SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED
DECEMBER 31, 2022 AND 2021

ATTACHMENT: INDEPENDENT AUDITORS' REPORT

SAMSUNG SDS CO., LTD.

CONTENTS

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INDEPENDENT AUDITORS' REPORT

English Translation of Independent Auditors' Report Originally Issued In Korean on March 6, 2023.

To the Shareholders and the Board of Directors of
Samsung SDS CO., Ltd.:

AUDIT OPINION

We have audited the accompanying consolidated financial statements of Samsung SDS Co., Ltd. (the "Company") and its subsidiaries (the "Group"), which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, and the related consolidated statements of comprehensive income, consolidated statements of changes in shareholders' 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 financial performance and its cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-IFRS").

BASIS FOR AUDIT OPINION

We conducted our audits in accordance with the Korean Standards on Auditing ("KSAs"). Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audits 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 audits 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 audit opinion.

KEY AUDIT MATTERS

The 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.

- Recognition of the gain or loss in accordance with the modification of project

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

The Group's provision of custom-built software, provision of commercial software installation services, custom-built systems ("SI sales") are recognized over period (see Note 2.(7)). For SI sales, changes in scope, period and contract amount may occur upon request from the customer to change the project. The Group's management maintains that in the event of a modification in the project, estimated costs involved are properly changed and gain or loss are properly recognized. Considering the nature of SI sales, it is probable that a project modification may occur, and the amount of SI sales in which the project modification occurred is material to the consolidated financial statements. For these reasons, we determined recognition of the gain or loss in accordance with the modification of project as a key audit matter.

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2) How we addressed the key audit matter in our audit procedures

Our audit procedures performed on recognition of the gain or loss in accordance with the modification of project are as follows:

- When changing the terms of the contract, including the amount of the contract. Understand and evaluate the internal control design associated with the recognition of the revenue, and question and inspection for which the process is reviewed by the rightful approver.

- Review redetermined contract amount with the supporting documentation, when the modification of project occurred.

- Questions for significant changes of contract amount and analytical procedures.

- Inspection for supporting documents related with re-estimated costs for contracts with project changes and verification on the calculation of related contract gains and losses for contracts.

- A retrospective review of contracts with the estimated total contract cost and significant changes related to the modified project at the end of the period and after.

RESPONSIBILITIES OF MANAGEMENT AND THOSE CHARGED WITH GOVERNANCE FOR THE CONSOLIDATED FINANCIAL STATEMENTS

Management is responsible for the preparation of the accompanying consolidated financial statements in accordance with K-IFRSs, and for such internal control as they determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management of the Group 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.

AUDITORS' RESPONSIBILITIES FOR THE AUDITS OF THE CONSOLIDATED FINANCIAL STATEMENTS

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

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

- Identify and assess the risks of material misstatement of the 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 in the preparation of the consolidated financial statements and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going-concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the 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 auditors' 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 auditors' 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 audits of the consolidated financial statements of the current period and are therefore, the key audit matters. We describe these matters in our auditors' report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Jo, Jihun.

Deloitte Anjin LLC

March 6, 2023

<u>Notice to Readers</u>

This report is effective as of March 6, 2023, the audit report date. Certain subsequent events or circumstances may have occurred between the auditors' report date and the time the auditors' report is read. Such events or circumstances could significantly affect the consolidated financial statements and may result in modifications to the auditors' report.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES (the “Group”)

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEARS ENDED
DECEMBER 31, 2022 AND 2021

The accompanying consolidated financial statements, including all footnote disclosures, were prepared by, and are the responsibility of, the Group.

Hwang, Sung-Woo
Chief Executive Officer
SAMSUNG SDS CO., LTD.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

As of December 31, 2022 and 2021

(In Korean won)

	Notes		December 31, 2022	December 31, 2021
Assets				
Current Assets:				
Cash and cash equivalents	*5,7*	₩	1,392,134,431,709	1,080,888,303,254
Short-term financial instruments	*6,7*		3,637,376,221,724	3,510,296,210,127
Trade receivables	*7,9*		1,651,518,939,884	1,918,856,084,913
Other receivables	*7,9,18,26*		899,219,909,069	689,924,842,050
Prepayments			79,164,244,622	68,339,934,105
Prepaid expenses			127,952,447,735	119,917,881,360
Inventories	*10*		40,898,414,807	44,302,331,418
Other current assets	*7,9*		177,499,762,120	143,442,749,776
			8,005,764,371,670	**7,575,968,337,003**
Non-Current Assets:				
Fair value through other comprehensive income ("FVOCI")	*7,8,11,33*		12,345,875,803	55,198,118,721
Fair value through profit or loss ("FVPL")	*7,8,11,33*		21,930,269,866	16,617,484,741
Investments in associates	*13*		118,512,528,173	110,236,423,388
Property and equipment	*4,14*		1,520,436,699,877	1,178,634,318,859
Right-of-use assets	*16*		827,595,288,063	439,897,752,714
Intangible assets	*4,15*		712,748,558,757	715,361,900,049
Deposits	*7*		88,180,316,577	81,984,599,435
Long-term prepaid expenses			7,920,946,818	5,508,212,184
Deferred tax assets	*31*		48,789,194,347	44,462,488,843
Net defined benefit assets	*21*		503,535,094,094	203,102,019,979
Other non-current assets	*6,7,9,18*		84,665,745,444	90,460,519,331
			3,946,660,517,819	**2,941,463,838,244**
Total Assets		₩	**11,952,424,889,489**	**10,517,432,175,247**

See accompanying notes to the consolidated financial statements.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION, CONTINUED

As of December 31, 2022 and 2021

(In Korean won)

	Notes		December 31, 2022	December 31, 2021
Liabilities and Shareholders' Equity				
Current Liabilities:				
Trade payables	7,33	₩	676,243,420,922	821,773,048,473
Other payables	7,33		121,028,002,154	70,253,640,225
Short-term borrowings	7,19,33		-	464,000,000
Advances received	26		261,226,969,847	286,229,775,145
Withholdings			19,285,535,685	16,881,624,919
Accrued expenses	7,33		1,028,882,383,580	815,329,323,073
Income tax payable			66,330,887,933	43,527,469,531
Current portion of provisions	20,37		9,720,679,966	16,114,592,800
Current portion of lease liabilities	7,17,33		192,817,815,623	149,014,065,000
Other current liabilities	7,33		117,787,224,311	150,702,078,789
			2,493,322,920,021	**2,370,289,617,955**
Non-current Liabilities:				
Net defined benefit liabilities	21		10,802,176,125	5,739,191,224
Deferred tax liabilities	31		199,570,713,058	274,204,454,379
Long-term accrued expenses	7,33		76,259,274,939	86,583,248,601
Provisions	20		24,600,777,263	19,902,320,387
Lease liabilities	7,17,33		676,178,945,586	312,583,282,490
Other non-current liabilities	7		4,720,147,583	4,429,428,140
			992,132,034,554	**703,441,925,221**
Total Liabilities			**3,485,454,954,575**	**3,073,731,543,176**
Equity:				
Equity attributable to owners of the Company				
Common stock	23		38,688,900,000	38,688,900,000
Premium on common stock			1,297,466,852,618	1,297,466,852,618
Retained earnings	24		7,000,953,240,103	6,086,848,943,364
Other components of equity	25		(113,915,687,676)	(194,284,062,194)
Subtotal			8,223,193,305,045	7,228,720,633,788
Non-controlling interests			243,776,629,869	214,979,998,283
Total Equity			**8,466,969,934,914**	**7,443,700,632,071**
Total Liabilities and Equity		₩	**11,952,424,889,489**	**10,517,432,175,247**

See accompanying notes to the consolidated financial statements.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the years ended December 31, 2022 and 2021

(In Korean won)

	Notes		2022	2021
Revenue	*4,26,34*	₩	17,234,749,537,662	13,630,002,438,924
Cost of Sales	*27,34*		15,334,193,757,477	11,946,838,969,703
Gross profit			1,900,555,780,185	1,683,163,469,221
Selling and administrative expenses	*27,28*		984,481,756,871	875,065,697,614
Operating profit	*4*		916,074,023,314	808,097,771,607
Non-operating items:				
Other non-operating income	*29,34*		128,850,875,378	23,509,983,905
Other non-operating expenses	*29,34*		27,791,908,765	31,314,741,426
Finance income	*30*		314,608,253,708	130,898,062,964
Finance expenses	*30*		206,576,130,937	80,122,936,409
Gain on valuation/disposal of investments in associates, net	*13*		6,915,094,785	6,473,620,706
Profit before income tax expense			1,132,080,207,483	857,541,761,347
Income tax expense	*31*		2,067,621,862	224,160,328,235
Net Income			1,130,012,585,621	633,381,433,112
Other comprehensive income (loss):				
Items not subsequently reclassified to net income:				
Remeasurement of the net defined benefit liabilities	*21*		67,965,569,550	(45,580,065,578)
Valuation gain (loss) on FVOCI	*11*		(5,200,299,579)	31,133,238,242
			62,765,269,971	(14,446,827,336)
Items subsequently reclassified to net income:				
Capital change in equity method	*13*		1,680,010,000	10,103,458,804
Cumulative effect of foreign currency translation			17,122,331,128	144,251,235,168
			18,802,341,128	154,354,693,972
Total comprehensive income		₩	**1,211,580,196,720**	**773,289,299,748**

See accompanying notes to the consolidated financial statements.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME, CONTINUED

For the years ended December 31, 2022 and 2021

(In Korean won)

	Notes		2022	2021
Net Income Attributable to:				
Owners of the Group		₩	1,099,744,743,139	611,170,846,723
Non-controlling interests			30,267,842,482	22,210,586,389
Comprehensive Income Attributable to:				
Owners of the Group			1,180,113,117,657	745,333,696,044
Non-controlling interests			31,467,079,063	27,955,603,704
Earnings per share:				
Basic earnings per share	*35*	₩	14,218	7,901
Diluted earnings per share	*35*		14,218	7,901

See accompanying notes to the consolidated financial statements.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

For the years ended December 31, 2022 and 2021

(In Korean won)

		Common stock	Premium on common stock	Retained earnings	Other components of equity	Sub-total	Non-controlling interests	Total
Balance, as of January 1, 2021	₩	38,688,900,000	1,297,466,852,618	5,661,318,543,041	(328,446,911,515)	6,669,027,384,144	190,080,780,089	6,859,108,164,233
Comprehensive income		-	-	611,170,846,723	134,162,849,321	745,333,696,044	27,955,603,704	773,289,299,748
Net income		-	-	611,170,846,723	-	611,170,846,723	22,210,586,389	633,381,433,112
Valuation gain (loss) on FVOCI		-	-	-	30,508,278,828	30,508,278,828	624,959,414	31,133,238,242
Capital change in equity method		-	-	-	10,103,458,804	10,103,458,804	-	10,103,458,804
Remeasurement of the net defined benefit Liabilities		-	-	-	(44,992,741,280)	(44,992,741,280)	(587,324,298)	(45,580,065,578)
Cumulative effect of foreign currency translation		-	-	-	138,543,852,969	138,543,852,969	5,707,382,199	144,251,235,168
Transactions with shareholders		-	-	(185,640,446,400)	-	(185,640,446,400)	(3,056,385,510)	(188,696,831,910)
Dividends		-	-	(185,640,446,400)	-	(185,640,446,400)	(2,313,320,500)	(187,953,766,900)
Changes in ownership interests in subsidiaries		-	-	-	-	-	(743,065,010)	(743,065,010)
Balance, as of December 31, 2021		38,688,900,000	1,297,466,852,618	6,086,848,943,364	(194,284,062,194)	7,228,720,633,788	214,979,998,283	7,443,700,632,071
Balance, as of January 1, 2022		38,688,900,000	1,297,466,852,618	6,086,848,943,364	(194,284,062,194)	7,228,720,633,788	214,979,998,283	7,443,700,632,071
Comprehensive income		-	-	1,099,744,743,139	80,368,374,518	1,180,113,117,657	31,467,079,063	1,211,580,196,720
Net income		-	-	1,099,744,743,139	-	1,099,744,743,139	30,267,842,482	1,130,012,585,621
Valuation gain (loss) on FVOCI		-	-	-	(4,942,513,018)	(4,942,513,018)	(257,786,561)	(5,200,299,579)
Capital change in equity method		-	-	-	1,680,010,000	1,680,010,000	-	1,680,010,000
Remeasurement of t-he net defined benefit liabilities		-	-	-	63,995,960,337	63,995,960,337	3,969,609,213	67,965,569,550
Cumulative effect of foreign currency translation		-	-	-	19,634,917,199	19,634,917,199	(2,512,586,071)	17,122,331,128
Transactions with shareholders		-	-	(185,640,446,400)	-	(185,640,446,400)	(2,670,447,477)	(188,310,893,877)
Dividends		-	-	(185,640,446,400)	-	(185,640,446,400)	(2,625,998,400)	(188,266,444,800)
Changes in ownership interests in subsidiaries		-	-	-	-	-	(44,449,077)	(44,449,077)
Balance, as of December 31, 2022		38,688,900,000	1,297,466,852,618	7,000,953,240,103	(113,915,687,676)	8,223,193,305,045	243,776,629,869	8,466,969,934,914

See accompanying notes to the consolidated financial statements.

SAMSUNG SDS CO., LTD. AND ITS SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ended December 31, 2022 and 2021

(In Korean won)

	Note		2022	2021
Cash flows from operating activities:				
Cash generated from operating activities:	*32*	₩	1,494,457,946,187	1,124,866,393,254
Interest received			94,849,493,880	56,957,636,467
Interest paid			(27,598,517,056)	(13,091,761,384)
Dividends received			17,950,000	22,023,318
Income tax paid			(271,933,666,199)	(188,515,417,025)
			1,289,793,206,812	980,238,874,630
Cash flows from investing activities:				
Net increase in short-term financial instruments			(127,080,011,597)	(515,289,785,566)
Net increase in long-term financial instruments			-	1,520,622,359
Increase in other current asset			(288,088,670)	(88,083,250)
Decrease in other non-current assets			(401,839,116)	17,351,427,829
Decrease in deposits			7,002,696,311	8,134,221,175
Increase in deposits			(9,782,036,678)	(21,617,713,384)
Disposal of property and equipment			5,120,257,373	299,904,969
Disposal of intangible assets			139,642,103	306,228,378
Acquisition of property and equipment			(591,916,912,490)	(286,572,609,573)
Acquisition of intangible assets			(60,410,511,755)	(33,167,727,079)
Disposal of FVOCI			41,375,599,262	8,875,056,005
Acquisition of FVOCI			(6,506,997,865)	(4,167,799,988)
Acquisition of FVPL			(917,995,654)	(2,218,800,000)
Net cash flow from business transfer			98,235,013,604	-
			(645,431,185,172)	(826,635,058,125)
Cash flows from financing activities:				
Repayment of short-term borrowings			(464,000,000)	(435,728,640)
Repayment of corporate bond			-	(10,000,000)
Repayment of lease liabilities			(166,817,894,845)	(134,632,667,724)
Increase in deposits received			96,627,315	-
Decrease in deposits received			-	(429,493,971)
Dividends			(188,266,444,800)	(187,953,766,900)
Payment of non-controlling interests			-	68,846,755
Decrease in non-controlling interests			(44,445,946)	(5,104,154)
			(355,496,158,276)	(323,397,914,634)
Net Increase (decrease) in cash and cash equivalents			288,865,863,364	(169,794,098,129)
Cash and cash equivalents at beginning of the year			1,080,888,303,254	1,199,285,828,821
Effects of exchange rate changes on cash and cash equivalents			22,380,265,091	51,396,572,562
Cash and cash equivalents at end of the year		₩	**1,392,134,431,709**	**1,080,888,303,254**

See accompanying notes to the consolidated financial statements.

As of and for the years ended December 31, 2022 and 2021

1. GENERAL:

Samsung SDS Co., Ltd. (the "Company") and its subsidiaries (collectively, the "Group") have prepared the consolidated financial statements in accordance with Korean International Financial Reporting Standards ("K-IFRS") 1110, *Consolidated Financial Statements.* The Company was incorporated in 1985 to engage in the information processing system implementation, software development and professional service related to information processing technology. The Company has provided Information Technology ("IT") services, including System Integrator (''SI") & Cloud & IT Outsourcing ("ITO"), with a majority of companies and Samsung Group. In addition, the Company offers global logistics based on business solutions and Supply Chain Management ("SCM") consulting.

