ltd and others. Other comprehensive income amounts are before tax amounts. Details of derivative contracts as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Transaction purpose	Sell	Buy	Asset	Liability	Profit or loss	Other comprehensive income
Cash flow hedge (Cu future)	USD 42,837,672 (5,250 ton)	USD 152,153,056 (18,395 ton)	9,239	8,320	5,999	(24,076)
Cash flow hedge (Pb future)	-	USD 51,050 (25 ton)	8	-	-	(52)
Cash flow hedge (Al future)	-	USD 8,538,138 (3,150 ton)	201	1,488	-	(1,921)
Total			₩ 9,448	₩ 9,808	₩ 5,999	₩ (26,049)

<2021>

Transaction purpose	Sell	Buy	Asset	Liability	Profit or loss	Other comprehensive income
Transaction purpose (foreign exchange forward transaction)	-	-	₩ -	₩ -	₩ (26)	₩ -
Cash flow hedge (Cu future)	USD 30,387,625 (3,175 ton)	USD 138,891,068 (14,595 ton)	4,300	1,734	5,786	(5,915)
Cash flow hedge (Pb future)	-	USD 1,042,200 (475 ton)	63	-	-	31
Cash flow hedge (Al future)	USD 673,840 (250 ton)	USD 5,109,275 (1,955 ton)	440	55	(40)	417
Total			₩ 4,803	₩ 1,789	₩ 5,720	₩ (5,467)

9. Equity instruments and debt instruments

9.1 Equity instruments and debt instruments as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<2022>

	Acquisition cost	Fair value	Book value - Current	Book value - Non-current
Equity instruments:				
Financial asset of fair value through profit or loss	₩ 17,626	₩ 18,561	₩ -	₩ 18,561
Financial asset of fair value through OCI	117,570	9	-	9
Sub total	135,196	18,570	-	18,570
Debt instruments:				
Financial asset of amortized cost	41,500	-	-	-
Financial asset of fair value through profit or loss	83,895	74,174	70,472	3,702
Sub total	125,395	74,174	70,472	3,702
Total	₩ 260,591	₩ 92,744	₩ 70,472	₩ 22,272

<2021>

	Acquisition cost	Fair value	Book value - Current	Book value - Non-current
Equity instruments:				
Financial asset of fair value through profit or loss	₩ 17,627	₩ 18,210	₩ -	₩ 18,210
Financial asset of fair value through OCI	117,570	9	-	9
Sub total	135,197	18,219	-	18,219
Debt instruments:				
Financial asset of amortized cost	41,500	-	-	-
Financial asset of fair value through profit or loss	12,873	881	-	881
Sub total	54,373	881	-	881
Total	₩ 189,570	₩ 19,100	₩ -	₩ 19,100

9.2 Changes in equity instruments and debt instruments for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	
	Financial assets of fair value through profit or loss	Financial assets of fair value through OCI
Beginning	₩ 19,091	₩ 9
Acquisitions	170,700	-
Disposals	(100,030)	-
Gain on valuation of financial assets	2,974	-
Ending	₩ 92,735	₩ 9

9.2 Changes in equity instruments and debt instruments for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions) (cont'd)

	2021	
	Financial assets of fair value through profit or loss	Financial assets of fair value through OCI
Beginning	₩ 51,657	₩ 56
Acquisitions	-	-
Disposals	(32,744)	(47)
Gain on valuation of financial assets	178	-
Ending	₩ 19,091	₩ 9

10. Inventories

Inventories as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<2022>

	Before valuation	Net realizable value	Valuation allowance Reversals (Raised)	Valuation allowance Accumulated
Merchandise	₩ 26,177	₩ 25,992	₩ 178	₩ (185)
Finished products	159,802	155,776	(1,124)	(4,026)
Work-in-progress	85,487	84,163	47	(1,324)
Raw materials	95,850	95,403	68	(447)
Materials-in-transit	57,122	57,122	-	-
Total	₩ 424,438	₩ 418,456	₩ (831)	₩ (5,982)

<2021>

	Before valuation	Net realizable value	Valuation allowance Reversals (Raised)	Valuation allowance Accumulated
Merchandise	₩ 13,656	₩ 13,293	₩ (132)	₩ (363)
Finished products	134,029	131,127	733	(2,902)
Work-in-progress	72,134	70,763	157	(1,371)
Raw materials	52,311	51,796	516	(515)
Materials-in-transit	83,084	83,084	-	-
Total	₩ 355,214	₩ 350,063	₩ 1,274	₩ (5,151)

11. Other assets

Other assets as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	2022			2021		
	Face value	Allowance for doubtful accounts	Book value	Face value	Allowance for doubtful accounts	Book value
<Other current asset>						
Contract asset	₩ 19,124	₩ -	₩ 19,124	₩ 31,054	₩ -	₩ 31,054
Prepaid VAT	2,534	-	2,534	2,595	-	2,595
Advance payment	64,671	(3,174)	61,497	72,870	(3,174)	69,696
Prepaid expenses	3,085	-	3,085	2,438	-	2,438
Sub total	89,414	(3,174)	86,240	108,957	(3,174)	105,783
<Other non-current assets>						
Long-term prepaid expenses	2,593	-	2,593	2,280	-	2,280
Others	-	-	-	-	-	-
Sub total	2,593	-	2,593	2,280	-	2,280
Total	₩ 92,007	₩ (3,174)	₩ 88,833	₩ 111,237	₩ (3,174)	₩ 108,063

12. Investments in associates and joint venture

12.1 Details of investment in an associate and a joint venture as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Company	Location	Main business	2022 Percentage of ownership (%)	2022 Book value	2021 Percentage of ownership (%)	2021 Book value
Bulace Investments Limited	Cyprus	Real estate Investment	50	-	50	-
Taihan Kuwait Fiber Optic Cable Co. WLL.	Kuwait	Manufacturing and sales of cable	49	3,217	49	3,388
Plan H Ventures Inc. (*)	Korea	Management Consulting	28	1,950	-	-
Total				5,167		3,388

(*) The entity is classified as an associate due to the Group's new investments in the entity for the year ended December 31, 2022.

12.2 Investments in an associate and a joint venture as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	2022		2021	
	Acquisition cost	Book Value	Acquisition cost	Book value
Bulace Investments Limited.	₩ 19,054	₩ -	₩ 19,054	₩ -
Taihan Kuwait Fiber Optic Cable Co. WLL.	3,938	3,217	3,938	3,388
Plan H Ventures Inc.	2,000	1,950	-	-
Total	₩ 24,992	₩ 5,167	₩ 22,992	₩ 3,388

12.3 Changes in investments in associates and joint ventures for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	Plan H Ventures Inc.	Taihan Kuwait Fiber Optic Cable Co. WLL.
Beginning	₩ -	₩ 3,388
Acquisition	2,000	-
Loss on investment of associates	(50)	(368)
Share of other comprehensive income of associates and joint ventures	-	197
Ending	₩ 1,950	₩ 3,217

<2021>

	Taihan Kuwait Fiber Optic Cable Co. WLL.
Beginning	₩ -
Acquisition	3,938
Loss on investment of associates	(515)
Share of other comprehensive loss of associates and joint ventures	(35)
Ending	₩ 3,388

12.4 Condensed financial statements of an associate and a joint venture as of and for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	Assets	Liabilities	Net income(loss)	Comprehensive income(loss)
Bulace Investments Limited.	₩ 1	₩ 52	₩ (31)	₩ (31)
Taihan Kuwait Fiber Optic Cable Co. WLL.	6,592	-	(756)	(351)
Plan H Ventures Inc.	7,021	-	(179)	(179)

<2021>

	Assets	Liabilities	Net income(loss)	Comprehensive income(loss)
Bulace Investments Limited.	₩ 12	₩ 32	₩ 263	₩ 263
Taihan Kuwait Fiber Optic Cable Co. WLL.	6,944	-	(1,055)	(1,055)

12.5 Details of unrecognized equity in investees due to the discontinuance of equity method application for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

			Unrecognized loss	
	Net asset	Net asset interests	Current decrease (increase)	Accumulated
Bulace Investments Limited.	₩ (51)	₩ (26)	₩ (16)	₩ (26)

<2021>

			Unrecognized loss	
	Net asset	Net asset interests	Current decrease (increase)	Accumulated
Bulace Investments Limited.	₩ (20)	₩ (10)	₩ 132	₩ (10)

13. Property, plant and equipment

13.1 Property, plant and equipment as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<2022>

	Acquisition cost	Accumulated depreciation	Accumulated impairment	Government grants	Book value
Land	₩ 116,131	₩ -	₩ (48)	₩ (5,475)	₩ 110,608
Buildings	202,964	(66,596)	-	-	136,368
Structure	40,026	(21,916)	-	-	18,110
Machinery	262,937	(177,835)	(976)	(324)	83,802
Equipment	63,078	(53,471)	(86)	(220)	9,301
Vehicles	4,179	(3,532)	(14)	-	633
Rights-of-use assets	18,031	(7,002)	-	-	11,029
Construction-in-progress	6,362	-	-	(24)	6,338
Other PP&E	2,539	(2,309)	-	-	230
Total	₩ 716,247	₩ (332,661)	₩ (1,124)	₩ (6,043)	₩ 376,419

<2021>

	Acquisition cost	Accumulated depreciation	Accumulated impairment	Government grants	Book value
Land	₩ 116,150	₩ -	₩ (48)	₩ (5,505)	₩ 110,597
Buildings	204,008	(61,136)	-	-	142,872
Structure	39,959	(20,177)	-	-	19,782
Machinery	259,620	(168,705)	(976)	(247)	89,692
Equipment	62,014	(52,091)	(86)	(292)	9,545
Vehicles	4,012	(3,462)	(14)	-	536
Rights-of-use assets	15,661	(3,949)	-	-	11,712
Construction-in-progress	492	-	-	-	492
Other PP&E	2,367	(2,034)	-	-	333
Total	₩ 704,283	₩ (311,554)	₩ (1,124)	₩ (6,044)	₩ 385,561

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

<2022>

	Land	Buildings	Machinery	Other	Construction-in-progress	Total
Beginning	₩ 110,597	₩ 142,872	₩ 89,692	₩ 41,908	₩ 492	₩ 385,561
Acquisition	-	9	2,501	8,872	6,331	17,713
Disposal	(15)	(1,035)	-	(434)	-	(1,484)
Depreciation	-	(5,647)	(8,736)	(11,640)	-	(26,023)
Reclassification (*)	-	148	149	322	(471)	148
Foreign exchange differences	26	21	196	275	(14)	504
Ending	₩ 110,608	₩ 136,368	₩ 83,802	₩ 39,303	₩ 6,338	₩ 376,419

(*) ₩148 million have been reclassified from investment properties to PP&E during the current year.