The Company is located at 125 Olympic-ro 35-gil, Songpa-gu, Seoul, Republic of Korea. The Company's common shares were listed on the Stock Market of Korea Exchange in 2014. As of December 31, 2022, the capital stock of the Company is ₩ 38,689 million, and the shareholders are as follows:

	Number of shares	Ownership (%)
Samsung Electronics Co., Ltd.	17,472,110	22.6%
Samsung C&T Corporation	13,215,822	17.1%
Lee, Jae-yong	7,118,713	9.2%
Lee, Bu-jin	1,511,584	2.0%
Lee, Suh-hyeon	1,511,584	2.0%
Others	36,547,987	47.1%
Total	77,377,800	100.0%

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

(1) Basis of consolidated financial statements preparation

The Group has prepared the consolidated financial statements in accordance with the Korean International Financial Reporting Standards ("K-IFRSs"). The principal accounting policies are set out below. Except for the effect of the amendments to K-IFRS and new interpretations set out below, the principal accounting policies used to prepare the consolidated financial statements as of and for the year ended December 31, 2022, are consistent with the accounting policies used to prepare the consolidated financial statements as of and for the year ended December 31, 2021.

The accompanying consolidated financial statements have been prepared on a historical cost basis, except for certain non-current assets and financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is based on the fair values of the consideration given.

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, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these consolidated financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of K-IFRS 1102, *Share-Based Payment*, leasing transactions that are within the scope of K-IFRS 1116 *Leases*, and measurements that have some similarities to fair value but are not fair value, such as net realizable value in K-IFRS 1002, *Inventories,* or value in use in K-IFRS 1036, *Impairment of Assets*.

The management has, at the time of approving the financial statements, a reasonable expectation that the Group have adequate resources to continue in operational existence for the foreseeable future. Thus, they continue to adopt the going-concern basis of accounting in preparing the financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(1) Basis of consolidated financial statements preparation, Continued

New and Amended to K-IFRS and new interpretations that are mandatorily effective for the current year

- K-IFRS 1103 *Business Combinations* - Reference to the Conceptual Framework (Amendment)

The amendments update K-IFRS 1103 so that it refers to the Conceptual Framework (2018) instead of the Framework (2007). They also add to K-IFRS 1103 a requirement that, for obligations within the scope of K-IFRS 1037, an acquirer applies K-IFRS 1037 to determine whether at the acquisition date a present obligation exists as a result of past events. For a levy that would be within the scope of K-IFRS 2121 Levies, the acquirer applies K-IFRS 2121 to determine whether the obligating event that gives rise to a liability to pay the levy has occurred by the acquisition date. Finally, the amendments add an explicit statement that an acquirer does not recognise contingent assets acquired in a business combination.

- K-IFRS 1016 *Property, Plant and Equipment* - Proceeds before Intended Use (Amendment)

The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced before that asset is available for use, i.e. proceeds while bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Consequently, an entity recognises such sales proceeds and related costs in profit or loss. The entity measures the cost of those items in accordance with K-IFRS 1002 *Inventories.*

If not presented separately in the statement of comprehensive income, the financial statements shall disclose the amounts of proceeds and cost included in profit or loss that relate to items produced that are not an output of the entity’s ordinary activities, and which line item(s) in the statement of comprehensive income include(s) such proceeds and cost.

The amendments are applied retrospectively, but only to items of property, plant and equipment that are brought to the location and condition necessary for them to be capable of operating in the manner intended by management on or after the beginning of the earliest period presented in the financial statements in which the entity first applies the amendments.

- K-IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* - Onerous Contracts - Cost of Fulfilling a Contract (Amendment)

The amendments specify that the ‘cost of fulfilling’ a contract comprises the ‘costs that relate directly to the contract’. Costs that relate directly to a contract consist of both the incremental costs of fulfilling that contract (examples would be direct labour or materials) and an allocation of other costs that relate directly to fulfilling contracts (an example would be the allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract).

The amendments apply to contracts for which the entity has not yet fulfilled all its obligations at the beginning of the annual reporting period in which the entity first applies the amendments. Comparatives are not restated. Instead, the entity shall recognise the cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings or other component of equity, as appropriate, at the date of initial application.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(1) Basis of consolidated financial statements preparation, Continued

- Annual Improvements to K-IFRS Standards 2018–2020

The Annual Improvements include amendments to four Standards such as K-IFRS 1101 *First-time Adoption of K-IFRS*, K-IFRS 1109 *Financial Instruments*, K-IFRS 1116 *Leases*, and K-IFRS 1041 *Agriculture*.

① K-IFRS 1101 *First-time Adoption of K-IFRS*

The amendment provides additional relief to a subsidiary which becomes a first-time adopter later than its parent in respect of accounting for cumulative translation differences. As a result of the amendment, a subsidiary that uses the exemption in K-IFRS 1101 paragraph D16(1) can now also elect to measure cumulative translation differences for all foreign operations at the carrying amount that would be included in the parent's consolidated financial statements, based on the parent's date of transition to IFRS Standards, if no adjustments were made for consolidation procedures and for the effects of the business combination in which the parent acquired the subsidiary. A similar election is available to an associate or joint venture that uses the exemption in K-IFRS 1101 paragraph D16(1).

② K-IFRS 1109 *Financial Instruments*

The amendment clarifies that in applying the '10 per cent' test to assess whether to derecognise a financial liability, an entity includes only fees paid or received between the entity (the borrower) and the lender, including fees paid or received by either the entity or the lender on the other's behalf.

The amendment is applied prospectively to modifications and exchanges that occur on or after the date the entity first applies the amendment.

③ K-IFRS 1116 *Leases*

The amendment removes the illustration of the reimbursement of leasehold improvements.

④ K-IFRS 1041 *Agriculture*

The amendment removes the requirement in K-IFRS 1041 for entities to exclude cash flows for taxation when measuring fair value. This aligns the fair value measurement in K-IFRS 1041 with the requirements of K-IFRS 1113 *Fair Value Measurement* to use internally consistent cash flows and discount rates and enables preparers to determine whether to use pretax or post-tax cash flows and discount rates for the most appropriate fair value measurement.

The Group does not anticipate that the application of the enactment and amendments will have a significant impact on the Group's consolidated financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(2) New and revised K-IFRSs in issue, but not yet effective

At the date of authorization of these consolidated financial statements, the Group has not applied the following new and revised K-IFRS standards that have been issued, but are not yet effective:

- K-IFRS 1117 *Insurance Contracts*

K-IFRS 1117 establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts and supersedes IFRS 4 *Insurance Contracts*.

K-IFRS 1117 outlines a general model, which is modified for insurance contracts with direct participation features, described as the variable fee approach. The general model is simplified if certain criteria are met by measuring the liability for remaining coverage using the premium allocation approach.

The general model uses current assumptions to estimate the amount, timing and uncertainty of future cash flows and it explicitly measures the cost of that uncertainty. It takes into account market interest rates and the impact of policyholders' options and guarantees.

K-IFRS 1117 must be applied retrospectively unless impracticable, in which case the modified retrospective approach or the fair value approach is applied.

For the purpose of the transition requirements, the date of initial application is the start of the annual reporting period in which the entity first applies the standard, and the transition date is the beginning of the period immediately preceding the date of initial application.

- K-IFRS 1001 *Presentation of Financial Statements* - Classification of Liabilities as Current or Non-Current (Amendment)

The amendments to K-IFRS 1001 affect only the presentation of liabilities as current or non-current in the consolidated statements of financial position and not the amount or timing of recognition of any asset, liability, income or expenses, or the information disclosed about those items.

The amendments clarify that the classification of liabilities as current or non-current is based on rights that are in existence at the end of the reporting period; specify that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability; explain that rights are in existence if covenants are complied with at the end of the reporting period; and introduce a definition of 'settlement' to make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services.

The amendments are applied retrospectively for annual periods beginning on or after January 1, 2023, with early application permitted.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(2) New and revised K-IFRSs in issue, but not yet effective, Continued

- K-IFRS 1001 *Presentation of Financial Statements* and IFRS Practice Statement 2 Making Materiality Judgements - Disclosure of Accounting Policies (Amendment)

The amendments change the requirements in K-IFRS 1001 with regard to disclosure of accounting policies. The amendments replace all instances of the term 'significant accounting policies' with 'material accounting policy information'. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The supporting paragraphs in K-IFRS 1001 are also amended to clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. Accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material.

The Board has also developed guidance and examples to explain and demonstrate the application of the 'four-step materiality process' described in IFRS Practice Statement 2.

The amendments to K-IFRS 1001 are effective for annual periods beginning on or after 1 January 2023, with earlier application permitted and are applied prospectively. The amendments to IFRS Practice Statement 2 do not contain an effective date or transition requirements.

- K-IFRS 1001 *Presentation of Financial Statements* - Disclosure of financial liabilities with condition to adjust exercise price (Amendment)

The amendments require disclosure of valuation gains or losses (limited to those recognized in the profit or loss) of the conversion options or warrants (or financial liabilities including them), if all or part of the financial instrument with exercise price that is adjusted depending on the issuer's share price change is classified as financial liability as defined in paragraph 11 (2) of K-IFRS 1032.

The amendments are applied retrospectively for annual periods beginning on or after 1 January 2023, with early application permitted.

- K-IFRS 1008 *Accounting Polices, Changes in Accounting Estimates and Errors* - Definition of Accounting Estimates(Amendment)

The amendments replaces the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty".

The definition of a change in accounting estimates was deleted. However, the IASB retained the concept of changes in accounting estimates in the Standard with the following clarifications:

- A change in accounting estimate that results from new information or new developments is not the correction of an error
- The effects of a change in an input or a measurement technique used to develop an accounting estimate are changes in accounting estimates if they do not result from the correction of prior period errors.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(2) New and revised K-IFRSs in issue, but not yet effective, Continued

The amendments are effective for annual periods beginning on or after 1 January 2023 to changes in accounting policies and changes in accounting estimates that occur on or after the beginning of that period, with earlier application permitted.

- K-IFRS 1012 *Income Taxes* - Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendment)

The amendments introduce a further exception from the initial recognition exemption. Under the amendments, an entity does not apply the initial recognition exemption for transactions that give rise to equal taxable and deductible temporary differences.

Depending on the applicable tax law, equal taxable and deductible temporary differences may arise on initial recognition of an asset and liability in a transaction that is not a business combination and affects neither accounting nor taxable profit. For example, this may arise upon recognition of a lease liability and the corresponding right-of-use asset applying K-IFRS 1116 at the commencement date of a lease.

Following the amendments to K-IFRS 1012, an entity is required to recognise the related deferred tax asset and liability, with the recognition of any deferred tax asset being subject to the recoverability criteria in K-IFRS 1012. The Board also adds an illustrative example to K-IFRS 1012 that explains how the amendments are applied.

The amendments apply to transactions that occur on or after the beginning of the earliest comparative period presented. In addition, at the beginning of the earliest comparative period an entity recognises:

- A deferred tax asset (to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised) and a deferred tax liability for all deductible and taxable temporary differences associated with:
    - Right-of-use assets and lease liabilities
    - Decommissioning, restoration and similar liabilities and the corresponding amounts recognised as part of the cost of the related asset
- The cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at that date.

The amendments are effective for annual reporting periods beginning on or after 1 January 2023, with earlier application permitted.

The Group does not anticipate that the application of the enactment and amendments will have an significant impact on the Group’s consolidated financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(3) Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and its entities (including structured entities) controlled by the Company (and its subsidiaries). Control is achieved where the Company: 1) has the power over the investee; 2) is exposed, or has rights ,to variable returns from its involvement with the investee; and 3) has the ability to use its power to affect its returns. The Group reassesses 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 controls listed above.

When the Group has less than a majority of the voting rights of an investee, it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the activities of the investee unilaterally. The Group considers all relevant facts and circumstances in assessing whether or not its voting rights in an investee are sufficient to give it the power, including:

- the size of the Group's holding of voting rights relative to the size and dispersion of holdings of other vote holders;
- potential voting rights held by the Group, other vote holders or other parties;
- rights arising from other contractual arrangements; and
- any additional facts and circumstances that indicate that the Group has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

Consolidation of a subsidiary begins when the Company obtains control over the subsidiary and ceases when the Company loses control of the subsidiary. Specifically, the results of subsidiaries acquired or disposed of during the year are included in profit or loss from the date the Company gains control until the date when the Company ceases to control the subsidiary. Profit or loss and each component of other comprehensive income ("OCI") are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of the subsidiaries is attributed to the owners of the Company 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 in line with the Group's accounting policies.

All intragroup transactions and related assets, liabilities, income and expenses are eliminated in full on consolidation.

Non-controlling interests in subsidiaries are identified separately from the Group's equity therein. Those interests of non-controlling shareholders that are present ownership interests entitling their holders to a proportionate share of net assets upon liquidation may initially be measured at 1) fair value or 2) at the non-controlling interests' proportionate share of the fair value of the acquiree's identifiable net assets. The choice of measurement is made on an acquisition-by-acquisition basis. Other non-controlling interests are initially measured at fair value. Subsequent to acquisition, the carrying amount of non-controlling interests is the amount of those interests at initial recognition, plus the non-controlling interests' share of subsequent changes in equity. Total comprehensive income is attributed to non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Changes in the Group's ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Group's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted, and the fair value of the consideration paid or received is recognized directly in equity and attributed to the owners of the Company.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(3) Basis of consolidation, Continued

When the Group loses control over a subsidiary, a gain or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in OCI and accumulated in equity, the amounts previously recognized in OCI and accumulated in equity are accounted for as if the Group had directly disposed of the relevant assets (i.e., earnings reclassified to profit or loss or transferred to another category of equity as required/permitted by applicable K-IFRS standards). The fair value of any investment retained in the former subsidiary at the date when control is lost is recognized as the fair value on initial recognition for subsequent accounting under K-IFRS 1109, *Financial Instruments,* or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

(4) Business combination

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition-related costs are recognized in profit or loss as incurred.

At the acquisition date, the identifiable assets acquired and the liabilities assumed are recognized at their fair value at the acquisition date, except that:

- deferred tax assets or liabilities and liabilities or assets related to employee benefit arrangements are recognized and measured in accordance with K-IFRS 1012, *Income Taxes*, and K-IFRS 1019, *Employee Benefits*, respectively;
- liabilities or equity instruments related to share-based payment arrangements of the acquiree or share-based payment arrangements of the Group entered into to replace share-based payment arrangements of the acquiree are measured in accordance with K-IFRS 1102*, Share-Based Payment*, at the acquisition date; and
- assets (or disposal groups) that are classified as held for sale in accordance with K-IFRS 1105, *Non-Current Assets Held for Sale and Discontinued Operations*, are measured in accordance with that standard.

Goodwill is measured as the excess of the sum of a) the consideration transferred, b) the amount of any non-controlling interests in the acquiree and c) the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after reassessment, the net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed exceeds the sum of a) the consideration transferred, b) the amount of any non-controlling interests in the acquiree and c) the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

When the consideration transferred by the Group in a business combination includes assets or liabilities resulting from a contingent consideration arrangement, the contingent consideration is measured at its acquisition-date fair value and included as part of the consideration transferred in a business combination. Changes in the fair value of the contingent consideration that qualify as measurement-period adjustments are adjusted retrospectively, with corresponding adjustments against goodwill. Measurement-period adjustments are adjustments that arise from additional information obtained during the 'measurement period' (which cannot exceed one year from the acquisition date) about facts and circumstances that existed at the acquisition date.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(4) Business combination, Continued

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement-period adjustments depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity. Other contingent consideration is remeasured to fair value at subsequent reporting dates with changes in fair value recognized in profit or loss.

When a business combination is achieved in stages, the Group's previously held interests (including joint operations) in the acquired entity are remeasured to its acquisition-date fair value and the resulting gain or loss, if any, is recognized in profit or loss. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognized in OCI are reclassified to profit or loss, where such treatment would be appropriate if that interest were disposed of.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period, or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

(5) Investments in associates and joint ventures

An associate is an entity over which the Group has significant influence and that is neither a subsidiary nor an interest in a joint venture. 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 joint arrangement, whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. 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.