<2021>

	Land	Buildings	Machinery	Other	Construction-in-progress	Total
Beginning	₩ 110,601	₩ 148,815	₩ 94,959	₩ 37,060	₩ 1,193	₩ 392,628
Acquisition	-	-	1,685	15,578	484	17,747
Disposal	(6)	(121)	-	(464)	-	(591)
Depreciation	-	(5,773)	(8,483)	(11,012)	-	(25,268)
Reclassification (*)	-	(116)	1,181	47	(1,228)	(116)
Foreign exchange differences	2	67	350	699	43	1,161
Ending	₩ 110,597	₩ 142,872	₩ 89,692	₩ 41,908	₩ 492	₩ 385,561

(*) ₩116 million have been reclassified from PP&E to investment properties during the prior year.

14. Leases

14.1 Right-of-use assets as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<2022>

	Acquisition		Accumulated depreciation		Book value	
Land and buildings	₩	9,260	₩	(5,239)	₩	4,021
Machinery		7,068		(935)		6,133
Vehicles		1,524		(791)		733
Others		179		(37)		142
Total	₩	18,031	₩	(7,002)	₩	11,029

<2021>

	Acquisition		Accumulated depreciation		Book value	
Land and buildings	₩	8,718	₩	(2,776)	₩	5,942
Machinery		5,618		(480)		5,138
Vehicles		1,253		(627)		626
Others		72		(66)		6
Total	₩	15,661	₩	(3,949)	₩	11,712

14.2 Changes in lease receivables for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	Jan 1, 2022		Increase		Interest income		Receive		Dec 31, 2022	
Lease receivables	₩	-	₩	75	₩	1	₩	(20)	₩	56

	Jan 1, 2021		Increase		Interest income		Receive		Dec 31, 2021	
Lease receivables	₩	42	₩	-	₩	-	₩	(42)	₩	-

14.3 Changes in lease liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	Jan 1, 2022		Acquisition		Interest cost		Payment		Dec 31, 2022	
Lease liabilities	₩	8,674	₩	5,605	₩	209	₩	(5,732)	₩	8,756

	Jan 1, 2021		Acquisition		Interest cost		Payment		Dec 31, 2021	
Lease liabilities	₩	2,962	₩	10,442	₩	177	₩	(4,907)	₩	8,674

14.4 Expenses from short-term leases and leases of the low value underlying assets incurred for the year ended December 31, 2022 amount to ₩1,966 million and ₩74 million, respectively (2021: ₩1,601 million and ₩139 million, respectively).

14.5 Details of the maturity analysis of the lease liabilities are as follows (Korean won in millions):

	Lease liability			
	Dec 31, 2022		Dec, 31 2021	
Within 1 year	₩	2,580	₩	3,898
More than 1 year less than 2 years		2,087		1,084
Over 2 years		4,188		3,807
Total	₩	8,855	₩	8,789

The cash flows above are the amounts that do not take into account the present value discount

15. Intangible assets

15.1 Intangible assets as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<2022>

	Acquisition cost		Accumulated amortization		Accumulated impairment		Net book value	
Development costs	₩	9,463	₩	(1,136)	₩	(3,038)	₩	5,289
Membership fees(*)		4,674		-		(2,120)		2,554
Other intangible assets		26,537		(22,740)		(3,132)		665
Total	₩	40,674	₩	(23,876)	₩	(8,290)	₩	8,508

<2021>

	Acquisition cost		Accumulated amortization		Accumulated impairment		Net book value	
Development costs	₩	7,674	₩	(913)	₩	(3,038)	₩	3,723
Membership fees(*)		4,674		-		(2,453)		2,221
Other intangible assets		26,436		(20,468)		(3,132)		2,836
Total	₩	38,784	₩	(21,381)	₩	(8,623)	₩	8,780

(*) Memberships with indefinite useful lives are classified as intangible assets and are not amortized

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

<2022>

	Development costs		Membership fees		Other intangible assets		Total	
Beginning	₩	3,723	₩	2,221	₩	2,836	₩	8,780
Acquisitions		1,789		-		95		1,884
Amortization		(223)		-		(2,266)		(2,489)
Reversals		-		333		-		333
Ending	₩	5,289	₩	2,554	₩	665	₩	8,508

15.2 Changes in intangible assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions): (cont'd)

<2021>

	Development costs		Membership fees		Other intangible assets		Total	
Beginning	₩	2,984	₩	2,218	₩	5,070	₩	10,272
Acquisitions		962		-		18		980
Amortization		(223)		-		(2,256)		(2,479)
Reversals		-		3		-		3
Foreign exchange difference		-		-		4		4
Ending	₩	3,723	₩	2,221	₩	2,836	₩	8,780

15.3 Details of development costs are as follows (Korean won in millions):

<2022>

Classification	Details	Capitalized development costs				Book value	
		Capitalized amount		Accumulated			
HVDC Project (*1),(*2)	In development	₩	1,789	₩	4,824	₩	4,824
HPFF Project (*1)	In amortization		-		1,011		421
Smooth Sheath (*1)	In amortization		-		106		44
Total		₩	1,789	₩	5,941	₩	5,289

<2021>

Classification	Details	Capitalized development costs				Book value	
		Capitalized amount		Accumulated			
HVDC Project (*1),(*2)	In development	₩	963	₩	3,035	₩	3,035
HPFF Project (*1)	In amortization		-		1,011		623
Smooth Sheath (*1)	In amortization		-		106		65
Total		₩	963	₩	4,152	₩	3,723

(*1) It is a project to develop ultra-high-voltage cables, junction boxes, and junction devices. HPFF project and smooth sheath have been developed and are under amortization.

(*2) The Group conducted an impairment test in relation to the development costs in progress during the current year, and the recoverable amount was measured at the value-in-use as the fair value of the development costs could not be reliably estimated. The future cash flows for measuring value-in-use were estimated during the period in which economic benefits are expected to be realized based on the Group's past operating performance and future business plans. The discount rate for measuring value-in-use was estimated to be the weighted average capital cost adjusted to reflect the specific risk of the asset. No impairment loss was recognized by the Group during the current year.

15.4 The details of expenditure related to research and development are as follows (Korean won in millions):

	2022	2021
Cost of sales	₩ 1,583	₩ 1,068
Selling and administrative expense	2,707	2,128
Total	₩ 4,290	₩ 3,196

16. Investment properties

16.1 Investment properties as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<2022>

	Acquisition cost	Accumulated depreciation	Net book value
Land	₩ 433	₩ -	₩ 433
Building	1,828	(554)	1,274
Total	₩ 2,261	₩ (554)	₩ 1,707

<2021>

	Acquisition cost	Accumulated depreciation	Net book value
Land	₩ 433	₩ -	₩ 433
Building	2,042	(570)	1,472
Total	₩ 2,475	₩ (570)	₩ 1,905

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

<2022>

	Land	Building	Total
Beginning	₩ 433	₩ 1,472	₩ 1,905
Depreciation	-	(50)	(50)
Transfers	-	(148)	(148)
Ending	₩ 433	₩ 1,274	₩ 1,707

<2021>

	Land	Building	Total
Beginning	₩ 433	₩ 1,437	₩ 1,870
Depreciation	-	(81)	(81)
Transfers	-	116	116
Ending	₩ 433	₩ 1,472	₩ 1,905

16.3 Details of income and expenses associated with investment properties for the years ended December 31, 2022 and 2021 are as follows (Korea won in millions):

	2022	2021
Rental income derived from investment properties	₩ 241	₩ 298
Direct operating expenses (including repairs and maintenance generating rental income)	120	151

16.4 The fair value of investment property is determined on the basis of the valuation amount that reflects the official land price or base price and the latest available similar transaction price. The fair value of the group's investment property as of the reporting date is determined to be similar to its carrying amount and is not disclosed separately.

17. Trade payables and other financial liabilities

17.1 Trade payables and other financial liabilities as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	2022	2021
Current liabilities		
Trade payables	₩ 262,140	₩ 269,959
Account payables	22,657	19,819
Accrued expenses	5,695	6,122
Derivative liabilities	9,808	1,789
Financial guarantee contract liability	974	1,161
Guarantee deposit received	104	104
Lease liabilities	2,537	3,821
Sub total	303,915	302,775
Non-current liabilities		
Long-term account payables	216	234
Leasehold deposits received	134	134
Lease liabilities	6,219	4,853
Sub total	6,569	5,221
Total	₩ 310,484	₩ 307,996

17.2 Changes in financial guarantee contract liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Current liabilities		
Beginning	₩ 1,160	₩ 893
Increase	668	1,372
Decrease	(854)	(1,105)
Ending	₩ 974	₩ 1,160

18. Borrowings

18.1 Short-term borrowings as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	Creditor	Annual interest rates(%)	2022	2021
General short-term borrowings	Hoban Engineering Co., Ltd.	-	₩ -	₩ 160,000
	Hoban Co., Ltd.	-	-	40,000
Foreign currency short-term borrowings	Vietcombank etc.	2.2 ~ 5.05	10,865	23,808
	Standard Bank	12.2	2,460	-
	Korea export-import Bank, and others	Libor + (1.38 ~ 1.95)	68,751	126,715
Total			₩ 82,076	₩ 350,523

18.2 Long-term borrowings as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	Creditor	Date	Annual interest rates (%)	2021	2020	Redemption
Facilities borrowings	Individuals	-	-	-	237	At maturity
Facilities borrowings	Hana bank	2026.12.31	3 month CD+2.26	230,000	249,000	At division
	Total			₩ 230,000	₩ 249,237	
	Less: present value discount			-	-	
	Current portion of long-term borrowings			₩ 20,000	₩ 19,237	
	Long-term borrowings			210,000	230,000	

18.3 Redemption details of other long-term borrowings (including current long-term borrowings) as of December 31, 2022 are as follows (Korean won in millions):

	Other long-term borrowings
2023.1.1 ~ 2023.12.31	₩ 20,000
2024.1.1 ~ 2024.12.31	20,000
2025.1.1 ~ 2025.12.31	20,000
After 2026.1.1	170,000
Total	₩ 230,000

The cash flows above are the amounts that do not take into account the present value discount.

19. Employee benefits

19.1 Net defined benefit liabilities as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	2022	2021
Present value of defined benefit obligation	₩ 40,577	₩ 44,216
Fair value of plan assets	(12,807)	(9,442)
Sub total	27,770	34,774
Other long-term employee benefits	3,598	3,431
Total	₩ 31,368	₩ 38,205

19.2 Changes in defined benefit obligation for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
As of January 1	₩ 44,216	₩ 41,890
Current service costs	5,081	5,135
Interest expenses	1,269	994
Remeasurement factors:		
Actuarial changes arising from changes in demographic assumptions	(185)	-
Actuarial changes arising from changes in financial assumptions	(6,802)	(3,602)
Other factors	325	1,350
Benefits paid	(3,418)	(1,551)
Others	91	-
As of December 31	₩ 40,577	₩ 44,216

19.3 Changes in plan assets for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

		2022		2021
As of January 1	₩	9,442	₩	8,351
Interest incomes		246		180
Remeasurement factors:		(146)		(83)
Contribution paid by participants		4,000		1,300
Benefits paid		(735)		(306)
As of December 31	₩	12,807	₩	9,442

The actual interest income generated from plan assets during the current and prior year are ₩100 million and ₩97 million, respectively.

19.4 Plan assets are as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

		2022		2021
Bank deposit	₩	12,804	₩	9,439
National Pension Fund		3		3
Total	₩	12,807	₩	9,442

19.5 Total expenses for the year ended December 31, 2022 and 2021 consist of following (Korean won in millions):

	2022	2021
Current service cost	₩ 5,081	₩ 5,135
Net interest cost	1,023	814
Total	₩ 6,104	₩ 5,949

Out of the total costs for the years ended December 31, 2022 and 2021, ₩4,237 million and ₩4,117 million are included in manufacturing cost, while ₩1,867 million and ₩1,832 million are included in the selling and administrative expenses, respectively.

Meanwhile, the unpaid amount related to the defined contribution plan is ₩170 million and ₩141 million for the years ended December 31, 2022 and 2021, respectively.

19.6 Remeasurement factors recognized as other comprehensive income(expenses) are as follows (Korean won in millions):

	2022	2021
Remeasurement factors before income tax effect	₩ (6,516)	₩ (2,169)
Income tax effect	1,433	477
Remeasurement factors before income tax effect	₩ (5,083)	₩ (1,692)

19.7 Actuarial assumptions

	2022	2021
Discount rates (%)	5.35	2.95
Future salary increased rates (%)	4.98	4.50

19.8 Sensitivity analysis for significant assumptions as of December 31, 2022 and 2021 is as shown below (Korean won in millions):

	2022	2021
Discount rate		
1% Increase	₩ (3,229)	₩ (3,554)
1% Decrease	3,733	4,116
Future salary increase rate		
1% Increase	₩ 3,712	₩ 4,010
1% Decrease	(3,270)	(3,537)

19.9 Changes in other long-term employee benefits for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
As of January 1	₩ 3,431	₩ 2,831
Current service costs	376	823
Benefits paid	(209)	(223)
As of December 31	₩ 3,598	₩ 3,431

20. Provisions

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

<2022>

	Provisions for construction warranty	Litigation provisions	Provisions for onerous contract	Other provisions	Total
Beginning	₩ 3,340	₩ 3,166	₩ 2,796	₩ 2,064	₩ 11,366
Provisions raised	5,925	6,246	293	52	12,516
Payments	(4,463)	(5,432)	-	(438)	(10,333)
Reversals	(1,788)	-	(1,629)	(374)	(3,791)
Others	-	-	-	(12)	(12)
Ending	₩ 3,014	₩ 3,980	₩ 1,460	₩ 1,292	₩ 9,746
Current	₩ 2,081	₩ 3,980	₩ 1,460	₩ 1,292	₩ 8,813
Non-current	933	-	-	-	933

<2021>

	Provisions for construction warranty	Litigation provisions	Provisions for onerous contract	Other provisions	Total
Beginning	₩ 2,618	₩ 6,139	₩ 2,198	₩ 2,327	₩ 13,282
Provisions raised	3,536	-	598	376	4,510
Payments	(1,163)	-	-	(639)	(1,802)
Reversals	(1,651)	(2,973)	-	-	(4,624)
Ending	₩ 3,340	₩ 3,166	₩ 2,796	₩ 2,064	₩ 11,366
Current	₩ 2,467	₩ 3,166	₩ 2,796	₩ 1,325	₩ 9,754
Non-current	873	-	-	739	1,612

21. Other liabilities

Other liabilities as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

	2022	2021
Other current liabilities		
Excess billing on construction(Contract liabilities)	₩ 3,642	₩ 9,252
Advances received (Contract liabilities)	57,745	55,256
Withholdings	2,378	2,179
VAT withheld	5,232	4,895
Others	4,244	3,426
Sub total	73,241	75,008
Total	₩ 73,241	₩ 75,008

22. Issued capital

		2022		2021
Authorized number of shares (Shares)		2,000,000,000		1,500,000,000
Face value per share	₩	100	₩	500
Number of outstanding common stocks		1,244,473,009		856,473,009
Common stocks (Shares)		1,244,473,009		856,473,009
Capital	₩	124,447	₩	428,237
Capital of common stocks		124,447		428,237

For the year ended December 31, 2022, the par value has reduced from KRW 500 to KRW 100 as a result of capital reduction, and 388 million shares were issued at KRW 1,260 per share through paid-in capital increase thereafter, resulting in a decrease in capital by KRW 303,790 million.

23. Other paid-in capital

23.1 Other paid-in capital as of December 31, 2022 and 2021 consist of the followings (Korean won in millions):

		2022		2021
Capital surplus	₩	401,703	₩	-
Discount on stock issuance		-		(44,913)
Gains from capital reduction		342,586		-
Treasury stocks		(3,648)		(3,668)
Gains on sale of treasury stock		11,172		11,080
Stock options		3,407		3,544
Change in equity of subsidiaries, etc.		(166,645)		(166,645)
Total	₩	588,575	₩	(200,602)

23.2 Changes in other paid-in capital for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

		As of Jan 1		Increase		Decrease		As of Dec 31
Capital surplus	₩	-	₩	401,703	₩	-	₩	401,703
Discount on stock issuance		(44,913)		-		44,913		-
Gains from capital reduction		-		342,586		-		342,586
Treasury stock		(3,668)		-		20		(3,648)
Gains on sale of treasury stock		11,080		92		-		11,172
Stock options		3,544		-		(137)		3,407
Change in equity of subsidiaries, etc.		(166,645)		-		-		(166,645)
Total	₩	(200,602)	₩	744,381	₩	44,796	₩	588,575

<2021>

		As of Jan 1		Increase		Decrease		As of Dec 31
Discount on stock issuance	₩	(44,913)	₩	-	₩	-	₩	(44,913)
Treasury stock		(4,315)		-		647		(3,668)
Gains on sale of treasury stock		8,408		2,672		-		11,080
Stock options		7,617		-		(4,073)		3,544
Change in equity of subsidiaries, etc.		(166,645)		-		-		(166,645)
Total	₩	(199,848)	₩	2,672	₩	(3,426)	₩	(200,602)

23.3 Treasury stock

For the purpose of stabilizing the price of the Group's shares, distributing dividend on stocks, and disposing odd-lot stocks due to capital increase without consideration, the Group plans to acquire treasury shares and dispose of them according to market conditions.

Change in treasury stock for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions, except for number of shares):

	2022			2021		
	Number of shares (Shares)	Amount		Number of shares (Shares)	Amount	
As of January 1	6,877,479	₩	3,668	8,089,408	₩	4,315
Disposals	(36,702)		(20)	(1,211,929)		(647)
As of December 31	6,840,777	₩	3,648	6,877,479	₩	3,668

23.4 Share based payments

23.4.1 Details of share based payment contracts are as follows (Korean won in millions):

Contract	Recipient	Date of vesting	Share vested	Expiration	Settlement	Condition
Share buy-back arrangements	Director and employee	2015.11.05	7,461,500 shares	10 years	Cash or stock	3 years' service

23.4.2 Changes in stock options for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
As of January 1	1,345,000 Shares	2,891,000 Shares
Exercise	52,000 Shares	1,546,000 Shares
Ending	1,293,000 Shares	1,345,000 Shares
Exercisable	1,293,000 Shares	1,345,000 Shares

As of December 31, 2022, exercise price of stock option is ₩ 500 and weighted average remaining maturity is 34 months.

23.4.3 The Group calculated compensation expenses based on fair value approach using Binominal Option Pricing Model. The method and assumptions are as follows:

	2022	
Weighted average stock price	₩	3,940
Exercise price	₩	500
Expected stock price volatility		17.65%
Expiration		10 years
Risk free interest rate (*)		1.81%
Fair value	₩	2,634.36

(*) The risk-free interest rate used interest rates on 10-years treasury bonds.