The results of operations and assets and liabilities of associates or joint ventures are incorporated in these consolidated financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case, it is accounted for in accordance with K-IFRS 1105, *Non-Current Assets Held for Sale and Discontinued Operations*. Under the equity method, an investment in an associate or a joint venture is initially recognized in the consolidated statements of financial position at cost and adjusted thereafter to recognize the Group's share of the profit or loss and OCI of the associate or joint venture. When the Group's share of losses of an associate or a joint venture exceeds its interest in that associate or joint venture (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate or joint venture), it discontinues recognizing its share of further losses. Additional losses are recognized only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate or joint venture.

An investment in an associate or a joint venture is accounted for using the equity method from the date on which the investee becomes an associate or a joint venture. On acquisition of the investment in an associate or a joint venture, any excess of the cost of the investment over the Group's share of the net fair value of the identifiable assets and liabilities of the investee is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of the investment, after reassessment, is recognized immediately in profit or loss in the period in which the investment is acquired.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(5) Investments in associates and joint ventures, Continued

If there is objective evidence that the Group's net investment in an associate or joint venture is impaired, the requirements of K-IFRS 1036 are applied to determine whether it is necessary to recognise any impairment loss with respect to the Group's investment. When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with K-IFRS 1036 as a single asset by comparing its recoverable amount (higher of value in use and fair value, less costs of disposal) with its carrying amount. Any impairment loss recognized is not allocated to any asset, including goodwill that forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with K-IFRS 1036 to the extent that the recoverable amount of the investment subsequently increases.

The Group discontinues the use of the equity method from the date when the investment ceases to be an associate or a joint venture. When the Group retains an interest in the former associate or a joint venture and the retained interest is a financial asset, the Group measures the retained interest at fair value at that date and the fair value is regarded as its fair value on initial recognition in accordance with K-IFRS 1109. The difference between the carrying amount of the associate or a joint venture at the date the equity method was discontinued, and the fair value of any retained interest and any proceeds from disposing of a part interest in the associate or a joint venture is included in the determination of the gain or loss on disposal of the associate or joint venture. In addition, the Group accounts for all amounts previously recognized in OCI in relation to that associate on the same basis as would be required if that associate had directly disposed of the related assets or liabilities. Therefore, if a gain or loss previously recognized in OCI by that associate or joint venture would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as a reclassification adjustment) when the associate or joint venture is disposed of.

When the Group reduces its ownership interest in an associate or a joint venture but continues to use the equity method, it reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in OCI relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities.

When the Group's entity transacts with an associate or a joint venture of the Group, profits and losses resulting from the transactions with the associate or joint venture are recognized in the Group's consolidated financial statements only to the extent of interests in the associate or joint venture that are not related to the Group.

The Group applies K-IFRS 1109, including the impairment requirements, to long-term interests in an associate or joint venture to which the equity method is not applied and which form part of the net investment in the investee. Furthermore, in applying K-IFRS 1109 to long-term interests, the Group does not take into account adjustments to their carrying amount required by K-IFRS 1028 (i.e., adjustments to the carrying amount of long-term interests arising from the allocation of losses of the investee or assessment of impairment in accordance with K-IFRS 1028).

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(6) Goodwill

Goodwill resulting from an acquisition of a business is carried at cost as established at the date of acquisition of the business, less accumulated impairment losses, if any.

For the purpose of impairment testing, goodwill is allocated to each of the Group's cash-generating units ("CGUs") (or groups of CGUs) that are expected to benefit from the synergies of the combination.

A CGU to which goodwill has been allocated is tested for impairment annually, or more frequently when there is indication that the unit may be impaired. If the recoverable amount of the CGU is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit on a pro rata basis based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

On disposal of the relevant CGU, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

(7) Revenue recognition

The Group recognizes revenue from the following major sources:

- IT service
- Logistics service

Revenue is measured based on the consideration to which the Group expects to be entitled in a contract with a customer and excludes amounts collected on behalf of third parties. The Group recognizes revenue when it transfers control of a product or service to a customer.

1) IT service

The IT service is divided into order-based consulting/system integration ("SI"), maintenance, outsourcing and telecommunication infrastructure services.

① Consulting/SI service
The Group recognizes revenues under Application of K-IFRS 1115 (1) provision of hardware, software and professional services (custom-built systems); (2) provision of commercial software installation services; (3) provision of software and professional services (provision of custom-built software); and (4) provision of hardware and software.

The Group recognizes revenues by cost-to-cost method for basis of percentage of total costs incurred when constructing custom-built systems, providing commercial software installation services and supplying custom-built software.

According to K-IFRS 1115, the Group's custom-built systems, provision of commercial software installation services and provision of custom-built software are performance improvements, which create or enhance an asset that the customer controls as the asset is created or enhanced; therefore, the control over assets and service is transferred over period to customer. As the Group satisfies the performance obligation over period, revenue is recognized over period and it is recognized before being billed to the customer is included in contract assets in accordance with K-IFRS 1115.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(7) Revenue recognition, Continued

1) IT service, Continued

Provisions for project losses were adjusted from unbilled or over claimed construction, as K-IFRS 1011 requires recognized losses to be added or subtracted on unbilled or over claimed construction. In contrast, K-IFRS 1115 does not require the adjustment for contract assets or contract liabilities; instead, losses are shown as the separate account, as a provision, in accordance with K-IFRS 1037.

The Group provides servers, storages, network equipment, PCs of hardware and SAP, ORACLE of software, recognizing revenue when it transfers control of the asset to customer, and the group recognizes receivables when the asset is delivered and inspected; customer takes risk of obsolescence of the good or service.

② Maintenance services

The Group provides customers with maintenance services after consulting/SI service provision. Revenue related to maintenance services is recognized over period, and it is recognized by straight-line method over the service period.

③ Outsourcing Services

The Group provides customers with IT outsourcing services, which are divided into computerized agency service, cloud, server rental service and business travel service.

The Group provides computerized service for a certain period of time after signing a service contract and performing obligations, the customer receives direct benefits. Accordingly, revenue related to agency services is recognized over period, and it is recognized by straight-line method over the service period.

The Group also provides customers with cloud and server rental service, and the usage of services is directly equivalent to the Group's value, so the Group recognizes revenue by applying a usage-based calculation method.

In the case of business travel services, the Group provides services according to the customer's request, and the cost incurred for the completion of the service directly corresponds to the value, so it recognizes revenue by applying the calculation method based on the cost incurred in fulfilling the obligation.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(7) Revenue recognition, Continued

1) IT service, Continued

④ Telecommunications infrastructure services

The Group provides telecommunication infrastructure services, such as Internet-only and telephone lines that customers receive and consume, and their line usage directly corresponds to the value the Group gives to the customers, so the Group recognizes revenues by applying the method for basis of the line usage.

2) Logistics service

The Group is engaged in a logistics service business that provides SCM consulting services to the customers through its own logistics execution solution.

Applying K-IFRS 1115 identifies separate performance obligations, such as transportation and warehouse operations. Revenue from transportation service is recognized on a straight-line basis over the period of service.

(8) Lease

1) The Group as lessee

The Group assesses whether a contract is or contains a lease, at the inception of the contract. The Group recognizes a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low-value assets (such as tablets and personal computers, small items of office furniture and telephones). For these leases, the Group recognizes the lease payments as an operating expense on a straight-line basis over the term of the lease, unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate.

The incremental borrowing rate depends on the term, currency and start date of the lease and is determined based on a series of inputs including: the risk-free rate based on government bond rates; a country-specific risk adjustment; a credit risk adjustment based on bond yields; and an entity-specific adjustment when the risk profile of the entity that enters into the lease is different to that of the Group and the lease does not benefit from a guarantee from the Group.

Lease payments included in the measurement of the lease liability comprise:

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

The lease liability is presented as a separate line item in the consolidated statements of financial position.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(8) Lease, Continued

1) The Group as lessee, Continued

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Group remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:

- The lease term has changed or there is a significant event or change in circumstances resulting in a change in the assessment of exercise of a purchase option; in which case, the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.
- The lease payments change due to changes in an index or a rate, or a change in expected payment under a guaranteed residual value; in which cases, the lease liability is remeasured by discounting the revised lease payments using an unchanged discount rate (unless the lease payments change is due to a change in a floating interest rate; in which case, a revised discount rate is used).
- A lease contract is modified and the lease modification is not accounted for as a separate lease; in which case, the lease liability is remeasured based on the lease term of the modified lease by discounting the revised lease payments using a revised discount rate at the effective date of the modification.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day, less any lease incentives received and any initial direct costs. They are subsequently measured at cost, less accumulated depreciation and impairment losses.

Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognized and measured under K-IFRS 1037. To the extent that the costs relate to a right-of-use asset, the costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

Right-of-use assets are depreciated over the shorter period of lease term and the useful life of the right-of-use asset. If a lease transfers ownership of the underlying asset or the cost of the right-of-use asset reflects that the Group expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease.

The right-of-use assets are presented as a separate line in the consolidated statements of financial position.

The Group applies K-IFRS 1036 to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss as described in the 'Property and Equipment' policy (Note 2.(15)).
Variable rents that do not depend on an index or rate are not included in the measurement of the lease liability and the right-of-use asset. The related payments are recognized as an expense in the period in which the event or condition that triggers those payments occurs and are included in profit or loss.

As a practical expedient, K-IFRS 1116 permits a lessee not to separate non-lease components and instead account for any lease and associated non-lease components as a single arrangement. The Group has not used this practical expedient. For contracts that contain a lease component and one or more additional lease or non-lease components, the Group allocates the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(8) Lease, Continued

2) The Group as lessor

Leases for which the Group is a lessor are classified as finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as a finance lease. All other leases are classified as operating leases.

When the Group is an intermediate lessor, it accounts for the head lease and the sublease as two separate contracts. The sublease is classified as a finance or an operating lease by reference to the right-of-use asset arising from the head lease.

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized on a straight-line basis over the lease term.

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

Subsequent to initial recognition, the Group regularly reviews the estimated unguaranteed residual value and applies the impairment requirements of K-IFRS 1109, recognizing an allowance for expected credit losses ("ECLs") on the lease receivables.

Finance lease income is calculated with reference to the gross carrying amount of the lease receivables, except for credit-impaired financial assets for which interest income is calculated with reference to their amortized cost (i.e., after a deduction of the loss allowance).

When a contract includes both lease and non-lease components, the Group applies K-IFRS 1115 to allocate the consideration under the contract to each component.

(9) Foreign currencies

The individual financial statements of each Group entity are presented in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the consolidated financial statements, the results of operations and financial position of each Group entity are expressed in Korean won, which is the functional currency of the entity and the presentation currency for the consolidated financial statements.

In preparing the consolidated financial statements of the individual Group entities, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(9) Foreign currencies, Continued

Exchange differences are recognized in profit or loss in the period in which they arise, except for:

- exchange differences on foreign currency borrowings related to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings;
- exchange differences on transactions entered into in order to hedge certain foreign currency risks; and
- exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore forming part of the net investment in the foreign operation), which are recognized initially in OCI and reclassified from equity to profit or loss on disposal or partial disposal of the net investment.

For the purpose of presenting consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in Korean won using exchange rates prevailing at the end of the reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuated significantly during that period; in which case, the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognized in OCI and accumulated in a foreign exchange translation reserve (attributed to non-controlling interests as appropriate).

On the disposal of a foreign operation (i.e., a disposal of the Group's entire interest in a foreign operation, a disposal involving loss of control over a subsidiary that includes a foreign operation or a partial disposal of an interest in a joint arrangement or an associate that includes a foreign operation whose retained interest becomes a financial asset), all of the accumulated exchange differences in respect of that operation attributable to the owners of the Group are reclassified to profit or loss.

In case of a partial disposal (i.e., no loss of control) of a subsidiary that includes a foreign operation, the proportionate share of accumulated exchange differences is reattributed to non-controlling interests in equity and is not recognized in profit or loss. For all other partial disposals (i.e., partial disposals of associates or joint arrangements that do not result in the Group losing significant influence or joint control), the proportionate share of the accumulated exchange differences is reclassified to profit or loss.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate. Exchange differences arising are recognized in equity.

(10) Government grants

Government grants are not recognized until there is a reasonable assurance that the Group will comply with the conditions attached to them and that the grants will be received.

The benefit of a government loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates.

Government grants related to assets are presented in the consolidated statements of financial position by deducting the grant from the carrying amount of the asset (including property and equipment). The related grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation expense.

Government grants related to income are recognized in profit or loss on a systematic basis over the periods in which the Group recognizes as expenses the related costs for which the grants are intended to compensate.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(10) Government grants, Continued

Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

Government grants towards staff retraining costs are recognized as income over the periods necessary to match them with the related costs and are deducted in reporting the related expense.

(11) Retirement benefit costs

The Group concurrently operates defined contribution retirement benefit plans and defined benefit retirement benefit plans.

Contributions to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement benefit plans, the cost of providing benefits is determined using the projected unit credit method, with actuarial valuations being carried out at the end of each annual reporting period. Remeasurements, comprising actuarial gains and losses, the effect of the asset ceiling (if applicable) and the return on plan assets (excluding interest), are recognized immediately in the consolidated statements of financial position with a charge or credit to the consolidated statements of comprehensive income in the period in which they occur.

Remeasurements recognized in the consolidated statements of comprehensive income are not reclassified. Past service cost is recognized in profit or loss in the period of a plan amendment. Net interest is calculated by applying a discount rate to the net defined benefit liability or asset at the beginning of the period. Defined benefit costs are composed of service cost (including current service cost and past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement.

The Group recognizes the service cost and net interest expense (income) components in profit or loss and the remeasurement component in OCI. Curtailment gains and losses are accounted for as past service costs.

The retirement benefit obligation recognized in the consolidated statements of financial position represents the actual deficit or surplus in the Group’s defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans. Discretionary contributions made by employees or third parties reduce service cost upon payment of these contributions to the plan. When the formal terms of the plans specify that there will be contributions from employees or third parties, the accounting depends on whether the contributions are linked to service as follows:

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(11) Retirement benefit costs, Continued

Discretionary contributions made by employees or third parties reduce service cost upon payment of these contributions to the plan. When the formal terms of the plans specify that there will be contributions from employees or third parties, the accounting depends on whether the contributions are linked to service as follows:

- If the contributions are not linked to services (e.g., contributions are required to reduce a deficit arising from losses on plan assets or from actuarial losses), they are reflected in the remeasurement of the net defined benefit liability (asset).
- If contributions are linked to services, they reduce service costs. For the amount of contribution that is dependent on the number of years of service, the entity reduces service cost by attributing the contributions to periods of service using the attribution method required by K-IFRS 1019 paragraph 70 for the gross benefits. For the amount of contribution that is independent of the number of years of service, the entity reduces service cost in the period in which the related service is rendered.

(12) Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

1) Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the consolidated statements of comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group’s liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

A provision is recognized for those matters for which the tax determination is uncertain, but it is considered probable that there will be future outflow of funds to a tax authority. The provisions are measured at the best estimate of the amount expected to become payable. The assessment is based on the judgement of tax professionals within the Company supported by previous experience in respect of such activities and in certain cases based on specialist independent tax advice.

2) Deferred tax

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the liability method. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint ventures, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent it is probable that there will be sufficient taxable profits against which the benefits of the temporary differences can be utilized, and they are expected to reverse in the foreseeable future.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(12) Taxation, Continued

2) Deferred tax, Continued

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent it is no longer probable that sufficient taxable profits will be available to allow all or part of the assets to be recovered. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset is realized based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amounts of its assets and liabilities.

Deferred tax assets and liabilities are offset if, and only if, the Group has a legally enforceable right to set off current tax assets against current tax liabilities and the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities that 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.

For the purpose of measuring deferred tax liabilities and deferred tax assets for investment properties that are measured using the fair value model, the carrying amounts of such properties are presumed to be recovered entirely through sale, unless the presumption is rebutted. The presumption is rebutted when the investment property is depreciable and is held within a business model whose objective is to consume substantially all of the economic benefits embodied in the investment properties over time, rather than through sale.

3) Current and deferred taxes for the year

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in OCI or directly in equity; in which case, the current and deferred taxes are also recognized in OCI or directly in equity. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

4) Uncertainty over income tax treatments

The Group filed a lawsuit against Seoul High Court for the income tax disposition Jamsil Tax Office imposed in 2016 in accordance with the tax investigation by National Tax Service regarding the merger gain recognized for the year ended on December 31, 2010. The Group won the case in September of 2022. As a result, the Group recognized an income tax revenue of ₩163,937 million in income tax expense regarding the income tax disposition

Uncertain tax items are related to the interpretation of the tax legislation regarding the arrangements the Group has entered into. Given the final result of tax litigation is uncertain, it is possible that the future conclusion can be changed significantly due to open tax matters.

(13) Property and equipment

Property and equipment are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of an item of property and equipment is directly attributable to its purchase or construction, which includes any costs directly attributable to bringing the asset to the location and the condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(13) Property and equipment, Continued

Subsequent costs are recognized in the carrying amount of an asset or as a separate asset if it is probable that future economic benefits associated with the asset will flow into the Group and the cost of the asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The Group does not depreciate land. Depreciation expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

	Useful lives (years)
Buildings	20–40
Machinery and equipment	4–6
Others	4

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

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

An item of property and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the property and equipment (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property and equipment are derecognized.

(14) Intangible assets

Goodwill, memberships and emission rights are not amortized, and development costs and other intangible assets are amortized according to the estimated useful life. Intangible assets, except for aforementioned assets, are amortized by the straight-line method over the following estimated useful lives for each individual asset:

	Estimated useful life (years)
Software	4–6

1) Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at cost, less accumulated amortization and accumulated impairment losses. Amortization is recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost, less accumulated impairment losses.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(14) Intangible assets, Continued

2) Internally generated intangible assets - research and development expenditure

Expenditure on research activities is recognized as an expense in the period in which it is incurred.
An internally generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if, all of the following conditions have been demonstrated:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale.
- The intention to complete the intangible asset and use or sell it.
- The ability to use or sell the intangible asset.
- How the intangible asset will generate probable future economic benefits.
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.
- The ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognized for internally generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria. Where no internally generated intangible asset can be recognized, development expenditure is recognized in profit or loss in the period in which it is incurred. Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

3) Intangible assets acquired in a business combination

Intangible assets that are acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost). Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

4) Derecognition of intangible assets

An intangible asset is derecognized on disposal or when no future economic benefits are expected from its use. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss when the asset is derecognized.

5) Patents and trademarks

Patents and trademarks are measured initially at purchase cost and are amortized on a straight-line basis over their estimated useful lives.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(15) Impairment of property and equipment and intangible assets other than goodwill

At the end of each reporting period, the Group reviews the carrying amounts of its property and equipment and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the CGU to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual CGUs; otherwise, they are allocated to the smallest group of CGUs for which a reasonable and consistent allocation basis can be identified.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually and whenever there is an indication that an asset may be impaired.

Recoverable amount is the higher of fair value, less costs to sell, or value in use. If the recoverable amount of an asset (or a CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or the CGU) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or the CGU) is increased to the revised estimate of its recoverable amount so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the CGU) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

(16) Inventories

Inventories are stated at the lower of cost or net realizable value. Costs of inventories, except for those in transit using actual cost method, are measured using the average method and consist of the purchase price, cost of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realizable value represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognized as an expense (cost of sales) in the period in which the related revenue is recognized. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

(17) 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 the Group will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking the risks and uncertainties surrounding the obligation into account. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material). The discount rate used is a pretax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage is recognized in profit or loss as borrowing cost.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(17) Provisions, Continued

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

1) Onerous contracts

Present obligations arising under onerous contracts are recognized and measured as provisions. An onerous contract is considered to exist where the Group has a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from the contract.

2) Warranties

Provisions for the expected cost of warranty obligations under sale of goods are recognized at the date of sale of the relevant products. The amounts are recognized based on the best estimate of amounts necessary to settle the present and future warranty obligations.

3) Restoration provisions

Provisions for the costs to restore leased assets to their original condition, as required by the terms and conditions of the lease, are recognized when the obligation is incurred either at the commencement date or as a consequence of having used the underlying asset during a particular period of the lease. The amounts are recognized based on the best estimate of amounts necessary to restore the assets. Estimates are regularly reviewed and adjusted as appropriate for new circumstances.

(18) Cash and cash equivalents

In the statement of financial position, cash and bank balances comprise cash (i.e. cash on hand and demand deposits) and cash equivalents. Cash equivalents are short-term (generally with original maturity of three months or less), highly liquid investments that are readily convertible to a known amount of cash and which are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting short-term cash commitments rather for investment or other purposes.

Bank balances for which use by the Group is subject to third party contractual restrictions are included as part of cash unless the restrictions result in a bank balance no longer meeting the definition of cash. Contractual restrictions affecting use of bank balances are disclosed in note 6. If the contractual restrictions to use the cash extend beyond 12 months after the end of the reporting period, the related amounts are classified as non-current in the statement of financial position.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(19) Financial instruments

Financial assets and financial liabilities are recognized in the Group's consolidated statements of financial position when the Group becomes a party to the contractual provisions of the instrument. Financial assets and financial liabilities are initially measured at fair value, except for trade receivables that do not have a significant financing component which are measured at transaction price. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at FVPL) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at FVPL are recognized immediately in profit or loss.

(20) Financial assets

All regular-way purchases or sales of financial assets are recognized and derecognized on a trade-date basis. Regular-way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

All recognized financial assets are measured subsequently in their entirety at either amortized cost or fair value depending on the classification of the financial assets.

1) Classification of financial assets

Debt instruments that meet the following conditions are measured subsequently at amortized cost:

- The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows.
- 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 ("SPPI").

Debt instruments that meet the following conditions are measured subsequently at FVOCI:

- The financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling the financial assets.
- The contractual terms of the financial asset give rise on specified dates to cash flows that are SPPI.

By default, all other financial assets are measured subsequently at FVPL.

Despite the foregoing, the Group may make the following irrevocable election/designation at initial recognition of a financial asset:

- The Group may irrevocably elect to present subsequent changes in fair value of an equity investment in OCI if certain criteria are met (see 1-3 below).
- The Group may irrevocably designate a debt investment that meets the amortized cost or FVOCI criteria as measured at FVPL if doing so eliminates or significantly reduces an accounting mismatch (see 1-4 below).

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

1-1) Amortized cost and effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and allocating interest income over the relevant period. For financial assets other than purchased or originated credit-impaired financial assets (i.e., assets that are credit impaired on initial recognition), the effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts), excluding ECL, through the expected life of the debt instrument, or, where appropriate, a shorter period, to the gross carrying amount of the debt instrument on initial recognition. For purchased or originated credit-impaired financial assets, a credit-adjusted effective interest rate is calculated by discounting the estimated future cash flows, including ECL, to the amortized cost of the debt instrument on initial recognition.

The amortized cost of a financial asset is the amount at which the financial asset is measured at initial recognition, minus the principal repayments, plus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount, adjusted for any loss allowance. The gross carrying amount of a financial asset is the amortized cost of the financial asset before adjusting for any loss allowance. Interest income is recognized using the effective interest method for debt instruments measured subsequently at amortized cost and at FVOCI. For financial assets other than purchased or originated credit-impaired financial assets, interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit impaired (see below).

For financial assets that have subsequently become credit impaired, interest income is recognized by applying the effective interest rate to the amortized cost of the financial asset. If, in subsequent reporting periods, the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit impaired, interest income is recognized by applying the effective interest rate to the gross carrying amount of the financial asset.

For purchased or originated credit-impaired financial assets, the Group recognizes interest income by applying the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The calculation does not revert to the gross basis even if the credit risk of the financial asset subsequently improves so that the financial asset is no longer credit impaired.

Interest income is recognized in profit or loss and is included in the "finance income - interest income" line item (see Note 30).

1-2) Debt instruments classified as at FVOCI

Fair value is determined in the manner described in Note 8. The corporate bonds are initially measured at fair value, plus transaction costs. Subsequently, changes in the carrying amount of these corporate bonds as a result of foreign exchange gains and losses, impairment gains or losses, and interest income, calculated using the effective interest method, are recognized in profit or loss. The amounts that are recognized in profit or loss are the same as the amounts that would have been recognized in profit or loss if these corporate bonds had been measured at amortized cost. All other changes in the carrying amount of these corporate bonds are recognized in OCI and accumulated under the heading of investments revaluation reserve. When these corporate bonds are derecognized, the cumulative gains or losses previously recognized in OCI are reclassified to profit or loss.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

1-3) Equity instruments designated as at FVOCI

On initial recognition, the Group may make an irrevocable election (on an instrument-by-instrument basis) to designate investments in equity instruments as at FVOCI. Designation at FVOCI is not permitted if the equity investment is held for trading or if it is contingent consideration recognized by an acquirer in a business combination

Investments in equity instruments at FVOCI are initially measured at fair value, plus transaction costs. Subsequently, they are measured at fair value, with gains and losses arising from changes in fair value recognized in OCI and accumulated in the investments revaluation reserve. The cumulative gain or loss is not to be reclassified to profit or loss on disposal of the equity investments; instead, it is transferred to retained earnings.

Dividends on these investments in equity instruments are recognized in profit or loss in accordance with K-IFRS 1109, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends are included in the 'other non-operating income and expenses' line item in profit or loss (see Note 29).

The Group designated all investments in equity instruments that are not held for trading as at FVOCI on initial recognition (see Note 11).

A financial asset is held for trading if:

- it has been acquired principally for the purpose of selling in the near term;
- on initial recognition, it is part of a portfolio of identified financial instruments that the Group manages together and has evidence of a recent actual pattern of short-term profit taking; or
- it is a derivative (except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument).

1-4) Financial assets at FVPL

Financial assets that do not meet the criteria for being measured at amortized cost or FVOCI are measured at FVPL. Specifically:

- Investments in equity instruments are classified as at FVPL, unless the Group designates an equity investment that is neither held for trading nor a contingent consideration arising from a business combination as at FVOCI on initial recognition (see 1-3 above).
- Debt instruments that do not meet the amortized cost criteria or the FVOCI criteria (see 1-1 and 1-2 above) are classified as at FVPL. In addition, debt instruments that meet either the amortized cost criteria or the FVOCI criteria may be designated as at FVPL upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency (so called 'accounting mismatch') that would arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases. The Group has not designated any debt instruments as at FVPL.

Financial assets at FVPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognized in profit or loss to the extent they are not part of a designated hedging relationship (see hedge accounting policy). The net gain or loss recognized in profit or loss includes any dividend or interest earned on the financial asset and is included in the 'other non-operating income and expenses' line item (see Note 29). Fair value is determined in the manner described in Note 8.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

2) Foreign exchange gains and losses

The carrying amount of financial assets that are denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of each reporting period. Specifically:

- For financial assets measured at amortized cost that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the 'Finance income and expenses' line item (see Note 30).
- For debt instruments measured at FVOCI that are not part of a designated hedging relationship, exchange differences on the amortized cost of the debt instrument are recognized in profit or loss in the 'Finance income and expenses' line item (see Note 30). As the foreign currency element recognized in profit or loss is the same as if it was measured at amortized cost, the residual foreign currency element based on the translation of the carrying amount (at fair value) is recognized in OCI in the investments revaluation reserve.
- For financial assets measured at FVPL that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the 'Finance income and expenses' line item as part of the fair value gain or loss (see Note 30).
- For equity instruments measured at FVOCI, exchange differences are recognized in OCI in the investments revaluation reserve.

3) Impairment of financial assets

The Group recognizes a loss allowance for ECL on investments in debt instruments that are measured at amortized cost or at FVOCI, lease receivables, trade receivables and contract assets, as well as on financial guarantee contracts. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The Group always recognizes lifetime ECL for trade receivables, contract assets and lease receivables. The ECLs on these financial assets are estimated using a provision matrix based on the Group's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current as well as the forecast directions of conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the Group recognizes lifetime ECL when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month ECL.

Lifetime ECL represents the ECL that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

3) Impairment of financial assets, Continued

3-1) Significant increase in credit risk

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Group compares the risk of a default occurring on the financial instrument at the reporting date with the risk of a default occurring on the financial instrument at the date of initial recognition. In making this assessment, the Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort. Forward-looking information considered includes the future prospects of the industries in which the Group's debtors operate, obtained from economic expert reports, financial analysts, governmental bodies, relevant think-tanks and other similar organizations, as well as consideration of various external sources of actual and forecast economic information that relate to the Group's core operations.

In particular, the following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:

- An actual or expected significant deterioration in the financial instrument's external (if available) or internal credit rating.
- Significant deterioration in external market indicators of credit risk for a particular financial instrument; for example, a significant increase in the credit spread, the credit default swap prices for the debtor or the length of time or the extent to which the fair value of a financial asset has been less than its amortized cost.
- An actual or expected significant deterioration in the operating results of the debtor.
- Existing or forecast adverse changes in business, financial or economic conditions that are expected to cause a significant decrease in the debtor's ability to meet its debt obligations.
- Significant increases in credit risk on other financial instruments of the same debtor.
- An actual or expected significant adverse change in the regulatory, economic or technological environment of the debtor that results in a significant decrease in the debtor's ability to meet its debt obligations.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

3) Impairment of financial assets, Continued

3-1) Significant increase in credit risk, Continued

Irrespective of the outcome of the above assessment, the Group presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Group has reasonable and supportable information that demonstrates otherwise.

Despite the foregoing, the Group assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date. A financial instrument is determined to have low credit risk if:

(1) the financial instrument has a low risk of default;
(2) the debtor has a strong capacity to meet its contractual cash flow obligations in the near term; and
(3) adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil its contractual cash flow obligations.

The Group considers a financial asset to have low credit risk when the asset has external credit rating of 'investment grade' in accordance with the globally understood definition or, if an external rating is not available, the asset has an internal rating of 'performing.' Performing means that the counterparty has a strong financial position and there are no past due amounts.

For financial guarantee contracts, the date that the Group becomes a party to the irrevocable commitment is considered to be the date of initial recognition for the purposes of assessing the financial instrument for impairment. In assessing whether there has been a significant increase in the credit risk since initial recognition of a financial guarantee contract, the Group considers the changes in the risk that the specified debtor will default on the contract.

The Group regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

3-2) Definition of default

The Group considers the following as constituting an event of default for internal credit risk management purposes, as historical experience indicates that the financial assets that meet the following criterion are generally not recoverable:

- When there is a breach of financial covenants by the debtor.

Irrespective of the above analysis, the Group considers that default has occurred when a financial asset is more than 12 months past due, unless the Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

3) Impairment of financial assets, Continued

3-3) Credit-impaired financial assets

A financial asset is credit impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit impaired includes observable data about the following events:

Significant financial difficulty of the issuer or the borrower.

A breach of contract, such as a default or past due event (see 3-2 above).

The lender(s) of the borrower, for economic or contractual reasons relating to the borrower's financial difficulty, having granted to the borrower a concession(s) that the lender(s) would not otherwise consider.

It is becoming probable that the borrower will enter bankruptcy or other financial reorganization.

The disappearance of an active market for that financial asset because of financial difficulties.

3-4) Write-off policy

The Group writes off a financial asset when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, and the debtor has been placed under liquidation or has entered into bankruptcy proceedings. Financial assets written off may still be subject to enforcement activities under the Group's recovery procedures, taking into account legal advice where appropriate.

3-5) Measurement and recognition of ECL

The measurement of ECLs is a function of the probability of default, loss given default (i.e., the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information as described above. As for the exposure at default, for financial assets, this is represented by the assets' gross carrying amount at the reporting date; for financial guarantee contracts, the exposure includes the amount of guaranteed debt that has been drawn down as at the reporting date, together with any additional guaranteed amounts expected to be drawn down by the borrower in the future by default date determined based on historical trend, the Group's understanding of the specific future financing needs of the debtors and other relevant forward-looking information.