23.4.4 There are no compensation costs incurred by stock options for the years ended December 31, 2022 and 2021.

24. Other components of equity

24.1 Other components of equity as of December 31, 2022 and 2021 consist of the followings (Korean won in millions):

		2022		2021
Net loss on available-for-sale financial assets	₩	(100,921)	₩	(100,921)
Gain on valuation of derivatives		(3,568)		16,750
Exchange differences on translation of foreign operations		9,200		7,008
Changes in equity in equity method		163		(35)
Total	₩	(95,126)	₩	(77,198)

24.2 Changes in other components of equity for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

		As of Jan. 1		Increase (Decrease)		Income tax effect		As of Dec 31
Net loss on available-for-sale financial assets	₩	(100,921)	₩	-	₩	-	₩	(100,921)
Gain (loss) on valuation of derivatives		16,750		(26,049)		5,731		(3,568)
Exchange differences on translation of foreign operations		7,008		2,192		-		9,200
Change in equity in equity method		(35)		198		-		163
Total	₩	(77,198)	₩	(23,659)	₩	5,731	₩	(95,126)

<2021>

		As of Jan. 1		Increase (Decrease)		Income tax effect		As of Dec 31
Net loss on available-for-sale financial assets	₩	(100,921)	₩	-	₩	-	₩	(100,921)
Gain (loss) on valuation of derivatives		21,014		(5,467)		1,203		16,750
Exchange differences on translation of foreign operations		2,715		4,293		-		7,008
Change in equity in equity method		-		(35)		-		(35)
Total	₩	(77,192)	₩	(1,209)	₩	1,203	₩	(77,198)

25. Retained earnings

25.1 Retained earnings as of December 31, 2022 and 2021 consists of the followings (Korean won in millions):

		2022		2021
Remeasurement of defined benefit plans	₩	(2,264)	₩	(7,347)
Unappropriated retained earnings		250,792		230,210
Total	₩	248,528	₩	222,863

25.2 Changes in retained earnings for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

		As of Jan 1		Profit or loss		Income tax effect		As of Dec 31
Remeasurements of defined benefit plans	₩	(7,347)	₩	6,516	₩	(1,433)	₩	(2,264)
Unappropriated retained earnings		230,210		20,582		-		250,792
Total	₩	222,863	₩	27,098	₩	(1,433)	₩	248,528

<2021>

		As of Jan 1		Profit or loss		Income tax effect		As of Dec 31
Remeasurements of defined benefit plans	₩	(9,039)	₩	2,169	₩	(477)	₩	(7,347)
Unappropriated retained earnings		202,280		27,930		-		230,210
Total	₩	193,241	₩	30,099	₩	(477)	₩	222,863

26. Revenue from contracts with customers

26.1 Details of revenue from contracts with customers for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Type of goods or service				
Merchandise sales	₩	201,079	₩	124,397
Product sales		2,077,620		1,634,490
Construction revenue		135,279		179,998
Others		36,568		58,825
Total	₩	2,450,546	₩	1,997,710
Timing of revenue recognition				
Goods transferred at a point in time	₩	2,313,221	₩	1,816,373
Services transferred over time		137,325		181,337
Total	₩	2,450,546	₩	1,997,710

26.2 Details of cost of sales for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Cost of merchandise sold	₩	185,817	₩	112,217
Cost of products sold		1,977,598		1,548,934
Construction costs		117,560		159,429
Others		31,192		52,353
Total	₩	2,312,167	₩	1,872,933

27 Construction contracts

27.1 Changes in outstanding construction contracts for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	As of Jan 1	Net amount of increases and decreases (*1)	Construction revenue	As of Dec 31(*2)
Electric work, etc.	₩ 195,111	₩ 210,068	₩ (135,279)	₩ 269,900

(*1) The increase amount due to new order is ₩181,470 million and the increase amount due to contract change is ₩28,598 million.
(*2) The construction contract balance is the amount that contains the exchange rate effect.

<2021>

	As of Jan 1	Net amount of increases and decreases (*1)	Construction revenue	As of Dec 31(*2)
Electric work, etc.	₩ 156,834	₩ 218,275	₩ (179,998)	₩ 195,111

(*1) The increase amount due to new order is ₩176,693 million and the increase amount due to contract change is ₩41,582 million.
(*2) The construction contract balance is the amount that contains the exchange rate effect.

27.2 Details of construction contract for the year ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<2022>

	Accumulated profit	Accumulated cost	Advanced	Accounts receivable(*)
Electric work, etc.	₩ 543,445	₩ 493,081	₩ 50,364	₩ 23,627

(*) Account receivables are included in trade receivables in the consolidated statement of financial position.

<2021>

	Accumulated profit	Accumulated cost	Advanced	Accounts receivable(*)
Electric work, etc.	₩ 519,510	₩ 472,584	₩ 46,926	₩ 26,538

(*) Account receivables are included in trade receivables in the consolidated statement of financial position.

27.3 Details of contract assets and contract liabilities as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Contract assets	Contract liabilities	Contract assets	Contract liabilities
Electric work, etc.	₩ 18,943	₩ 3,642	₩ 11,722	₩ 9,252

27.4 Details of the estimated effect of changes in estimated total contract revenue and costs relating to outstanding construction contracts in profit or loss and unbilled construction for future periods and the year ended December 31, 2022 are as follows (Korean won in millions):

	Changes in total estimated contract revenue	Changes in total estimated contract costs	Impact on current profit and loss	Impact on future profit and loss	Changes in unbilled (excess) construction	Construction loss provisions
Electric work, etc.	₩ 13,547	₩ 9,008	₩ 3,232	₩ 1,307	₩ 3,232	₩ 1,460

The effect on the current and future gains and losses is based on the total contract cost estimated from the beginning of the contract to the end of the current year and on the estimate of gross contract income as of the end of the current year.

Estimates of gross contract cost and gross contract income may vary in future periods.

27.5 The information by construction contract whose contract amount is more than 5% of the previous sales as of the end of the current term is as follows:

				Contract assets		Accounts receivable	
Contract name	Contract date	Contractual delivery date	Contract Progress (%)	Gross amount	Impairment Loss	Gross amount	Impairment Loss
Australia 330kV Transgrid PSF PJT	2020.01	2020.01 ~ 2022.04	99.89	-	-	-	-

28. Selling and administrative expenses

Details of selling and administrative expenses for the years December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Advertisements	₩ 792	₩ 363
Export expenses	16,393	15,233
Salaries	22,858	26,064
Severance pay	2,061	1,832
Welfare expenses	4,810	3,944
Depreciation	3,859	3,296
Amortization	2,145	2,133
Rent	1,357	1,312
Commission	11,013	11,305
Tax and dues	874	1,846
Insurance	1,779	1,993
Bad debt expenses	1,224	(16)
Transport charge	7,917	5,376
Others	13,123	10,634
Total	₩ 90,205	₩ 85,315

29. Other non-operating income and expenses

29.1 Details of other non-operating income for the years ended December 31, 2022 and 2021 are as follow (Korean won in millions):

	2022		2021	
Gain on foreign currency transactions	₩	25,775	₩	11,684
Gain on foreign currency translation		5,185		6,074
Gain on valuation of derivatives		2,172		-
Gain on derivatives transactions		9,315		6,513
Gain on disposition of PP&E and intangible assets		580		83
Reversal of impairment losses of PP&E and intangible assets		333		-
Reversal of provision for litigation		-		2,973
Reversal of other provisions		374		-
Reversal of other bad debt allowances		76		249
Others		1,756		281
Total	₩	45,566	₩	27,857

29.2 Details of other non-operating expenses for the years ended December 31, 2022 and 2021 are as follow (Korean won in millions):

	2022		2021	
Loss on foreign currency transactions	₩	23,417	₩	7,892
Loss on foreign currency translation		4,020		1,499
Loss on valuation of derivatives		2,368		767
Loss on derivative transactions		3,120		-
Loss on disposition of PP&E and intangible assets		206		262
Commission		788		640
Transfer of provision for litigation		6,246		-
Transfer of other provision		52		392
Other bad debt expenses				7
Others		128		4,848
Total	₩	40,345	₩	16,307

30. Financial income and expenses

30.1 Details of financial income for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
Interest income	₩	5,171	₩	549
Dividend income		3		3
Gain on derivative transactions		-		1,686
Gain on foreign exchange translation		8,639		2,849
Gain on foreign currency transactions		11,605		2,010
Reversal of financial guarantee contract liability		854		1,105
Reversal of other bad debt allowance		-		5
Gain on valuation of financial assets at fair value through profit or loss		2,974		178
Gain on disposal of financial assets at fair value through profit or loss		1,205		430
Total	₩	30,451	₩	8,815

30.2 Details of financial expenses for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Interest expenses(*)	₩	21,159	₩	19,351
Loss on derivative transactions		-		1,712
Loss on foreign exchange translation		1,162		1,613
Loss on foreign currency transactions		29,040		11,036
Provision for financial guarantee contract liability		668		1,372
Other bad debt expenses		20		1,618
Others		-		9
Total	₩	52,049	₩	36,711

31. Classification of expenses by nature

The classification of expenses by nature for years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Changes in inventories	₩	146,505	₩	18,731
Used raw materials		1,704,535		1,387,604
Employee benefits		94,709		92,672
Depreciation		28,562		27,829
Rental charge		3,655		3,603
Commission		20,754		21,293
Export expenses		16,393		15,233
Packing charge		4,103		3,933
Outsourcing		66,864		113,239
Bad debt expenses		1,225		(16)
Others		315,067		274,127
Total(*)	₩	2,402,372	₩	1,958,248

(*) Total of cost of sales and selling and administrative expenses on consolidated statements of comprehensive income.