For financial assets, the ECL is estimated as the difference between all contractual cash flows that are due to the Group in accordance with the contract and all the cash flows that the Group expects to receive, discounted at the original effective interest rate. For a lease receivable, the cash flows used for determining the ECL are consistent with the cash flows used in measuring the lease receivable in accordance with K-IFRS 1116 *Leases*.

For a financial guarantee contract, as the Group is required to make payments only in the event of a default by the debtor in accordance with the terms of the instrument that is guaranteed, the expected loss allowance is the expected payment to reimburse the holder for a credit loss that it incurs, less any amounts that the Group expects to receive from the holder, the debtor or any other party.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(20) Financial assets, Continued

3) Impairment of financial assets, Continued

3-5) Measurement and recognition of ECL, Continued

If the Group has measured the loss allowance for a financial instrument at an amount equal to lifetime ECL in the previous reporting period, but determines at the current reporting date that the conditions for lifetime ECL are no longer met, the Group measures the loss allowance at an amount equal to 12-month ECL at the current reporting date, except for assets for which simplified approach was used.

The Group recognizes an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVOCI, for which the loss allowance is recognized in OCI and accumulated in the investments revaluation reserve, and does not reduce the carrying amount of the financial asset in the consolidated statements of financial position.

4) Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, it recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, it continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

On derecognition of a financial asset measured at amortized cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. In addition, on derecognition of an investment in a debt instrument classified as at FVOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is reclassified to profit or loss. In contrast, on derecognition of an investment in equity instrument which the Group has elected on initial recognition to measure at FVOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is not reclassified to profit or loss.

(21) Financial liabilities and equity instruments

1) Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or equity in accordance with the substance of the contractual arrangement and the definitions of a financial liability and an equity instrument. Furthermore, the Group does not reassess such classification subsequent to the initial recognition, unless the terms of the instrument change.

2) Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Group are recognized at the proceeds received, net of direct issue costs.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(21) Financial liabilities and equity instruments, Continued

2) Equity instruments, Continued

Repurchase of the Group's own equity instruments is recognized and deducted directly in equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancelation of the Group's own equity instruments.

3) Financial liabilities

All financial liabilities are measured subsequently at amortized cost using the effective interest method or at FVPL. However, financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies, and financial guarantee contracts are issued by the Group, are measured in accordance with the specific accounting policies set out below.

4) Financial liabilities at FVPL

Financial liabilities are classified as at FVPL when a financial liability is (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) designated as at FVPL.

A financial liability is classified as held for trading if:

- it has been acquired principally for the purpose of repurchasing in the near term;
- on initial recognition, it is part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

A financial liability other than a financial liability held for trading or contingent consideration of an acquirer in a business combination may be designated as at FVPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise;
- the financial liability forms part of a group of financial assets or financial liabilities, or both, which is managed, and its performance is evaluated on a fair value basis, in accordance with the Group's documented risk management or investment strategy, and information about the grouping is provided internally on that basis; or
- it forms part of a contract containing one or more embedded derivatives, and K-IFRS 1109 permits the entire combined contract to be designated as at FVPL.

Financial liabilities at FVPL are measured at fair value, with any gains or losses arising on changes in fair value recognized in profit or loss to the extent that they are not part of a designated hedging relationship (see hedge accounting policy). The net gain or loss recognized in profit or loss incorporates any interest paid on the financial liability and is included in the 'other operating income and expenses' line item (see Note 29) in profit or loss.

However, for financial liabilities that are designated as at FVPL, the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability is recognized in OCI, unless the recognition of the effects of changes in the liability's credit risk in OCI would create or enlarge an accounting mismatch in profit or loss. The remaining amount of change in the fair value of liability is recognized in profit or loss. Changes in fair value attributable to a financial liability's credit risk that are recognized in OCI are not subsequently reclassified to profit or loss; instead, they are transferred to retained earnings upon derecognition of the financial liability.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(21) Financial liabilities and equity instruments, Continued

4) Financial liabilities at FVPL, Continued

Gains or losses on financial guarantee contracts issued by the Group that are designated by the Group as at FVPL are recognized in profit or loss.

Fair value is determined in the manner described in Note 8.

5) Financial liabilities measured subsequently at amortized cost

Financial liabilities that are not (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) designated as at FVPL are measured subsequently at amortized cost using the effective interest method.

The effective interest method is a method of calculating the amortized cost of a financial liability and allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortized cost of the financial liability.

6) Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instrument.

Financial guarantee contract liabilities are measured initially at their fair values and, if not designated as at FVPL and do not arise from a transfer of an asset, are measured subsequently at the higher of:

- the amount of the loss allowance determined in accordance with K-IFRS 1109 (see financial assets above) or
- the amount recognized initially, less, where appropriate, cumulative amortization recognized in accordance with the revenue recognition policies set out above.

7) Foreign exchange gains and losses

For financial liabilities that are denominated in a foreign currency and are measured at amortized cost at the end of each reporting period, the foreign exchange gains and losses are determined based on the amortized cost of the instruments. These foreign exchange gains and losses are recognized in the 'Finance income and expenses' line item in profit or loss (see Note 30) for financial liabilities that are not part of a designated hedging relationship. For those which are designated as a hedging instrument for a hedge of foreign currency risk, foreign exchange gains and losses are recognized in OCI and accumulated in a separate component of equity.

The fair value of financial liabilities denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of the reporting period. For financial liabilities that are measured as at FVPL, the foreign exchange component forms part of the fair value gains or losses and is recognized in profit or loss for financial liabilities that are not part of a designated hedging relationship.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, Continued

(21) Financial liabilities and equity instruments, Continued

8) Derecognition of financial liabilities

The Group derecognizes financial liabilities when, and only when, its obligations are discharged, canceled or have expired. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

When the Group exchanges with the existing lender one debt instrument for another one with substantially different terms, such exchange is accounted for as an extinguishment of the original financial liability and the recognition of a new financial liability. Similarly, the Group accounts for substantial modification of terms of an existing liability or part of it as an extinguishment of the original financial liability and the recognition of a new liability. It is assumed that the terms are substantially different if the discounted present value of the cash flows under the new terms, including any fees paid net of any fees received and discounted using the original effective rate, is at least 10% different from the discounted present value of the remaining cash flows of the original financial liability. If the modification is not substantial, the difference between (1) the carrying amount of the liability before the modification and (2) the present value of the cash flows after modification should be recognized in profit or loss as the modification gain or loss within other operating income and expenses.

(22) Accounting treatment related to the emission rights cap and trade scheme

The Group classifies the emission rights as intangible assets. Emission rights allowances that the government allocated free of charge are measured at ₩0, and emission rights allowances purchased are measured at cost, which the Group paid to purchase the allowances. If emission rights allowances that the government allocated free of charge are sufficient to settle the emission rights allowances allotted for the vintage year, the emission liabilities are measured at ₩0. However, for the emission liabilities that exceed the allowances allocated free of charge, the shortfall is measured at the best estimate at the end of the reporting period. (see Note 37).

3. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY:

In the application of the Group’s accounting policies, which are described in Note 2, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of revision and future periods if the revision affects both the current and the future periods.

(1) Critical judgments in applying accounting policies

The following are the critical judgments, apart from those involving estimations (see Note 3(2)), that the management has made in the process of applying the Group’s accounting policies and that have the most significant effect on the amounts recognized in the consolidated financial statements:

3. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY, Continued

(1) Critical judgments in applying accounting policies, Continued

1) Revenue recognition

Revenue from project services is recognized using the percentage-of-completion method, which is recognized based on the costs incurred to date as a percentage to the total estimated costs to be incurred. In determining this revenue recognition, management considered whether the specific criteria for revenue recognition set out in K-IFRS 1115, particularly project service revenue, met the percentage-of-completion criteria requirements in paragraph 35. Considering these requirements, management determined that it is appropriate to recognize revenue on the percentage-of-completion method for project service revenue.

2) Business model assessment

Classification and measurement of financial assets depends on the results of the SPPI and the business model test (please see financial assets section of Note 2). The Group determines the business model at a level that reflects how groups of financial assets are managed together to achieve a particular business objective. This assessment includes judgement reflecting all relevant evidence, including how the performance of the assets is evaluated and measured, the risks that affect the performance of the assets and how these are managed, and how the managers of the assets are compensated. The Group monitors financial assets measured at amortized cost or FVOCI that are derecognized prior to their maturity to understand the reason for their disposal and whether the reasons are consistent with the objective of the business for which the asset was held. Monitoring is part of the Group’s continuous assessment of whether the business model for which the remaining financial assets are held continues to be appropriate and, if it is not appropriate, whether there has been a change in business model and so a prospective change to the classification of those assets. No such changes were required during the periods presented.

3) Significant increase in credit risk

As explained in Note 2, ECLs are measured as an allowance equal to 12-month ECL for stage 1 assets or lifetime ECL for stage 2 or stage 3 assets. An asset moves to stage 2 when its credit risk has increased significantly since initial recognition. K-IFRS 1109 does not define what constitutes a significant increase in credit risk. In assessing whether the credit risk of an asset has significantly increased, the Group takes into account qualitative and quantitative reasonable and supportable forward-looking information.

(2) Key sources of estimation uncertainty

The following are the key assumptions concerning the future and other key sources of estimation uncertainty at the end of the reporting period that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year:

1) Uncertainty on the estimation of the total contract revenue

Total contract revenue is measured based on the initial amount of revenue agreed in the contract, but the measurement of contract revenue is affected by the various uncertainties that depend on the outcome of future events, as total contract revenue may increase or decrease as the terms of the contract change. The Group includes the contract revenue if the customer is likely to approve changes in the amount of revenue due to changes in the terms of the contract or if the Group is likely to meet the performance criteria and the amount can be measured reliably.

3. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY, Continued

(2) Key sources of estimation uncertainty, Continued

2) Uncertainty on the estimation of the total contract cost

The contract revenue amount is affected by the percentage of completion, which is estimated by reference to the total cost incurred, and the estimated total contract cost is estimated by reference to the expected future figures, such as the material costs, the labor costs and the contract period. The Group periodically reviews the significant changes in estimated total contract costs and reflects the changes in the current progress calculation at the end of the reporting period.

3) Impairment test - Goodwill

The recoverable amounts of CGUs (groups) to review the impairment of goodwill have been determined based on value in use. The recoverable amount of the allocated goodwill will be most sensitively affected by the achievement of the next year's business plan. The business plan that has been considered and approved by the board of directors comprises forecasts of revenue, wages and salaries, and overheads based on current and anticipated market conditions.

4) Defined benefit plan

The Group's defined benefit obligation is determined based on the actuarial valuation carried out at the end of each annual reporting period. Actuarial assumptions are the Group's best estimates of the variables in determining the cost of providing postretirement benefits, such as discount rates, rates of expected future salary increases and mortality rates. Significant estimation uncertainty is likely to persist in making such assumptions due to the long-term nature of postretirement benefit plan. At the end of this year, defined benefit liability of the plan is ₩1, 486,383, million (December 31, 2021: ₩1,524,093 million), as detailed in Note 21.

5) Valuation of financial instruments

As described in Note 8, the Group uses valuation techniques that include inputs that are not based on observable market data to estimate the fair value of certain type of financial instruments. Note 8 provides detailed information about key assumptions used in the determination of the fair value of financial instruments as well as the detailed sensitivity analysis for these assumptions. The management believes that the chosen valuation techniques and assumptions used are appropriate in determining the fair value of financial instruments.

4. SEGMENT REPORTING:

(1) Basis for segmentation

The Group is composed of an IT service division and logistics service division, which are its strategic business units. These divisions offer different goods and services and are managed separately because each division requires different technologies and marketing strategies.

The following summary describes the operations of each operating segment:

	Main Business
IT service	Reportable segment for IT consulting, IT system design and development, SI, clients' information system operation and maintenance, data centers and network service outsourcing
Logistics service	Reportable segment for global logistics services, such as supply chain and logistics consulting and solutions

(2) Financial information for each segment

Financial information for each segment for the years ended December 31, 2022 and 2021, is as follows. Significant accounting policies applied to each reportable segment are the same as the significant accounting policies described in Note 2. Management determines resources to be allocated to each division and reviews based on operating income of each division in order to evaluate performance.

The Group reports segment assets based on property and equipment and intangible assets. Segment liabilities are not reported to the Group's CEO and, therefore, are not disclosed.

1) Segment information

(In thousands of Korean won)

		2022			
	Logistics service	IT service	Total	Adjustments	Adjusted amounts
Revenue	₩ 11,838,649,310	7,166,426,749	19,005,076,059	(1,770,326,521)	17,234,749,538
Internal revenue	(572,093,433)	(1,198,233,088)	(1,770,326,521)	1,770,326,521	-
External revenue	11,266,555,877	5,968,193,661	17,234,749,538	-	17,234,749,538
Depreciation	10,312,431	269,564,273	279,876,704	(6,910,228)	272,966,476
Amortization	3,450,273	46,984,088	50,434,361	139,382	50,573,743
Operating profit	284,471,883	637,408,167	921,880,050	(5,806,027)	916,074,023
Non-current assets	63,750,564	2,169,434,695	2,233,185,259	-	2,233,185,259
Acquisition of non-current assets	23,106,026	662,835,988	685,942,014	(13,359,639)	672,582,375

(In thousands of Korean won)

		2021			
	Logistics service	IT service	Total	Adjustments	Adjusted amounts
Revenue	₩ 8,285,607,140	6,702,499,276	14,988,106,416	(1,358,103,977)	13,630,002,439
Internal revenue	(292,801,845)	(1,065,302,132)	(1,358,103,977)	1,358,103,977	-
External revenue	7,992,805,295	5,637,197,144	13,630,002,439	-	13,630,002,439
Depreciation	6,667,911	236,614,630	243,282,541	(6,828,706)	236,453,835
Amortization	309,930	53,913,622	54,223,552	926,988	55,150,540
Operating profit	144,085,024	661,018,790	805,103,814	2,993,958	808,097,772
Non-current assets	53,402,149	1,840,594,070	1,893,996,219	-	1,893,996,219
Acquisition of non-current assets	27,915,125	301,911,411	329,826,536	(6,863,021)	322,963,515

4. SEGMENT REPORTING, Continued

2) Information on geographical areas

The Group's revenues (based on location) by region for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
External revenues:			
Domestic	₩	4,944,706,734	4,852,038,241
America		4,600,704,619	2,947,599,376
Europe		2,036,738,329	1,591,486,755
Asia and Africa (*1)		3,990,034,318	2,962,726,711
China		1,662,565,538	1,276,151,356
Total	₩	17,234,749,538	13,630,002,439

(*1) Korea and China are excluded.

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Non-current asset (*1):			
Domestic	₩	2,117,934,218	1,793,374,715
America		34,986,229	31,590,359
Europe		38,857,687	29,002,701
Asia and Africa (*2)		30,155,948	29,089,592
China		11,251,177	10,938,852
Total	₩	2,233,185,259	1,893,996,219

(*1) Financial instruments, investments in associates, deferred tax assets and long-term prepaid expenses are excluded.
(*2) Korea and China are excluded.

(3) Revenues generated from external customer of Samsung Electronics Co., Ltd. and its subsidiaries account for more than 10% of the Group's consolidated revenue amounting to ₩12,135,383 million and ₩9,625,164 million for the years ended December 31, 2022 and 2021, respectively.

5. CASH AND CASH EQUIVALENTS:

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

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Cash on hand	₩	7,685	7,583
Demand deposits		1,392,126,747	1,080,880,720
Total	₩	1,392,134,432	1,080,888,303

6. FINANCIAL INSTRUMENTS RESTRICTED OR PLEDGED AS COLLATERAL:

Details of restricted financial instruments or those pledged as collateral as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Short-term financial instruments:			
Deposit related to national project	₩	2,616,360	770,393
Long-term financial instruments:			
Deposits for checking account		17,000	17,000
Deposits for contract (*1)		10,000,000	10,000,000
Deposits for subcontractors (*2)		48,200,000	48,200,000
Others (*3)		15,000	15,000
Total	₩	60,848,360	59,002,393

(*1) As a time deposit related to the service contract signed with the Korea Development Bank, pledge and right to collateral security are established and provided as collateral to the Korea Development Bank (see Note 22).

(*2) Deposits restricted in use for financially supporting the Group's subcontractors in agreement with Industrial Bank of Korea.

(*3) Others are subject to withdrawal restrictions in relation to guarantees provided by Seoul Guarantee Insurance Company.

As of and for the years ended December 31, 2022 and 2021

7. CATEGORIES OF FINANCIAL INSTRUMENTS:

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

(In thousands of Korean won)

	December 31, 2022				
	Amortized cost	FVOCI	FVPL	Total	Fair value
Financial assets:					
Cash and cash equivalents	₩ 1,392,134,432	-	-	1,392,134,432	1,392,134,432
Short-term financial instruments	3,637,376,222	-	-	3,637,376,222	3,637,376,222
FVOCI	-	12,345,876	-	12,345,876	12,345,876
FVPL	-	-	21,930,270	21,930,270	21,930,270
Trade receivables, other receivables and other assets (*1)	1,884,074,371	-	-	1,884,074,371	1,884,074,371
Others (*2)	208,923,255	-	-	208,923,255	208,923,255
Total	₩ 7,122,508,280	12,345,876	21,930,270	7,156,784,426	7,156,784,426

(*1) Accounts receivable includes ₩182.8 billion of refunds and surcharge on refund resulting from the second round of litigation related to merger goodwill. Other assets comprise short-term and long-term loans.

(*2) Others, such as accrued income, deposits provided for guarantees, long-term financial instruments and deposits provided, are included.

(In thousands of Korean won)

		December 31, 2022	
		Amortized cost	Fair value
Financial liabilities:			
Trade and other payables	₩	797,271,423	797,271,423
Accrued expense (*1)		638,807,039	638,807,039
Lease liabilities		868,996,762	868,996,762
Others (*2)		5,683,819	5,683,819
Total	₩	2,310,759,043	2,310,759,043

(*1) The amount excludes ₩466,335 million related to employee benefits expense.

(*2) Others, such as dividends payable, deposits received and long-term deposits received, are included.

7. CATEGORIES OF FINANCIAL INSTRUMENTS, Continued

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

(In thousands of Korean won)

	December 31, 2021				
	Amortized cost	**FVOCI**	**FVPL**	**Total**	**Fair value**
Financial assets:					
Cash and cash equivalents	₩ 1,080,888,303	-	-	1,080,888,303	1,080,888,303
Short-term financial instruments	3,510,296,210	-	-	3,510,296,210	3,510,296,210
FVOCI	-	55,198,119	-	55,198,119	55,198,119
FVPL	-	-	16,617,485	16,617,485	16,617,485
Trade receivables, other receivables and other assets (*1)	1,964,779,550	-	-	1,964,779,550	1,964,779,550
Others (*2)	187,950,519	-	-	187,950,519	187,950,519
Total	₩ 6,743,914,582	55,198,119	16,617,485	6,815,730,186	6,815,730,186

(*1) Other assets, such as short-term loans and long-term loans, are included.
(*2) Others, such as accrued income, deposits provided for guarantees, long-term financial instruments and deposits provided, are included.

(In thousands of Korean won)

	December 31, 2021	
	Amortized cost	**Fair value**
Financial liabilities:		
Trade and other payables	₩ 892,026,689	892,026,689
Accrued expense (*1)	540,551,816	540,551,816
Lease liabilities	461,597,347	461,597,347
Borrowings and corporate bonds	464,000	464,000
Others (*2)	9,214,838	9,214,838
Total	₩ 1,903,854,690	1,903,854,690

(*1) The amount excludes ₩361,361 million related to employee benefits expense.
(*2) Others, such as dividends payable, deposits received and long-term deposits received, are included

7. CATEGORIES OF FINANCIAL INSTRUMENTS, Continued

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

(In thousands of Korean won)

		2022	2021
Financial assets measured at amortized cost:			
Interest income (*1)	₩	111,124,879	60,808,535
Reversal of bad debt expense (bad debt expenses)		(13,636,059)	686,096
Financial assets measured at fair value:			
Valuation gain on FVOCI		(7,905,266)	43,249,789
Dividend income		17,950	16,350
Valuation gain on FVPL		4,394,790	2,222,319
Disposal gain on FVPL		(6,833,140)	-
Financial liabilities measured at amortized cost:			
Interest expenses		(28,811,125)	(17,648,968)
Net gain (loss) on foreign currency transaction		7,500,838	4,625,129
Net foreign exchange gain (loss)		18,217,531	2,990,430

(*1) Interest income includes interest income generated by cash and cash equivalents.

8. FAIR VALUE OF FINANCIAL INSTRUMENTS:

There are no significant changes in the business and economic environment that would affect the fair value of financial assets and liabilities for the year ended December 31, 2022.

(1) Fair value hierarchy

The Group classifies the financial instruments measured at fair value in the consolidated statements of financial position into the following three levels (fair value hierarchy) based on the inputs to valuation techniques used to measure fair value:

- Level 1: Inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Group can access at the measurement date.
- Level 2: Inputs other than quoted prices included within Level 1, that are observable for the asset or liability, either directly (for example, price) or indirectly (for example, derived from price).
- Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Fair value hierarchy of financial instruments subsequently measured at fair value as of December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
FVOCI	₩	-	-	12,345,876	12,345,876
FVPL		-	4,524,048	17,406,222	21,930,270
Total	₩	-	4,524,048	29,752,098	34,276,146

8. FAIR VALUE OF FINANCIAL INSTRUMENTS, Continued

(1) Fair value hierarchy, Continued

Fair value hierarchy of financial instruments subsequently measured at fair value as of December 31, 2022 and 2021, is as follows, Continued

(In thousands of Korean won)

		December 31, 2021			
		Level 1	Level 2	Level 3	Total
FVOCI	₩	46,487,021	-	8,711,098	55,198,119
FVPL		-	4,524,048	12,093,436	16,617,484
Total	₩	46,487,021	4,524,048	20,804,534	71,815,603

The above fair values are measured on a recurring basis. The fair value of financial instruments that are not traded in an active market is determined using valuation methods. These valuation techniques maximize the use of observable market data where they are available and rely as little as possible on entity-specific estimates.

If all significant inputs required to measure the fair value of an instrument are observable, the instrument is included in Level 2.

If one or more significant inputs are not based on observable market data, the financial instruments are included in Level 3. The fair value of the financial instruments in Level 3 was estimated using the discounted cash flow model.

(2) Changes in financial instruments in Level 3 for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Beginning balance	₩	20,804,534	12,982,845
Acquisition		7,424,994	6,386,600
Disposal		(1,964,900)	-
Gains or losses in PL		4,394,789	(121,930)
Gains or losses in OCI		(907,319)	(298,353)
Transfer in levels		-	1,855,372
Ending balance	₩	29,752,098	20,804,534

(3) The valuation process of fair value measurements for major financial instruments categorized as Level 3

The fair value of CVnet Co., Ltd., FVOCI categorized within Level 3 of the fair value hierarchy, was appropriately estimated based on the professional judgment of independent appraisers' reasonable valuation method.

8. FAIR VALUE OF FINANCIAL INSTRUMENTS, Continued

(4) Valuation methods and inputs

Valuation methods and inputs used in the recurring fair value measurements categorized within Level 3 of the fair value hierarchy as of December 31, 2022, are as follows:

		Fair value	Level	Valuation method	Inputs	Range of inputs (weighted average)
FVOCI						
CVnet Co., Ltd	₩	1,358,700	3	Discounted cash flow	Sales growth rate	4.8%~5.7% (5.2%)
					Pretax discount rate	13.8%

(5) Sensitivity analysis for recurring fair value measurements categorized within Level 3

Sensitivity analysis of financial instruments is performed to measure favorable and unfavorable changes in the fair value of financial instruments, which are affected by the unobservable input parameters, using statistical techniques. Financial instruments categorized in Level 3 and subject to sensitivity analysis are equity securities whose fair value changes are recognized in OCI.

The sensitivity analysis of OCI in accordance with the variation of the input parameters for the equity securities is as follows:

(In thousands of Korean won)

		Favorable change	Unfavorable change
FVOCI (*1)	₩	37,000	(31,000)

(*1) Changes in fair value are calculated as favorable changes and unfavorable changes based on the changes in discount rate, which are significant unobservable inputs. Favorable changes are the changes decreasing in discount rate by 1% point. Unfavorable changes are the changes increasing in discount rate by 1% point.

9. TRADE RECEIVABLES, OTHER RECEIVABLES AND OTHERS:

(1) Details of trade receivables, other receivables and others as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022			December 31, 2021		
		Trade receivables	Other receivables (*)	Others	Trade receivables	Other receivables (*)	Others
Receivables, gross	₩	1,675,290,343	233,732,831	3,947,480	1,935,668,732	47,116,219	3,257,552
Allowances for bad debts		(23,771,403)	(3,108,568)	-	(16,812,647)	(1,535,820)	-
Receivables, net	₩	1,651,518,940	230,624,263	3,947,480	1,918,856,085	45,580,399	3,257,552

(*) The service receivables in contract asset amounting to ₩685,457,776 thousand and ₩667,349,971 thousand as of December 31, 2022 and 2021, respectively, are excluded (see Note 26).

9. TRADE RECEIVABLES, OTHER RECEIVABLES AND OTHERS, Continued

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

(In thousands of Korean won)

		2022			2021		
		Trade receivables	Other receivables	Others	Trade receivables	Other receivables	Others
Beginning balance	₩	16,812,647	1,535,820	-	18,334,968	1,532,593	-
(Reversal of) provision for bad debt expense		8,207,052	1,732,424	-	(690,294)	4,198	-
Receivables written off		(93,826)	(66,205)	-	(596,120)	-	-
Collection of receivables written off		1,777	-	-	239,445	-	-
Increase(decrease) in business transfer		(4,944)	-	-	-	-	-
Others		(1,151,303)	(93,471)	-	(475,352)	(971)	-
Ending balance	₩	23,771,403	3,108,568	-	16,812,647	1,535,820	-

The recognition of allowance for doubtful accounts has been included in selling and administrative expenses and other income and expenses in the consolidated statements of comprehensive income (see Notes 28 and 29).

(3) The aging analysis of trade receivables, other receivables and others overdue, but not individually impaired, as of December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Within 1 month	₩	368,854,172	310,429,893
1 month to 6 months		57,287,774	36,422,325
7 to 12 months		13,183,437	11,115,115
More than 12 months		2,521,948	5,033,645
Total	₩	441,847,331	363,000,978

(4) Details of the Group's individually impaired receivables as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Individually impaired receivables	₩	26,597,684	18,002,764

The individually impaired receivables are generally aged more than one year, and the debtors are experiencing significant financial difficulty. The Group recorded an additional allowance of ₩282 million and ₩345 million as of December 31, 2022 and 2021, respectively, using historical experience rates based on aging analysis of receivables.

(5) The maximum exposure to credit risk as of December 31, 2022, is the carrying value of each class of receivables.

10. INVENTORIES:

(1) Details of inventories as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Raw materials	₩	5,670,253	12,301,435
Merchandise		35,150,421	29,760,978
Goods in transit		37,069	444,665
Supplies		40,672	1,795,253
Total	₩	40,898,415	44,302,331

(2) The amount of inventories recognized as expenses (cost of sales) and valuation losses on inventories reflected in cost of sales for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Inventories recognized as expenses (cost of sales)	₩	599,031,371	612,824,766
Inventories written down		1,455,934	3,271,046
Reversals of inventories written down		(1,619,262)	(1,019,341)

11. FINANCIAL ASSETS MEASURED AT FAIR VALUE:

(1) Changes in financial assets measured at fair value (excluding investments in associates) for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022			2021		
		FVOCI	FVPL	Total	FVOCI	FVPL	Total
Beginning balance	₩	55,198,119	16,617,484	71,815,603	16,655,586	12,176,365	28,831,951
Increase		6,506,998	917,996	7,424,994	4,167,800	2,218,800	6,386,600
Decrease		(41,453,975)	-	(41,453,975)	(8,875,056)	-	(8,875,056)
Valuation		(7,905,266)	4,394,790	(3,510,476)	43,249,789	2,222,319	45,472,108
Ending balance	₩	12,345,876	21,930,270	34,276,146	55,198,119	16,617,484	71,815,603

(2) Details of FVOCI as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Listed securities (*)	₩	-	46,487,021
Unlisted securities (*)		12,345,876	8,711,098
Total	₩	12,345,876	55,198,119

(*) The Group makes an irrevocable selection to present in OCI subsequent changes in the fair value of an investment in an equity instrument that is not held for trading at the date of initial application.

11. FINANCIAL ASSETS MEASURED AT FAIR VALUE, Continued

(2) Details of FVOCI as of December 31, 2022 and 2021, are as follows, Continued

1) Listed securities (excluding investments in associates)

Details of listed securities (excluding investments in associates) as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

	December 31, 2022				December 31, 2021
	Number of shares owned	Percentage of ownership (%)		Book value	Book value
SentinelOne, Inc. (*1)	-	-		-	46,487,021

(*1) SentinelOne, Inc. was an unlisted security at the time of initial investment, and the Group made an irrevocable election to account for the equity investment at FVOCI. As the unlisted security was listed on the New York Stock Exchange for the year ended December 31, 2021, it has been changed to a listed security as of December 31, 2021. The Group sold all of the shares held for the year ended December 31, 2022.

2) Unlisted securities (excluding investments in associates)

Details of unlisted securities (excluding investments in associates) as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

	December 31, 2022				December 31, 2021
	Number of shares owned	Percentage of ownership (%)		Book value	Book value
CVnet Co., Ltd. (*1)	600,000	9.38	₩	1,358,700	1,357,800
Others				10,987,176	7,353,298
Total			₩	12,345,876	8,711,098

(*1) The fair value of CVnet Co., Ltd. was appropriately estimated based on reasonable valuation method. The fair value was estimated using the discounted cash flow method. In estimating the future cash flows, economic indicators and conditions were taken into consideration and it was presumed that there were no significant changes in the business structure of the investee.