32. Income tax

32.1 Income tax expense for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Current income tax charge	₩	2,363	₩	4,726
Relating to origination and reversal of temporary differences		2,913		(7,255)
Deferred tax related to items recognized in OCI		4,272		(28)
Income tax expenses		9,548		(2,557)
Income tax expenses allocated to the continuing operations		9,548		(2,557)

32.2 Deferred tax related to items recognized in OCI for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Net loss on remeasurement factors of defined benefit obligations	₩	(1,433)	₩	(477)
Net gain on valuation of derivatives		5,731		1,203
Net loss on disposal of treasury stock		(26)		(754)
Total	₩	4,272	₩	(28)

32.3 Reconciliation between income tax expense and loss before income tax expense for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Net profit before income tax	₩	31,378	₩	24,561
Income tax expenses at applicable tax rate		6,912		5,408
Non-taxable income		(31)		(2,113)
Non-deductible expenses		3,654		8,150
Unrecognized changes in temporary differences		(3,416)		(15,364)
Others		2,429		1,362
Income tax expense (benefit)	₩	9,548	₩	(2,557)

32.4 Details of deferred tax as of December 31, 2022 and 2021 and the years then ended are as follows (Korean won in millions):

<2022>

	January 1	Credited to profit (charged to loss)	Credited to other comprehensive income	December 31
Depreciation in excess of tax limit	₩ (265)	₩ 345	₩ -	₩ 80
Allowance for doubtful accounts in excess of tax limit	481,869	1,484	-	483,353
Inventory valuation allowance	3,614	1,074	-	4,688
Loss on valuation of derivatives	18,462	(18,460)	-	2
Tax benefit by gain on split	1,123	-	-	1,123
Government grants	6,085	(1)	-	6,084
Accrued revenue	22,556	(34)	-	22,522
Employee benefits	38,129	(6,914)	-	31,215
Provision for financial guarantee contract liabilities	1,167	(192)	-	975
Capitalization of borrowing costs	(1,090)	66	-	(1,024)
Assets & liabilities related to leases	165	(137)	-	28
Treasury stocks	159,093	(849)	-	158,244
Investments in subsidiaries, associate and a joint venture	15,798	(1)	-	15,797
Valuation of investment assets	170,945	(3,073)	-	167,872
Revaluation gain on property, plant and equipment	(12,624)	-	-	(12,624)
Gain(loss)on valuation of derivatives	(21,475)	(4,214)	26,048	359
Others	30,365	(5,897)	(6,516)	17,952
Tax deficit	1,042,553	1,512	-	1,044,065
Total	₩ 1,956,470	₩ (35,291)	₩ 19,532	₩ 1,940,711
Deferred tax assets	₩ 53,826	₩ (6,519)	₩ 4,297	₩ 51,604
Deferred tax liabilities	(322)	(691)	-	(1,013)

<2021>

	January 1	Credited to profit (charged to loss)	Credited to other comprehensive income	December 31
Depreciation in excess of tax limit	₩ (898)	₩ 633	₩ -	₩ (265)
Allowance for doubtful accounts in excess of tax limit	497,841	(15,972)	-	481,869
Inventory valuation allowance	3,532	82	-	3,614
Loss on valuation of derivatives	3,614	14,848	-	18,462
Tax benefit by gain on split	1,123	-	-	1,123
Government grants	5,775	310	-	6,085
Accrued revenue	23,367	(811)	-	22,556
Employee benefits	36,190	1,939	-	38,129
Provision for financial guarantee contract liabilities	899	268	-	1,167
Capitalization of borrowing costs	(1,157)	67	-	(1,090)
Assets & liabilities related to leases	(121)	286	-	165
Treasury stocks	187,129	(28,036)	-	159,093
Investments in subsidiaries, associate and a joint venture	69,520	(53,722)	-	15,798
Valuation of investment assets	173,351	(2,406)	-	170,945
Revaluation gain on property, plant and equipment	(12,624)	-	-	(12,624)
Gain(loss)on valuation of derivatives	(26,941)	-	5,466	(21,475)
Others	26,985	5,549	(2,169)	30,365
Tax deficit	1,008,685	33,868	-	1,042,553
Total	₩ 1,996,270	₩ (43,097)	₩ 3,297	₩ 1,956,470
Deferred tax assets	₩ 46,367	₩ 2,058	₩ 5,401	₩ 53,826
Deferred tax liabilities	(118)	(204)	-	(322)

32.5 Unrecognized deferred tax assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Deductible temporary differences	₩ 882,828	₩ 889,449
Unused tax deficit	828,399	837,362
Total	₩ 1,711,227	₩ 1,726,811

32.6 The amount of unused tax loss carryforwards and the expected years of their expiration that are not recognized as deferred tax assets as of December 31, 2022 is as follows (Korean won in millions):

Year of occurrence	Unused tax loss carryforwards	Expiration year
Occurred in 2016	₩ 102,590	2026
Occurred in 2017	-	2027
Occurred in 2020	688,571	2035
Occurred in 2021	35,694	2036
Occurred in 2022	1,544	2037
Total	₩ 828,399	

32.7 The Group recognizes deferred tax assets to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilized

33. Earnings per share (EPS)

33.1 Basic EPS (Korean won in millions):

	2022	2021
Profit from continuing operations attributable to ordinary equity holders of the parent	₩ 20,583	₩ 24,718
Net profit for the year attributable to ordinary equity holders of the parent	20,583	27,930
Weighted average number of ordinary shares for basic EPS (Shares) (*)	1,156,172,669	874,549,270
Earnings per share from continuing operations attributable to the ordinary equity holders of the parent	18 won	28 won
Earnings per share attributable to the ordinary equity holders of the parent	18 won	32 won

(*) The weighted average number of ordinary shares in circulation was weighted average after deducting the number of treasury shares from the number of issued shares, and the weighted average number of ordinary shares in the current and prior terms was calculated in consideration of the free capital increase caused by the issuance of new shares.

33.2 Diluted EPS

Diluted earnings per share is calculated by applying the weighted average number of ordinary shares adjusted for the conversion of all dilutive potential ordinary shares into ordinary shares. The potential diluted ordinary shares held by the Group are stock options. Based on the monetary value, the number of shares that would otherwise have been acquired at fair value (the average market price for the period) is calculated by comparing the number of shares that would have been issued if the share options were exercised. The details of diluted earnings per share calculation are as follows (Korean won in millions):

	2022	2021
Profit from continuing operations attributable to ordinary equity holders of the parent	₩ 20,583	₩ 24,718
Net profit for the year attributable to ordinary equity holders of the parent	20,583	27,930
Adjustment	-	-
Continuing operations	20,583	24,718
Profit for the year	20,583	27,930
Weighted average number of ordinary shares for basic EPS (Shares)	1,156,172,669	874,549,270
Adjustment		
Stock options (Shares)	935,583	1,483,947
Weighted average number of ordinary shares for diluted EPS (Shares)	1,157,108,252	876,033,217
Diluted EPS from continuing operations attributable to the ordinary equity holders of the parent	18 won	28 won
Diluted EPS attributable to the ordinary equity holders of the parent	18 won	32 won

34. Cash flows

34.1 Adjustments to reconcile profit (loss) for the year to net cash flows provided by operating activities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Income tax expense (benefit)	₩ 9,548	₩ (2,557)
Interest expense	21,159	19,351
Interest income	(5,171)	(549)
Dividend income	(3)	(3)
Depreciation	26,023	25,267
Depreciation of investment properties	50	81
Amortization of intangible assets	2,489	2,479
Severance benefits	6,104	5,981
Bad debt expenses (reversal)	1,225	(16)
Other bad debt expenses (reversal)	(56)	1,371
Loss (gain) on foreign exchange translation, net	(8,642)	(5,811)
Loss (gain) on valuation of financial assets at fair value through profit or loss	(2,944)	(178)
Loss (gain) on disposal of financial assets at fair value through profit or loss	(1,205)	(430)
Loss (gain) on disposal of investment in subsidiaries	(10)	(1,819)
Loss on disposal of investment in associates	418	515
Gain on disposal of property, plant and equipment, net	(580)	(71)
Loss on abandonment of property, plant and equipment, net	206	250
Loss (gain) on impairment of intangible assets	(333)	(3)
Loss on valuation of financial derivatives, net	196	767
Inclusion (reversal) of financial guarantee contract liabilities	(186)	267
Inclusion (reversal) of provision for litigation liabilities	6,246	(2,972)
Inclusion of provision for construction warranty liabilities	4,137	1,885
Inclusion (reversal) of provision for construction loss	(1,336)	598
Inclusion (reversal) of provision for other liabilities	(322)	375
Others	390	807
Total	₩ 57,403	₩ 45,585

34.2 Changes in operating assets and liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Accounts receivables	₩	(7,293)	₩	(45,359)
Inventories		(63,726)		(128,350)
Other financial assets		(22,528)		18,896
Other current assets		21,191		(77,488)
Accounts payable		(14,018)		116,678
Other financial liabilities		(5,965)		475
Provisions		(10,333)		(1,802)
Other current liabilities		1,807		47,331
Net defined benefit liabilities		(6,870)		(2,863)
Total	₩	(107,735)	₩	(72,482)

34.3 Significant non-cash transactions for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022	2021
Write-off of receivables	₩	-	19,264
Write-off of account receivables		29	-
Transfer of construction-in-progress to property, plant and equipment		471	116
Current portion of long-term borrowings		20,000	19,000
Payables related to acquisition of property, plant and equipment		142	1,035

34.4 Changes in financial liabilities for the year ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

					Non-cash movements					
		Beginning		Cash flows		Changes in Exchange rate		Reclassification		Ending
Short-term borrowings	₩	350,523	₩	(264,531)	₩	(3,916)	₩	-	₩	82,076
Current portion of long-term borrowings		19,237		(19,237)		-		20,000		20,000
Long-term borrowings		230,000		-		-		(20,000)		210,000
Total	₩	599,760	₩	(288,768)	₩	(3,916)	₩	-	₩	312,076

<2021>

	Beginning	Cash flows	Non-cash movements: Changes in Exchange rate	Non-cash movements: Reclassification	Ending
Short-term borrowings	₩ 119,016	₩ 228,822	₩ 2,685	₩ -	₩ 350,523
Current portion of long-term borrowings	467,286	(467,049)	-	19,000	19,237
Long-term borrowings	-	249,000	-	(19,000)	230,000
Total	₩ 586,302	₩ 10,773	₩ 2,685	₩ -	₩ 599,760

35. Related party transactions

35.1 List of related parties

<2022>

Relationship with the Group during current year	Related party
<Companies that exert influence on the Group>	
Ultimate parent company	Hoban Engineering Co., Ltd.
<Companies influenced by the Group>	
Domestic related company	Plan H open innovation venture(*1)
Overseas associate and joint venture	Bulace Investments Limited.., Taihan Kuwait Fiber Optic Cable Co. WLL,
<Other related parties>(*2)	KTC Co., Ltd., Kookmin Cable Investment Fund II Co., TS DEVELOPMENT Co., Ltd., TS Construction Co., Ltd., TS Living Co., Ltd., TS Asset Co., Ltd., TS Housing Co., Ltd., Hwarangkwansa BTL Co., Ltd., Hoban TBM Co., Ltd., Hoban SUMMIT Co., Ltd., Incheon Hangdong The one PFV, Hoban Construction Co., Ltd., Hoban Property Co., Ltd., Hoban Asset Co., Ltd., HOBAN HOTEL & RESORT Co.Ltd., CORNERSTONE Investment Co., Ltd., SEO SEOUL TOUR CO., Ltd, etc.

(*1) New investments were made during the year ended December 31, 2022.
(*2) Includes entities that are not included in the scope of related parties in accordance with KIFRS 1024 *Disclosure on Related Parties* but that belong to the same Large-scale Business Group under the *Monopoly Regulation and Fair Trade Act*.

<2021>

Relationship with the Group during current year	Related party
<Companies that exert influence on the Group>	
Ultimate parent company	Hoban Engineering Co., Ltd.
<Companies influenced by the Group>	
Overseas associate and joint venture	Bulace Investments Ltd., Taihan Kuwait Fiber Optic Cable Co. WLL,
<Other related parties>	KTC Co., Ltd., Kookmin Cable Investment Fund II Co., TS DEVELOPMENT Co., Ltd., TS Construction Co., Ltd., TS Living Co., Ltd., TS Asset Co., Ltd., TS Housing Co., Ltd., Hwarangkwansa BTL Co., Ltd., Hoban TBM Co., Ltd., Hoban SUMMIT Co., Ltd., Incheon Hangdong The one PFV, Hoban Construction Co., Ltd., Kwang Ju Broadcasting Company., Ltd. (KBC), Hoban Property Co., Ltd., Hoban Asset Co., Ltd., HOBAN HOTEL & RESORT Co.Ltd., CORNERSTONE Investment Co., Ltd., SEO SEOUL TOUR CO., Ltd, etc.

35.2 Significant transactions with related parties for the years ended December 31, 2022 are as follows and there no significant operational transactions with related parties during the prior year.

<2022>

		Revenue	Expense	
		Logistic sales	Selling and administrative expenses	Others
Hoban Engineering Co., Ltd.,	Controlling firm	₩ 975	₩ -	₩ 1,066
Hoban Construction Co., Ltd.	Others	2,096	759	-
Hoban TBM Co., Ltd.,		635	-	-
HOBAN HOTEL & RESORT Co.,Ltd.,		-	534	-
SEO SEOUL TOUR CO., Ltd, etc.		-	14	-
Hoban Asset Co., Ltd.,		80	2,077	-
Hoban SUMMIT Co., Ltd		-	50	-
Hoban Co., Ltd.,		-	-	267
The Electronic Times		-	26	-
SAMSUNG GOLD EXCHANGE.,LTD		-	294	-
THE SEOUL SHINMUN		-	37	-
Hoban Foundation		54	-	-
Total		₩ 3,840	₩ 3,791	₩ 1,333

<2021>

		Revenue	Expense	
		Logistic sales	Selling and administrative expenses	Others
Hoban Engineering Co., Ltd.,	Controlling firm	₩ 330	₩ -	₩ 140
Hoban Construction Co., Ltd.	Others	322	457	-
Hoban TBM Co., Ltd.,		60	-	-
HOBAN HOTEL & RESORT Co.,Ltd.,		-	275	-
SEO SEOUL TOUR CO., Ltd, etc.		-	13	-
Hoban Asset Co., Ltd.,		-	1,094	-
Hoban SUMMIT Co., Ltd		-	26	-
Hoban Co., Ltd.,		-	-	35
The Electronic Times		-	8	-
SAMSUNG GOLD EXCHANGE.,LTD		-	199	-
Total		₩ 712	₩ 2,072	₩ 175

35.3 Significant balances of accounts receivable and payable with related parties as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

		Receivables				Payables		
		Trade receivables	Other receivables	Loans	Others	Account payables	Borrowings	Others
Hoban Engineering Co., Ltd.,	Controlling firm	₩ 17	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
Bulace Investments Ltd..	Joint venture	-	-	50	-	-	-	-
KTC Co., Ltd..	Others	844	1,469	-	-	-	-	-
Hoban Construction Co., Ltd		92	-	-	-	471	-	-
Hoban TBM Co., Ltd.,		131	-	-	-	-	-	-
HOBAN HOTEL & RESORT Co.,Ltd.,		-	-	-	-	50	-	-
Hoban Asset Co., Ltd.,		-	-	-	1,062	191	-	505
The Electronic Times		-	-	-	-	2	-	-
SAMSUNG GOLD EXCHANGE.,LTD		-	-	-	-	113	-	-
Total		₩ 1,084	₩ 1,469	₩ 50	₩ 1,062	₩ 827	₩ -	₩ 505

As of December 31, 2022, allowance for doubtful accounts of ₩2,363 million is established for the receivables from related parties. An impairment loss amounting to ₩20 million was additionally recognized during the year ended December 31, 2022.

<2021>

		Receivables				Payables		
		Trade receivables	Other receivables	Loans	Others	Account payables	Borrowings	Others
Hoban Engineering Co., Ltd.	Controlling firm	-	-	-	-	-	160,000	140
Bulace Investments Ltd..	Joint venture	₩ -	₩ -	₩ 30	₩ -	₩ -	₩ -	₩ -
KTC Co., Ltd..	Others	₩ 844	₩ 1,469	₩ -	₩ -	₩ -	₩ -	₩ -
Hoban Asset Co., Ltd.,		-	-	-	1,062	8	-	2,422
Hoban Construction Co., Ltd		322	-	-	-	307	-	-
Hoban TBM Co., Ltd.,		18	-	-	-	-	-	-
HOBAN HOTEL & RESORT Co.,Ltd.,		-	-	-	-	36	-	-
Hoban SUMMIT Co., Ltd		-	-	-	-	2	-	-
Hoban Co., Ltd.,		-	-	-	-	-	40,000	35
The Electronic Times		-	-	-	-	2	-	-
Total		₩ 1,184	₩ 1,469	₩ 30	₩ 1,062	₩ 355	₩ 200,000	₩ 2,597

As of December 31, 2021, allowance for doubtful accounts of ₩2,343 million is established for the receivables from related parties. For the year ended December 31, 2021, an impairment loss amounting to ₩14 million was additionally recognized and ₩7,650 million was reversed and written off.

35.4 Loan transactions with related parties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	Accounts	Jan 1, 2022	Increase (Decrease)	Dec 31, 2022
Hoban Engineering Co., Ltd.	Short-term borrowings	₩ 160,000	₩ (160,000)	₩ -
Bulace Investments Ltd.	Short-term loan	30	20	50
	Allowance for doubtful accounts	(30)	(20)	(50)
Hoban Co., Ltd.	Short-term borrowings	40,000	(40,000)	-

<2021>

	Accounts	Jan 1, 2021	Increase (Decrease)	Dec 31, 2021
Hoban Engineering Co., Ltd.	Short-term borrowings	₩ -	₩ 160,000	₩ 160,000
Bulace Investments Ltd.	Short-term loan	16	14	30
	Allowance for doubtful accounts	(16)	(14)	(30)
Pinestone Resort Co., Ltd.	Short-term loan	1,500	(1,500)	-
	Allowance for doubtful accounts	(1,500)	1,500	-
Hoban Co., Ltd.	Short-term borrowings	-	40,000	40,000

35.5 Equity transactions with related parties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

	Classification	Description	Share	Amount
Hoban Engineering Co., Ltd.	Ultimate parent company	Increase of paid-in capital	156,455,402	₩ 197,134
Plan H open innovation venture.	Associate	Cash investment	2,000	2,000

<2021>

	Classification	Description	Share	Amount
Taihan Kuwait Fiber Optic Cable Co. WLL.	Associate	Cash investment	488	₩ 3,938

35.6 There is no collateral provided to related parties and the payment guarantee provided is as follows (Korean won in millions):

	Classification	Guaranteed amount	Guarantor	Guarantee period	Description (foot note 37)
Employee Stock Ownership Association	Employee	₩ 747	NH bank	2022.10.17~ 2023.10.17	Payment for subscription to paid-in capital increase

35.7 Compensation for key management officers for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Salaries	₩ 1,194	₩ 4,137
Retirement benefits	90	83
Total	₩ 1,284	₩ 4,220

36. Contingencies and commitments

36.1 Pledged notes

As of December 31, 2021, notes and three checks, which were issued by TEC&Co Co., Ltd., a subsidiary that merged into the Group, before its bankruptcy (October 15, 1997), were not recovered due to loss and others.

36.2 Restricted financial assets

Details of restricted financial assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Accounts	Classification	Financial institutions	Book value		Restricted for
Short-term and long-term financial instruments	Deposit and installment savings	Kookmin Bank and others	₩	4,427	Collateral for borrowings
Financial assets at fair value through profit or loss etc.	Equity and debt securities	Machinery Financial Cooperative and others		17,087	Operation guarantee

<2021>

Accounts	Classification	Financial institutions	Book value		Restricted for
Short-term and long-term financial instruments	Deposit and installment savings	Kookmin Bank and others	₩	3,822	Collateral for borrowings
Financial assets at fair value through profit or loss etc.	Equity and debt securities	Machinery Financial Cooperative and others		17,016	Operation guarantee

36.3 Assets pledged as collateral and restricted for use (Korean won in millions):

2022

Accounts	Classification	Guaranteed amount	Guarantee	Description of guarantee
Equity and debt instruments	National Wired Broadcasting and investment 2nd private investment Co., Ltd.	₩ 181,200	Woori Bank	Loan guarantee
Equity and debt instruments	Machinery financial cooperative fund	129,252	Machinery financial cooperative	Performance guarantee
Equity and debt instruments	Construction Guarantee fund	201	Construction Guarantee	Performance guarantee
Equity and debt instruments	Electric Guarantee fund	71	Electric Guarantee	Performance guarantee
Fixed deposit	Fixed deposit	3,059	KB KOOKMIN Bank	Loan guarantee
Fixed deposit	Fixed deposit	1,611	Vietinbank	Loan guarantee
Loans	ALD 1st PFV Co., Ltd., loans	50,825	KEB HANA Bank	Loan guarantee
Loans	Pan-gyo development of a land for living measures 1st PFV Co., Ltd., loans	15,436	KEB HANA Bank	Loan guarantee
Intangible assets	Hanwha, Moojoo, Dogo Glory Condominium Membership	-	Creditor	Foreign currency guarantee
Other paid-in capital	Treasury stock	-	Creditor	Loan limit
Other paid-in capital	Treasury stock	87,300	KEB HANA Bank	Loan guarantee
	Treasury stock	26,600	Hangook Savings Bank, etc.	Payment guarantee for others
	Dangjin factory 1st fixed collateral	298,800	KEB HANA Bank	Loan guarantee
Other paid-in capital				
PP&E	Right to use of land	22,727	Vietinbank, etc.	Loan guarantee
Inventory	Copper, Semi-finished goods SCR	-	Korea export-import Bank, etc.	Loan guarantee
Inventory	B/L USD 47,786 ,823.17	250,199	KEB HANA Bank, etc.	Loan guarantee
		₩ 1,067,281		