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

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Capital investment of partnership	₩	4,030,724	3,924,816
Unlisted securities		17,899,546	12,692,668
Total	₩	21,930,270	16,617,484

11. FINANCIAL ASSETS MEASURED AT FAIR VALUE, Continued

(4) Changes in valuation gain (loss) in the above FVOCI in accordance with fair value assessment for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Beginning balance	₩	70,796,319	27,546,530
Measurement of fair value		(7,905,266)	43,249,789
Included in profit or loss		-	-
Ending balance before tax		62,891,053	70,796,319
Income tax effect		(16,930,830)	(19,893,583)
Ending balance after tax	₩	45,960,223	50,902,736

12. SUBSIDIARIES:

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

(In thousands of Korean won)

December 31, 2022

Region	Name of subsidiaries	Type of business	Number of shares owned by: Controlling company	Subsidiary	Total	Ownership (%)	Country	Shares held by subsidiaries (%)
Korea	SECUI Corp.	System software development and supply	6,500,000	-	6,500,000	56.52	Korea	-
	Multicampus Co., Ltd. (*1)	Providing remote education system and contents	2,800,000	-	2,800,000	47.24	Korea	-
	SVIC #39 Investment Partnership	New technology development and Venture capital	-	-	-	99.00	Korea	-
	SVIC #50 Investment Partnership	New technology development and Venture capital	-	-	-	99.00	Korea	-
	S-Core Co, Ltd.	Operating system software development	21,347,538	140,912	21,488,450	82.22	Korea	0.54
	Open Hands Co., Ltd.	Software development	20,000	-	20,000	100.00	Korea	-
	Miracom, Inc.	SI service	5,010,297	-	5,010,297	83.62	Korea	-
America	Samsung SDS America, Inc.	SI service, Logistics	5,500,000	-	5,500,000	100.00	America	-
	SAMSUNG SDS GSCL Canada., Ltd.	Logistics	10,000	-	10,000	100.00	Canada	-
	Neo Express Transportation (NEXT) Inc.	Logistics	449,339	-	449,339	51.00	America	-
	Samsung SDS Mexico, S.A. de C.V.	SI service, Logistics	-	99	99	99.00	Mexico	99.00
	Samsung SDS Global SCL Panama S.A.	Logistics	-	9,999	9,999	99.99	Panama	99.99
	Samsung SDS Global SCL Chile Limitada	Logistics	-	274,972,500	274,972,500	99.99	Chile	99.99
	Samsung SDS Global SCL Peru S.A.C	Logistics	-	9,999	9,999	99.99	Peru	99.99
	Samsung SDS Global SCL Colombia S.A.S	Logistics	-	-	-	100.00	Colombia	100.00
	Samsung SDS Latin America Solucoes Em Tecnologia Ltda.	SI service, Logistics	31,250,723,153	84,690,306	31,335,413,459	100.00	Brazil	0.27
	INTE-SDS Logistics S.A. de C.V.	Logistics	4,313,534	-	4,313,534	51.00	Mexico	-

12. SUBSIDIARIES, Continued

(1) Subsidiaries as of December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)
December 31, 2022

Region	Name of subsidiaries	Type of business	Number of shares owned by: Controlling company	Subsidiary	Total	Ownership (%)	Country	Shares held by subsidiaries (%)
	LANGUAGE TESTING INTERNATIONAL, INC. (*1)	Oral proficiency interview computer Assessment service	-	115,980	115,980	38.91	America	82.36
Europe	Samsung SDS Europe, Ltd.	SI service, Logistics	1,000,002	-	1,000,002	100.00	England	-
	Samsung SDS Global SCL Hungary, Kft.	Logistics	-	-	-	100.00	Hungary	-
	Samsung SDS Global SCL Slovakia, S.R.O.	Logistics	-	-	-	100.00	Slovakia	-
	Samsung SDS Global SCL Poland Sp. Z.o.o.	Logistics	9,999	1	10,000	100.00	Poland	0.01
	Samsung GSCL Sweden AB	Logistics	5,800,000	-	5,800,000	100.00	Sweden	-
	Samsung SDS Global SCL France SAS	Logistics	150,000	-	150,000	100.00	France	-
	Samsung SDS Global SCL Italy S.R.L. A Socio Unico	Logistics	100,000	-	100,000	100.00	Italy	-
	Samsung SDS Global Supply Chain Logistics Spain S.L.U	Logistics	56,000	-	56,000	100.00	Spain	-
	Samsung SDS Global SCL Netherlands Cooperatief U.A.	Logistics	-	-	-	100.00	Netherland	0.01
	Samsung SDS Global SCL Germany GmbH	Logistics	-	-	-	100.00	Germany	-
	Samsung SDS Global SCL Romania S.R.L	Logistics	9,999	1	10,000	100.00	Romania	0.01
	Samsung SDS Rus Limited Liability Company	SI service, Logistics	-	-	-	100.00	Russia	0.01
Asia	Samsung SDS Asia Pacific Pte, Ltd.	SI service, Logistics	31,000,000	-	31,000,000	100.00	Singapore	-
	Samsung Data Systems India Private Limited	SI service, Logistics	6,329,999	-	6,329,999	99.99	India	-
	Samsung SDS Vietnam Co., Ltd.	SI service, Logistics	-	-	-	100.00	Vietnam	-
	PT. Samsung SDS Global SCL Indonesia (*2)	Logistics	245	-	245	49.00	Indonesia	-
	Samsung SDS Global SCL Philippines Co., Ltd. Inc.	Logistics	20,999,995	-	20,999,995	99.99	Philippines	-
	Samsung SDS Global SCL Thailand Co., Ltd	Logistics	879,988	-	879,988	99.99	Thailand	-
	Samsung SDS Global SCL Malaysia SDN.BHD.	SI service, Logistics	2,099,998	-	2,099,998	99.99	Malaysia	-
	SAMSUNG SDS Global SCL Australia Pty., Ltd.	Logistics	1,000	-	1,000	100.00	Australia	-
	SDS-ACUTECH CO., Ltd. (*1)	Logistics	109,999	-	109,999	49.99	Thailand	-
	ALS SDS Joint Stock Company	Logistics	739,500	-	739,500	51.00	Vietnam	-
	SDS-MP Logistics Joint Stock Company	Logistics	816,000	-	816,000	51.00	Vietnam	-
	Samsung SDS China Co., Ltd.	SI service, Logistics	-	-	-	100.00	China	-
	Samsung SDS Global Development Center Xi'an	SI service	-	-	-	100.00	China	100.00
	Samsung SDS Global SCL Hong Kong Co., Ltd.	Logistics	11,691,380	-	11,691,380	100.00	Hong Kong	-
Africa	Samsung SDS Global SCL Egypt	Logistics	9,999	-	9,999	99.99	Egypt	-
	Samsung SDS Global SCL South Africa (PTY) Ltd.	Logistics	100	-	100	100.00	South Africa	-

12. SUBSIDIARIES, Continued

(1) Subsidiaries as of December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)
December 31, 2022

Region	Name of subsidiaries	Type of business	Number of shares owned by: Controlling company	Subsidiary	Total	Ownership (%)	Country	Shares held by subsidiaries (%)
Middle East	Samsung SDS Global SCL Nakliyat ve Lojistik Anonim Sirketi	Logistics	1,000	-	1,000	100.00	Turkey	-
	Samsung SDS Global Supply Chain Logistics Middle East DWC-LLC	Logistics	2,930,000	-	2,930,000	100.00	United Arab Emirates	-

(*1) Although the Group holds less than a majority of the voting rights, it maintains control through a contractual agreement among the shareholders.
(*2) The Group maintains control because all of the non-controlling interests are composed of preferred shares without voting rights.

(In thousands of Korean won)
December 31, 2021

Region	Name of subsidiaries	Type of business	Number of shares owned by: Controlling company	Subsidiary	Total	Ownership (%)	Country	Shares held by subsidiaries (%)
Korea	SECUI Corp.	System software development and supply	6,500,000	-	6,500,000	56.52	Korea	-
	Multicampus Co., Ltd. (*1)	Providing remote education system and contents	2,800,000	-	2,800,000	47.24	Korea	-
	SVIC #39 Investment Partnership	New technology development, Venture capital	-	-	-	99.00	Korea	-
	SVIC #50 Investment Partnership	New technology development, Venture capital	-	-	-	99.00	Korea	-
	S-Core Co, Ltd.	Operating system software development	21,347,538	140,912	21,488,450	82.22	Korea	0.54
	Open Hands Co., Ltd.	Software development	20,000	-	20,000	100.00	Korea	-
	Miracom, Inc.	SI service	5,010,297	-	5,010,297	83.62	Korea	-
America	Samsung SDS America, Inc.	SI service, Logistics	5,500,000	-	5,500,000	100.00	America	-
	SAMSUNG SDS GSCL Canada., Ltd.	Logistics	10,000	-	10,000	100.00	Canada	-
	Neo Express Transportation (NEXT) Inc.	Logistics	449,339	-	449,339	51.00	America	-
	Samsung SDS Mexico, S.A. de C.V.	SI service, Logistics	-	99	99	99.00	Mexico	99.00
	Samsung SDS Global SCL Panama S.A.	Logistics	-	9,999	9,999	99.99	Panama	99.99
	Samsung SDS Global SCL Chile Limitada	Logistics	-	274,972,500	274,972,500	99.99	Chile	99.99
	Samsung SDS Global SCL Peru S.A.C	Logistics	-	9,999	9,999	99.99	Peru	99.99
	Samsung SDS Global SCL Colombia S.A.S	Logistics	-	-	-	100.00	Colombia	100.00
	Samsung SDS Latin America Solucoes Em Tecnologia Ltda.	SI service, Logistics	31,250,723,153	84,690,306	31,335,413,459	100.00	Brazil	0.27
	INTE-SDS Logistics S.A. de C.V.	Logistics	4,313,534	-	4,313,534	51.00	Mexico	-

12. SUBSIDIARIES, Continued

(1) Subsidiaries as of December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)
December 31, 2021

Region	Name of subsidiaries	Type of business	Number of shares owned by: Controlling company	Subsidiary	Total	Ownership (%)	Country	Shares held by subsidiaries (%)
	LANGUAGE TESTING INTERNATIONAL, INC. (*1)	Oral proficiency interview computer Assessment service	-	115,980	115,980	38.91	America	82.36
Europe	Samsung SDS Europe, Ltd.	SI service, Logistics	1,000,002	-	1,000,002	100.00	England	-
	Samsung SDS Global SCL Hungary, Kft.	Logistics	-	-	-	100.00	Hungary	-
	Samsung SDS Global SCL Slovakia, S.R.O.	Logistics	-	-	-	100.00	Slovakia	-
	Samsung SDS Global SCL Poland Sp. Z.o.o.	Logistics	9,999	1	10,000	100.00	Poland	0.01
	Samsung GSCL Sweden AB	Logistics	5,800,000	-	5,800,000	100.00	Sweden	-
	Samsung SDS Global SCL France SAS	Logistics	150,000	-	150,000	100.00	France	-
	Samsung SDS Global SCL Greece Societe Anonyme	Logistics	19,998	2	20,000	100.00	Greece	0.01
	Samsung SDS Global SCL Italy S.R.L. A Socio Unico	Logistics	100,000	-	100,000	100.00	Italy	-
	Samsung SDS Global Supply Chain Logistics Spain S.L.U	Logistics	56,000	-	56,000	100.00	Spain	-
	Samsung SDS Global SCL Netherlands Cooperatief U.A.	Logistics	-	-	-	100.00	Netherland	0.01
	Samsung SDS Global SCL Germany GmbH	Logistics	-	-	-	100.00	Germany	-
	Samsung SDS Global SCL Romania S.R.L	Logistics	9,999	1	10,000	100.00	Romania	0.01
	Samsung SDS Rus Limited Liability Company	SI service, Logistics	-	-	-	100.00	Russia	0.01
Asia	Samsung SDS Asia Pacific Pte, Ltd.	SI service, Logistics	31,000,000	-	31,000,000	100.00	Singapore	-
	Samsung Data Systems India Private Limited	SI service, Logistics	6,329,999	-	6,329,999	99.99	India	-
	Samsung SDS Vietnam Co., Ltd.	SI service, Logistics	-	-	-	100.00	Vietnam	-
	PT. Samsung SDS Global SCL Indonesia (*2)	Logistics	245	-	245	49.00	Indonesia	-
	Samsung SDS Global SCL Philippines Co., Ltd. Inc.	Logistics	20,999,995	-	20,999,995	99.99	Philippines	-
	Samsung SDS Global SCL Thailand Co., Ltd	Logistics	879,988	-	879,988	99.99	Thailand	-
	Samsung SDS Global SCL Malaysia SDN.BHD.	SI service, Logistics	2,099,998	-	2,099,998	99.99	Malaysia	-
	SAMSUNG SDS Global SCL Australia Pty., Ltd.	Logistics	1,000	-	1,000	100.00	Australia	-
	SDS-ACUTECH CO., Ltd. (*1)	Logistics	109,999	-	109,999	49.99	Thailand	-
	ALS SDS Joint Stock Company	Logistics	739,500	-	739,500	51.00	Vietnam	-
	SDS-MP Logistics Joint Stock Company	Logistics	816,000	-	816,000	51.00	Vietnam	-
	Samsung SDS China Co., Ltd.	SI service	-	-	-	100.00	China	-
	Samsung SDS Global Development Center Xi'an	SI service	-	-	-	100.00	China	100.00
	Samsung SDS Global SCL Beijing Co., Ltd.	Logistics	-	-	-	100.00	China	100.00
	Samsung SDS Global SCL Hong Kong Co., Ltd.	Logistics	11,691,380	-	11,691,380	100.00	Hong Kong	-
	Miracom, Inc. Asia Pacific Ltd.	SI service	-	5,864,162	5,864,162	83.62	Hong Kong	100.00

12. SUBSIDIARIES, Continued

(1) Subsidiaries as of December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)

December 31, 2021

Region	Name of subsidiaries	Type of business	Number of shares owned by: Controlling company	Subsidiary	Total	Ownership (%)	Country	Shares held by subsidiaries (%)
Africa	Samsung SDS Global SCL Egypt	Logistics	9,999	-	9,999	99.99	Egypt	-
	Samsung SDS Global SCL South Africa (PTY) Ltd.	Logistics	100.00	-	100.00	100.00	South Africa	-
Middle East	Samsung SDS Global SCL Nakliyat ve Lojistik Anonim Sirketi	Logistics	1,000	-	1,000	100.00	Turkey	-
	Samsung SDS Global Supply Chain Logistics Middle East DWC-LLC	Logistics	2,930,000	-	2,930,000	100.00	United Arab Emirates	-

(*1) Although the Group holds less than a majority of the voting rights, it maintains control through a contractual agreement among the shareholders.
(*2) The Group maintains control because all of the non-controlling interests are composed of preferred shares without voting rights.

(2) Summary of financial information of subsidiaries as of and for the years ended December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

	2022				
	Total assets	Total liabilities	Total equity	Revenue	Net income
SECUi Corp	₩ 176,443,766	38,427,463	138,016,303	137,631,061	12,369,434
Multicampus Co., Ltd.	275,499,460	115,262,757	160,236,703	340,864,653	30,079,911
S-Core Co, Ltd.	86,901,655	42,960,774	43,940,881	101,737,068	13,604,444
Miracom, Inc.	153,632,471	50,235,839	103,396,632	303,634,349	14,264,764
Samsung SDS America, Inc.	889,365,773	403,227,117	486,138,656	3,162,276,068	82,753,577
Samsung SDS Europe, Ltd.	364,918,807	151,494,449	213,424,358	546,502,576	20,017,595
Samsung SDS Global SCL Hungary, Kft.	79,684,683	42,090,294	37,594,389	420,238,109	17,106,029
Samsung SDS Global SCL Slovakia, S.R.O.	105,388,094	64,487,446	40,900,648	300,872,759	9,632,124
Samsung SDS Global SCL Poland Sp. Z.o.o.	71,766,552	51,185,274	20,581,278	298,022,254	7,133,301
Samsung SDS Global SCL Netherlands Cooperatief U.A.	185,175,454	183,627,774	1,547,680	259,703,797	(1,660,327)
Samsung SDS Asia Pacific Pte, Ltd.	188,815,345	61,150,598	127,664,747	212,478,579	11,268,144
Samsung Data Systems India Private Limited	227,410,194	127,977,397	99,432,797	548,904,154	32,511,155
Samsung SDS Vietnam Co., Ltd.	740,104,154	196,436,953	543,667,201	1,801,486,627	83,410,150
Samsung SDS Global SCL Thailand Co., Ltd.	97,084,970	37,046,043	60,038,927	638,536,789	11,657,014
Samsung SDS China Co., Ltd.	796,177,248	287,259,513	508,917,735	1,037,921,346	61,745,412
Samsung SDS Global SCL Hong Kong Co., Ltd.	53,900,150	34,630,510	19,269,640	353,276,467	3,590,299
Samsung SDS Mexico, S.A. de C.V.	174,658,363	143,126,400	31,531,963	879,999,279	9,798,111
Samsung SDS Latin America Tecnologia E Logistica LTDA.	215,467,480	67,181,158	148,286,322	298,896,040	35,456,101
Samsung SDS Rus Limited Liability Company	72,081,836	55,618,962	16,462,874	143,920,277	1,461,373

12. SUBSIDIARIES, Continued

(2) Summary of financial information of subsidiaries as of and for the years ended December 31, 2022 and 2021, is as follows, Continued

(In thousands of Korean won)

		2021				
		Total assets	Total liabilities	Total equity	Revenue	Net income
SECUi Corp	₩	173,745,308	47,328,503	126,416,805	125,001,964	8,201,849
Multicampus Co., Ltd.		244,329,814	114,676,806	129,653,008	295,822,269	19,555,966
S-Core Co, Ltd.		67,203,931	36,140,739	31,063,192	87,963,045	6,844,545
Miracom, Inc.		133,247,778	53,421,441	79,826,337	309,587,256	6,176,215
Samsung SDS America, Inc.		630,068,672	251,134,476	378,934,196	1,842,412,492	23,559,579
Samsung SDS Europe, Ltd.		337,861,077	135,547,767	202,313,310	442,586,278	21,123,155
Samsung SDS Global SCL Hungary, Kft.		130,003,491	107,422,035	22,581,456	361,650,185	11,245,511
Samsung SDS Global SCL Slovakia, S.R.O.		86,338,146	55,230,543	31,107,603	195,349,322	2,948,502
Samsung SDS Global SCL Poland Sp. Z.o.o.		55,931,124	42,295,699	13,635,425	204,555,785	5,402,937
Samsung SDS Global SCL Netherland Cooperatief U.A.		105,236,552	102,055,908	3,180,644	197,263,453	(516,083)
Samsung SDS Asia Pacific Pte, Ltd.		164,159,223	55,975,433	108,183,790	166,561,328	9,409,486
Samsung Data Systems India Private Limited		186,353,557	114,425,340	71,928,217	290,396,662	12,585,182
Samsung SDS Vietnam Co., Ltd.		639,296,290	190,643,863	448,652,427	1,314,426,229	54,498,142
Samsung SDS Global SCL Thailand Co., Ltd.		88,597,918	41,601,518	46,996,400	517,380,186	(1,122,018)
Samsung SDS China Co., Ltd.		307,786,622	87,296,304	220,490,318	136,391,000	8,160,346
Samsung SDS Global SCL Hong Kong Co., Ltd.		39,585,729	24,871,753	14,713,976	164,968,959	(112,141)
Samsung SDS Mexico, S.A. de C.V.		139,538,996	120,325,993	19,213,003	506,772,298	4,929,363
Samsung SDS Latin America Tecnologia E Logistica LTDA.		160,076,101	58,576,333	101,499,768	178,389,919	16,487,094
Samsung SDS Rus Limited Liability Company		74,326,782	60,085,525	14,241,257	142,737,830	2,506,448

(3) The status of subsidiaries newly excluded in the preparation of the consolidated financial statements for the year ended December 31, 2022, is as follows:

Location	Name of subsidiaries	Reason
Asia	Samsung SDS Global SCL Beijing Co., Ltd. (*1)	Merged
Asia	Miracom, Inc. Asia Pacific Ltd. (*2)	Liquidated
Europe	Samsung SDS Global SCL Greece Societe Anonyme (*3)	Liquidated

(*1) The subsidiary was merged into Samsung SDS China Co., Ltd. and extinguished for the year ended December 31, 2022.
(*2) The subsidiary Miracom, Inc. Asia Pacific Ltd. was liquidated for the year ended December 31, 2022.
(*3) The subsidiary Samsung SDS Global SCL Greece Societe Anonyme was liquidated for the year ended December 31, 2022.