2021

Accounts	Classification	Guaranteed amount	Guarantee	Description of guarantee
Equity and debt instruments	National Wired Broadcasting and investment 2nd private investment Co., Ltd.	₩ 181,200	Woori Bank	Loan guarantee
Equity and debt instruments	Machinery financial cooperative fund	121,278	Machinery financial cooperative	Performance guarantee
Equity and debt instruments	Construction Guarantee fund	200	Construction Guarantee	Performance guarantee
Equity and debt instruments	Electric Guarantee fund	68	Electric Guarantee	Performance guarantee
Fixed deposit	Fixed deposit	3,059	KB KOOKMIN Bank	Loan guarantee
Fixed deposit	Fixed deposit	1,042	Vietinbank	Loan guarantee
Loans	ALD 1st PFV Co., Ltd., loans	50,825	KEB HANA Bank	Loan guarantee
Loans	Pan-gyo development of a land for living measures 1st PFV Co., Ltd., loans	15,436	KEB HANA Bank	Loan guarantee
Intangible assets	Hanwha, Moojoo, Dogo Glory Condominium Membership	3,296	Creditor	Foreign currency guarantee
Other paid-in capital	Treasury stock	136,944	Creditor	Loan limit
Other paid-in capital	Treasury stock	87,300	KEB HANA Bank	Loan guarantee
	Treasury stock	26,600	Hangook Savings Bank, etc.	Payment guarantee for others
	Dangjin factory 1st fixed collateral	298,800	KEB HANA Bank	Loan guarantee
Other paid-in capital				
PP&E	Right to use of land	14,167	Vietinbank, etc.	Loan guarantee
Inventory	Copper, Semi-finished goods SCR	61,646	Korea export-import Bank, etc.	Loan guarantee
Inventory	B/L USD 91,437,626.34	79,982	KEB HANA Bank, etc.	Loan guarantee
		₩ 1,081,843		

36.4 Payment guaranteed provided by others (Korean won in millions):

Guarantor	2022	2021	Description of guarantee
KEB HANA Bank, etc.	₩ 200 USD 63,212,745 AUD 1,690,878 SGD 1,432,851 HKD 1,500,000	₩ 200 USD 78,250,576 AUD 1,690,879 SGD 7,924,843 HKD 1,500,000	Other foreign currency payment guarantee etc.
Atlantic Specialty Insurance company	USD 51,641,087	USD 51,641,087	Performance guarantee etc.
Long Island Lighting company	USD 7,124,771	-	Debt guarantee etc.
TECHCOMBANK	USD 100,000,000	-	Debt guarantee etc.
DBS Bank	USD 11,922,038	-	Performance guarantee etc.
Seoul Guarantee Insurance	₩ 110,342	₩ 100,401	Payment guarantees and other performance guarantees, etc.
Construction Guarantee	5,292	5,292	
Machinery Financial Cooperative	129,252	121,278	

36.5 Assets pledged as collateral provided for others are as follows (Korean won in millions):

Beneficiary	Accounts	Classification	2022	2021	Mortgagee
TEC&R	Other paid-in capital	treasury stock	26,600	26,600	Hangook Savings Bank, etc.

36.6 Payment guarantee provided for others are as follows (Korean won in millions):

Beneficiary	2022	2021	Guarantee	Guarantee period	Details
YANGWOO ENG & CONSTRUCTION Co. Ltd	₩ 3,197	₩ 4,722	Construction Guarantee	2012.07.01~ 2024.04.21	Performance of contract and Product warranties
Taihan Techren Co., Ltd.	850	1,200	Sigma ETN Co., Ltd.	2008.09.30~ 2023.09.30	Solar energy efficiency joint guarantee
Total	₩ 4,047	₩ 5,972			

36.7 Financial institution’s loan commitments (Korean won in millions, Vietnam dong in thousands):

Classification	Financial institution	2022		2021	
		Agreement amount of Korean Won	Agreement amount of foreign currency	Agreement amount of Korean Won	Agreement amount of foreign currency
General fund loan agreement	DB Financial Investment and others	₩ 5,000	VND 969,000,000	13,877	VND 600,000,000
Facility loan agreement	HANA bank and others	249,000	-	249,000	-
Usance	The Export-Import Bank of Korea and others	-	USD 239,522,359	11,507	USD 199,652,359
Bank Overdraft	Standard bank	-	ZAR 55,000,000	-	ZAR 55,000,000

36.8 Pending litigation

36.8.1 Defendant litigation

As of December 31, 2022, the Group is a defendant in 18 legal cases, including the damage claim filed by minority shareholders, The litigation value amounts to ₩177,765 million.

Meanwhile, seven out of the entire 18 cases relate to damage claims by minority shareholders for the violations of accounting treatment in 2011 and 2012. For preventing the aggravation of delayed penalty, the Group paid ₩1,717 million in advance out of ₩5,697 million of total estimated penalty to be paid jointly with the co-defendant. Therefore, the Group recognized the estimated amount of ₩3,980 million as a provision for litigation as of December 31, 2022.

36.8.2 Plaintiff litigation

As of December 31, 2022, the Group is a plaintiff in three legal cases. The final outcomes cannot be predicted as of December 31, 2022.

37. Operating Segment Information

37.1 Description and measurement of operating segments

The Group's operating segments consist of wire, communication, leisure and others in accordance with the operating structure of the Group. Each operating segment is classified and measured according to the major business areas of the parent and each subsidiary that constitute the Group.

37.2 Sales and net income (loss) by operating segment for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classifications	Wire	Others	Total
Sales	₩ 2,625,653	₩ -	₩ 2,625,653
Sales inter—departments	(175,107)	-	(175,107)
Sales after adjustment	2,450,546	-	2,450,546
Operating income	48,174	-	48,174
Net income	21,860	(29)	21,831
Net income from continuing operations	21,860	(29)	21,831
Net income from discontinued operations	-	-	-
Depreciation and amortization (*)	28,562	-	28,562

(*) Includes depreciation of property, plant and equipment and investment property and amortization of intangible assets

<2021>

Classifications	Wire	Others	Total
Sales	₩ 2,165,549	₩ -	₩ 2,165,549
Sales inter—departments	(167,839)	-	(167,839)
Sales after adjustment	1,997,710	-	1,997,710
Operating income	38,638	824	39,462
Net income	25,158	3,779	28,937
Net income from continuing operations	25,158	-	25,158
Net income from discontinued operations	-	3,779	3,779
Depreciation and amortization (*)	27,829	-	27,829

(*) Includes depreciation of property, plant and equipment and investment property and amortization of intangible assets

37.3 Assets and liabilities by operating segment as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification		Wire		Others		Total
Total assets before adjustment	₩	1,767,253	₩	-	₩	1,767,253
Consolidation adjustment		(146,988)		-		(146,988)
Total assets after adjustment	₩	1,620,265	₩	-	₩	1,620,265
Total tangible and intangible assets before adjustment	₩	429,499	₩	-	₩	429,499
Consolidation adjustment		(42,865)		-		(42,865)
Total consolidated tangible and intangible assets after adjustment	₩	386,634	₩	-	₩	386,634
Total liabilities before adjustment	₩	806,584	₩	-	₩	806,584
Consolidation adjustment		(68,523)		-		(68,523)
Total liabilities after adjustment	₩	738,061	₩	-	₩	738,061

<2021>

Classification		Wire		Others		Total
Total assets before adjustment	₩	1,588,595	₩	28	₩	1,588,623
Consolidation adjustment		(167,753)		-		(167,753)
Total assets after adjustment	₩	1,420,842	₩	28	₩	1,420,870
Total tangible and intangible assets before adjustment	₩	440,621	₩	-	₩	440,621
Consolidation adjustment		(44,375)		-		(44,375)
Total consolidated tangible and intangible assets after adjustment	₩	396,246	₩	-	₩	396,246
Total liabilities before adjustment	₩	1,117,960	₩	-	₩	1,117,960
Consolidation adjustment		(84,850)		-		(84,850)
Total liabilities after adjustment	₩	1,033,110	₩	-	₩	1,033,110

37.4 Sales by regional segment for the years ended December 31, 2022 and 2021 and non-current assets per regional segment as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classifications	Sales				Non-current assets (property, plant and equipment and intangible assets)			
	2022		2021		2022		2021	
Domestic	₩	1,632,079	₩	1,157,212	₩	361,242	₩	371,857
Asia		432,254		517,182		15,211		14,005
North America		192,038		150,724		460		637
South America		108		186		-		-
Oceania		62,274		81,428		152		203
Africa		87,845		64,600		9,375		9,330
Europe		43,948		26,378		194		214
Total	₩	2,450,546	₩	1,997,710	₩	386,634	₩	396,246

38. Financial risk management

The Group's main financial liabilities consist of bank borrowings, debentures and other obligations, except derivatives. The primary purpose of this financial liability is to fund the operation of the group. The group's primary financial assets include accounts receivables, cash and short-term deposits derived directly from sales activities. The Group also has investments in debt and equity instruments and has derivatives trading.

The Group is exposed to credit risk, liquidity risk and market risk. Senior management of the group oversees these risk managements. The management of the Group continuously reviews whether each risk-specific management procedure complies with the policy, and the risk management department and risk management policy have no significant changes since the end of the previous period.

38.1 Credit risk

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group is exposed to credit risk from its operating activities (primarily trade receivables) and from its financing activities, including deposits with banks and financial institutions, foreign exchange transactions and other financial instruments.

Customer credit risk is managed by each business unit subject to the Group’s established policy, procedures and control relating to customer credit risk management. Credit quality of a customer is assessed based on an extensive credit rating scorecard and individual credit limits are defined in accordance with this assessment. Outstanding customer receivables and contract assets are regularly monitored and any shipments to major customers are generally covered by letters of credit or other forms of credit insurance obtained from reputable banks and other financial institutions.

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates are based on days past due for groupings of various customer segments with similar loss patterns (i.e., by geographical region, product type, customer type and rating, and coverage by letters of credit or other forms of credit insurance). The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions. Generally, trade receivables are written-off if past due for more than one year and are not subject to enforcement activity. The maximum exposure to credit risk at the reporting date is the carrying value of each class of financial assets. The Group hold collateral as security. The letters of credit and other forms of credit insurance are considered integral part of trade receivables and considered in the calculation of impairment. The Group evaluates the concentration of risk with respect to trade receivables and contract assets as low, as its customers are located in several jurisdictions and industries and operate in largely independent markets.

Set out below is the information about the credit risk exposure on the Group’s trade receivables and contract assets using a provision matrix as of December 31, 2022 and 2021 (Korean won in millions):

<2022>

	Days past due					
	Current	<90 days	90–180 days	180–270 days	270–365 days	>365 days
Expected credit loss rate	0.01%	0.04%	0.34%	1.95%	2.74%	100.00%
Estimated total gross carrying amount at default	₩ 252,298	₩ 62,778	₩ 10,861	₩ 5,909	₩ 14,014	₩ 35,309
Expected credit loss	16	25	37	115	384	35,309

<2021>

	Days past due					
	Current	<90 days	90–180 days	180–270 days	270–365 days	>365 days
Expected credit loss rate	0.00%	0.01%	0.10%	0.07%	0.11%	100.00%
Estimated total gross carrying amount at default	₩ 204,686	₩ 81,787	₩ 13,824	₩ 19,602	₩ 11,561	₩ 34,610
Expected credit loss	10	5	13	15	12	34,610

38.2 Liquidity risk

Liquidity risk refers to the risk that the Group may default on the contractual obligations that become due. In order to manage liquidity risk, the Group establishes a short-term and mid-term funding management plan and continuously analyzes and reviews the cash outflow budget and actual cash outflow to cope with the maturity of financial liabilities and financial assets. The management of the Group determines that the financial liability is redeemable through cash flows from operating activities and cash inflows from financial assets.

The table below summarizes the maturity profile of the Group's non-derivative financial liabilities as of December 31, 2022 and 2021 (Korean won in millions)

<2022>

	Within 1 year	Between 1 year and 5 years
Trade payables	₩ 262,140	₩ -
Other current financial liabilities	41,775	6,569
Short-term borrowings	82,076	-
Current portion of long-term liabilities	20,000	210,000
Interest expense (*)	3,392	40,950
Total	₩ 409,383	₩ 257,519

(*) This refers to the interest expense that will occur during the expected maturity of the short-term borrowings, current portion of long-term liabilities and long-term borrowings from which interest costs occur.

<2021>

	Within 1 year	Between 1 year and 5 years
Trade payables	₩ 269,959	₩ -
Other current financial liabilities	32,816	5,221
Short-term borrowings	350,523	-
Current portion of long-term liabilities	19,237	230,000
Interest expense (*)	8,028	28,320
Total	₩ 680,563	₩ 263,541

(*) This refers to the interest expense that will occur during the expected maturity of the short-term borrowings, current portion of long-term liabilities and long-term borrowings from which interest costs occur.

38.3 Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: interest rate risk, currency risk and other price risk, such as equity price risk and commodity risk. Financial instruments affected by market risk include loans and borrowings, deposits, debt and equity investments and derivative financial instruments.

38.3.1 Foreign currency risk

Foreign currency risk is the risk that the fair value or future cash flows of an exposure will fluctuate because of changes in foreign exchange rates. The Group's exposure to the risk of changes in foreign exchange rates relates primarily to the Group's operating activities. Sensitivity analysis details for currency fluctuation by major currencies are as follows (Korean won in millions):

38.3.1 Foreign currency risk (cont'd)

	2022		2021	
	10% increase	10% decrease	10% increase	10% decrease
USD	₩ (911)	₩ 911	₩ 2,075	₩ (2,075)
EUR	1,420	(1,420)	1,761	(1,761)
JPY	-	-	1	(1)
AUD	890	(890)	930	(930)
KWD	668	(668)	1,637	(1,637)
Others	9,946	(9,946)	8,366	(8,366)
Total	₩ 12,013	₩ (12,013)	₩ 14,770	₩ (14,770)

38.3.2 Interest rate risk

The Group borrows funds at fixed and variable interest rates, which is why it is exposed to interest rate risk. The Group manages interest rate risk by performing an appropriate balancing policy of fixed and floating rate borrowings.

The following table shows the effect of the interest expenses due to a 100bp variation of interest rates (pre-tax basis) on the Group's floating rate borrowings, as of December 31, 2022 and 2021 (Korean won in millions):

	2022		2021	
	100bp increase	100bp decrease	100bp increase	100bp decrease
Interest expenses	₩ 3,012	₩ (3,012)	₩ 3,757	₩ (3,757)

38.3.3 Other price risk

Raw material price risk

The Group is affected by price volatility of raw materials. Because the operations of the wire sector requires manufacturing through continuous purchase of copper, the Group is exposed to the same price change depending on the expected volume of copper, lead and aluminum purchases.

The Group's Board developed and enacted a risk management strategy to mitigate and mitigate the risks of raw material prices. Based on forecasts of copper, lead, and aluminum supplies required, the Group uses commodity futures contracts to confuse the purchase price. Commodity futures contracts do not result in physical delivery of raw materials, but are designated as cash flow hedges to offset the effects of price changes in copper.

Equity and debt instruments price risk

The Group exposed to the risk of price changes arising from equity and debt instruments. The instrument is held for strategic purposes, not for trade purposes. As of December 31, 2022 and 2021, equity and debt instruments measured at fair value amount to ₩92,744 million and ₩19,100 million, respectively, and the effect of price changes on equity is ₩9,274 million and ₩1,910 million, respectively, if other variables are constant and the price of equity instruments fluctuate by 10 percent.

38.4 Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue while maximizing the return to shareholders through the optimization of the debt and equity balance. The Group modifies and changes its capital structure accordingly with changes in the economic environment through policies such as adjusting dividends and issuing new shares The Group's overall capital risk management strategy remains unchanged from that of the prior year.

38.4 Capital risk management (cont'd)

Details of the Group's managerial accounts for capital risk management as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Liability	₩ 738,061	₩ 1,033,110
Less: cash and cash equivalents	(217,217)	(147,921)
Net debt	520,844	885,189
Equity	882,204	387,761
Debt ratio	59%	228%

39. Green Gas Emission Rights and Obligations

The Group receives free emission rights as a result of emission trading schemes. The same number of free emission rights are allocated each year and the Group is required to use the same number of emission rights in response to actual emissions. The Group has adopted the net debt approach to the emission rights allocated. Accordingly, only when the actual amount of carbon emitted exceeds the emission rights allocated free of charge is recognized as a provision, and the emission costs are recognized as operating costs. When the Group purchases emission rights from a third party, they are recognized and measured at cost, and then remeasured at fair value in accordance with emission liabilities, and changes in fair value are recorded in the income statement.

39.1 Volume of emission rights received free of charge from 2021 to 2025 are as follows (tCO2-eq):

	5th Planning period				
Category	2021	2022	2023	2024	2025
Allocated allowance free of charge	35,684	35,684	35,684	35,350	35,350

39.2 Changes in emission rights (volume and book value) from 2021 to 2025 as follows and the Group does not account for emission liabilities from 2021 to 2022 (tCO2-eq):

Classification	2021	2022	2023	2024	2025
Beginning	5,000	1,108	-	-	-
Free of charge	35,684	35,684	35,684	35,350	35,350
Submitted to government(*)	(39,022)	(37,631)	-	-	-
Carry forward(*)	(1,108)	-	-	-	-
Ending	554	(839)	35,684	35,350	35,350

(*) The amount submitted to the government and carried forward are estimated as of December 31, 2022.

Meanwhile, the amount of government submissions in the previous year was 39,022 tCO2-eq, an increase of 1,700 tCO2-eq from the previous year's government submission estimate. The estimated greenhouse gas emissions for the current term are 37,631 tCO2-eq.

40. Uncertainty of impact of Covid-19

To prevent the spread of Covid-19, a variety of prevention and control measures, including movement restrictions, are being implemented worldwide, and as a result, the global economy is being affected extensively. In addition, various forms of government policies are being announced to cope with Covid-19.

Items affected by COVID-19 are mainly the possibility of collecting future sales bonds, derivatives and construction contracts, and damage to subsidiaries and joint venture investments. We reasonably estimated the impact of COVID-19 on our Group and prepared consolidated financial statements.

However, in the COVID-19 situation, there is an important uncertainty in estimating the end of COVID-19 and the impact of COVID-19 on the Group.

41. Introduction and impact of the global minimum tax

The Organization for Economic Co-operation and Development (OECD)/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) addresses the tax challenges arising from the digitalization of the global economy. Global Minimum Tax (Pillar Two) were released and they apply to Multinational Enterprises (MNEs) with revenue in excess of EUR 750 million per their consolidated financial statements.
National Assembly of South Korea passed into law new Global Minimum Tax rules to align with the OECD BEPS Pillar Two in December 2022. The regulation will be included in the Adjustment of International Taxes Act and will be effective for fiscal years beginning on or after January 1, 2024. However, the Enforcement Decrees that provide further detail on the application of the legislation is not yet finalized as of December 31, 2022.
In South Korea, Pillar Two legislation is not yet considered substantively enacted as of December 31, 2022 for financial reporting purposes. The Group therefore has not recognized any tax effect arising from the Global Minimum Tax in its consolidated financial statements as of December 31, 2022 and for the year then ended.

42. Approve of Financial Statements

The consolidated financial statements of the Group as of and for the year ended December 31, 2022 were approved by the Board of Directors on February 22, 2023.