13. INVESTMENTS IN ASSOCIATES:

(1) Details of the investments in associates as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

	Location	Main Business	December 31, 2022				December 31, 2021	
			Ownership (%)		Acquisition cost	Book value	Ownership (%)	Book value
KOREA INFORMATION CERTIFICATE AUTHORITY, INC. (*1)	Korea	Certification services based for e-commerce	4.79	₩	1,128,139	8,078,173	4.79	8,218,335
Donga.com Inc. (*2)	Korea	Internet media business	18.97		1,306,377	4,433,675	18.97	4,333,399
Dunet, Inc. (*1)	Korea	Providing remote education system and content	18.01		971,068	-	18.01	-
SERI Technologies, Inc.	Korea	Financial information system integration	29.00		4,190,500	5,441,808	29.00	5,105,566
iMarket Asia Co., Ltd.	China	Global industrial goods e-commerce	40.56		18,799,534	38,629,187	40.56	36,057,011
CMC Corporation	Vietnam	IT service	30.00		54,554,914	61,929,685	30.00	56,522,112
	Total			₩	80,950,532	118,512,528		110,236,423

(*1) Although each ownership of KOREA INFORMATION CERTIFICATE AUTHORITY, INC. and Dunet, Inc. of the Group is less than 20%, these investments are classified as investments in associates because the Group can participate in decision-making on the financial and operating policies of the investees.
(*2) Due to treasury stock, the effective ratio of shareholding is 20.20%.

(2) Market price information of the marketable investment in associates owned by the Company as of December 31, 2022, is as follows:

(In thousands of Korean won, except for market value per share)

	Number of shares		Market value per share	Market price	Book value
KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	2,000,000 Shares	₩	4,875	9,750,000	8,078,173
CMC Corporation	45,001,667 Shares		2,148	96,663,581	61,929,685

13. INVESTMENTS IN ASSOCIATES, Continued

(3) Details of changes in investments in associates accounted for using the equity method for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022					
		Beginning balance	Disposal	Gain on valuation	Change in associates' equity	Others (*1)	Ending balance
KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	₩	8,218,335	-	304,116	(204,278)	(240,000)	8,078,173
Donga.com Inc.		4,333,399	-	179,276	-	(79,000)	4,433,675
Dunet, Inc.		-	-	-	-	-	-
SERI Technologies, Inc.		5,105,566	-	336,242	-	-	5,441,808
iMarket Asia Co., Ltd.		36,057,011	-	1,799,705	772,471	-	38,629,187
CMC Corporation		56,522,112	-	4,295,756	1,111,817	-	61,929,685
Total	₩	110,236,423	-	6,915,095	1,680,010	(319,000)	118,512,528

(*1) The amount changes of investments in associates, due to the change in the dividend.

(In thousands of Korean won)

		2021					
		Beginning balance	Disposal	Gain on valuation	Change in associates' equity	Others (*1)	Ending balance
KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	₩	5,649,651	1,954,889	808,361	5,434	(200,000)	8,218,335
Donga.com Inc.		3,980,697	-	431,702	-	(79,000)	4,333,399
Dunet, Inc.		-	-	-	-	-	-
SERI Technologies, Inc.		4,641,957	-	463,609	-	-	5,105,566
iMarket Asia Co., Ltd.		32,230,992	-	490,700	3,335,319	-	36,057,011
CMC Corporation		47,435,047	-	2,324,359	6,762,706	-	56,522,112
Total	₩	93,938,344	1,954,889	4,518,731	10,103,459	(279,000)	110,236,423

(*1) The amount changes of investments in associates, due to the change in the dividend.

(4) Summary of financial information of associates as of and for the years ended December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		2022				
		Total assets	Total liabilities	Total equity	Revenue	Net income
KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	₩	276,742,004	66,249,684	210,492,320	81,286,237	5,512,798
Donga.com Inc.		26,151,640	2,776,629	23,375,011	20,855,623	1,020,695
Dunet, Inc.		2,950,558	5,514,603	(2,564,045)	12,142,540	1,847,693
SERI Technologies, Inc.		13,774,322	5,564,338	8,209,984	24,377,573	1,072,255
iMarket Asia Co., Ltd.		132,653,417	54,645,820	78,007,597	453,674,027	4,437,142
CMC Corporation		365,585,825	205,888,760	159,697,065	415,417,988	20,560,242

13. INVESTMENTS IN ASSOCIATES, Continued

(4) Summary of financial information of associates as of and for the years ended December 31, 2022 and 2021, is as follows, Continued

(In thousands of Korean won)

		2021				
		Total assets	Total liabilities	Total equity	Revenue	Net income
KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	₩	260,499,729	53,932,221	206,567,508	50,062,459	12,629,480
Donga.com Inc.		26,199,952	3,353,617	22,846,335	21,656,195	2,480,949
Dunet, Inc.		4,474,630	8,346,597	(3,871,967)	12,148,128	1,438,709
SERI Technologies, Inc.		11,590,770	4,540,242	7,050,528	23,416,468	1,582,212
iMarket Asia Co., Ltd.		168,087,647	95,367,122	72,720,525	495,678,864	1,644,084
CMC Corporation		289,575,456	159,120,814	130,454,642	303,500,400	15,371,202

(5) Reconciliation of the above summarized financial information to the carrying amount of the interest in the associates recognized in the consolidated financial statements for the years ended 2022 and 2021, is as follows:

(In thousands of Korean won)

		2022					
		KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	Donga.com Inc.	Dunet, Inc.	SERI Technologies, Inc.	iMarket Asia Co. , Ltd.	CMC Corporation
Net assets of associate	₩	168,738,209	23,375,010	(2,564,044)	8,209,984	66,273,742	129,279,736
Proportion of the Group's ownership interest in the associate (%)		4.79	18.97	18.01	29.00	40.56	30.00
Amount of the Group's ownership interest in the associate		8,078,173	4,433,675	(461,784)	2,380,895	26,880,630	38,783,921
Goodwill		-	-	-	3,060,913	11,748,557	23,145,764
Carrying amount of the investments in associates	₩	8,078,173	4,433,675	-	5,441,808	38,629,187	61,929,685

(In thousands of Korean won)

		2021					
		KOREA INFORMATION CERTIFICATE AUTHORITY, INC.	Donga.com Inc.	Dunet, Inc.	SERI Technologies, Inc.	iMarket Asia Co. , Ltd.	CMC Corporation
Net assets of associate	₩	206,567,508	22,846,335	(3,871,968)	7,050,528	72,720,526	130,454,642
Proportion of the Group's ownership interest in the associate (%)		4.79	18.97	18.01	29.00	40.56	30.00
Amount of the Group's ownership interest in the associate		8,218,335	4,333,399	(697,341)	2,044,653	25,066,784	33,373,473
Goodwill		-	-	-	3,060,913	10,990,227	23,148,639
Carrying amount of the investments in associates	₩	8,218,335	4,333,399	-	5,105,566	36,057,011	56,522,112

13. INVESTMENTS IN ASSOCIATES, Continued

(6) The details of cumulative unrecognized gain(loss) on valuation of investments in associates since the Group discontinued the application of equity method for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Dunet, Inc.'s unrecognized gain(losss) on valuation of investments in associates	₩	(235,557)	(258,321)

(In thousands of Korean won)

		2022	2021
Dunet, Inc.'s cumulative unrecognized gain(losss) on valuation of investments in associates	₩	461,784	697,341

14. PROPERTY AND EQUIPMENT:

(1) Details of the carrying amounts of property and equipment as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022					
		Land	Buildings	Machinery and equipment	Others	Construction in progress	Total
Acquisition costs	₩	116,588,319	782,198,745	1,987,254,760	188,001,293	8,826,551	3,082,869,668
Accumulated depreciation		-	(143,200,750)	(1,282,786,814)	(129,856,887)	-	(1,555,844,451)
Accumulated impairment		-	-	(6,444,652)	(143,865)	-	(6,588,517)
Book value	₩	116,588,319	638,997,995	698,023,294	58,000,541	8,826,551	1,520,436,700

(In thousands of Korean won)

		December 31, 2021					
		Land	Buildings	Machinery and equipment	Others	Construction in progress	Total
Acquisition costs	₩	116,588,319	666,398,899	1,668,263,746	161,515,587	18,125,240	2,630,891,791
Accumulated depreciation		-	(125,628,788)	(1,199,625,811)	(120,794,275)	-	(1,446,048,874)
Accumulated impairment		-	-	(6,208,598)	-	-	(6,208,598)
Book value	₩	116,588,319	540,770,111	462,429,337	40,721,312	18,125,240	1,178,634,319

14. PROPERTY AND EQUIPMENT, Continued

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

(In thousands of Korean won)

			2022			
	Land	Buildings	Machinery and equipment	Others	Construction in progress	Total
Beginning balance	₩ 116,588,319	540,770,111	462,429,337	40,721,312	18,125,240	1,178,634,319
Acquisition	-	97,834,516	468,886,986	36,634,438	8,830,510	612,186,450
Transfer	-	17,965,056	-	160,184	(18,125,240)	-
Transfer to other account	-	-	828,546	2,251,193	-	3,079,739
Disposal	-	-	(3,247,335)	(685,650)	-	(3,932,985)
Depreciation	-	(17,572,097)	(237,046,990)	(18,347,389)	-	(272,966,476)
Business transfer(*1)	-	-	(400,526)	-	-	(400,526)
Impairment	-	-	(236,054)	(143,865)	-	(379,919)
Others	-	409	6,809,330	(2,589,682)	(3,959)	4,216,098
Ending balance	₩ 116,588,319	638,997,995	698,023,294	58,000,541	8,826,551	1,520,436,700

(*1) There is a decrease due to business transfer as of December 31, 2022 (see Note 38).

(In thousands of Korean won)

			2021			
	Land	Buildings	Machinery and equipment	Others	Construction in progress	Total
Beginning balance	₩ 116,588,319	556,851,606	399,793,216	40,374,897	2,705,277	1,116,313,315
Acquisition	-	6,103	260,094,861	14,230,270	17,972,614	292,303,848
Transfer	-	1,237,670	1,227,723	570,800	(2,552,651)	483,542
Transfer to other account	-	-	(4,350)	(18,038)	-	(22,388)
Disposal	-	-	(199,472)	(39,500)	-	(238,972)
Depreciation	-	(17,325,546)	(202,233,555)	(16,894,441)	-	(236,453,542)
Impairment	-	-	(701,800)	-	-	(701,800)
Others	-	278	4,452,714	2,497,324	-	6,950,316
Ending balance	₩ 116,588,319	540,770,111	462,429,337	40,721,312	18,125,240	1,178,634,319

(3) Details of comprehensive property insurance for the damage of buildings, machinery and equipment and vehicles as of December 31, 2022, are as follows:

(In millions of Korean won, SGD, PHP, USD, CNY, HKD, VND)

	Amount	
Samsung Fire & Marine Insurance Co., Ltd.	KRW	2,529,391
Qbe Insurance (International) Limited	SGD	10,770,000
Metropolitan Insurance Company Inc.	PHP	4,000,000
Samsung Liability Insurance Co., Ltd. Beijing branch	CNY	112,136,802
Samsung Fire & Marine Insurance Co., Ltd.	USD	260,000,000
PACIFICO COMPANIA DE SEGUROS Y REASEGUROS	USD	7,909,384
SAMSUNG VINA INSURANCE CO.,LTD	VND	384,455,147
CONG TY BAO HIEM MIC HA THANH	VND	34,810,128,684
Wilson Risk Solutions Co Ltd	HKD	2,731,500

15. INTANGIBLE ASSETS:

(1) Details of carrying amounts of intangible assets as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022				
		Goodwill	Development costs	Others (*1)	Software	Total
Acquisition cost	₩	616,040,724	167,131,411	377,635,363	272,596,852	1,433,404,350
Accumulated amortization		-	(122,830,521)	(316,652,510)	(222,935,867)	(662,418,898)
Accumulated impairment		(54,829,261)	-	(2,227,923)	(1,179,709)	(58,236,893)
Book value	₩	561,211,463	44,300,890	58,754,930	48,481,276	712,748,559

(*1) Others are composed of identifiable intangible assets, such as customer relationships, customer value and technology value acquired from business combination, memberships and industrial property rights.

(In thousands of Korean won)

		December 31, 2021				
		Goodwill	Development costs	Others (*1)	Software	Total
Acquisition cost	₩	624,579,192	141,397,673	381,662,521	308,284,507	1,455,923,893
Accumulated amortization		-	(107,619,172)	(311,160,628)	(264,348,634)	(683,128,434)
Accumulated impairment		(54,829,261)	-	(1,424,590)	(1,179,709)	(57,433,560)
Book value	₩	569,749,931	33,778,501	69,077,303	42,756,164	715,361,899

(*1) Others are composed of identifiable intangible assets, such as customer relationships, customer value and technology value acquired from business combination, memberships and industrial property rights.

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

(In thousands of Korean won)

		2022				
		Goodwill	Development costs	Others	Software	Total
Beginning balance	₩	569,749,931	33,778,501	69,077,303	42,756,164	715,361,899
Acquisition		-	25,806,848	6,761,772	27,827,305	60,395,925
Transfer to other account		-	-	(101,941)	(4,374)	(106,315)
Disposal		-	-	(66,962)	(1,285,613)	(1,352,575)
Amortization		-	(15,211,349)	(13,030,530)	(22,331,864)	(50,573,743)
Impairment loss		-	-	(803,333)	-	(803,333)
Business transfer(*1)		(8,833,206)		(1,154,623)	(44,247)	(10,032,076)
Others		294,738	(73,110)	(1,926,756)	1,563,905	(141,223)
Ending balance	₩	561,211,463	44,300,890	58,754,930	48,481,276	712,748,559

(*1) There is a decrease due to business transfer as of December 31, 2022 (see Note 38).

15. INTANGIBLE ASSETS, Continued

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

(In thousands of Korean won)

		2021				
		Goodwill	Development costs	Others	Software	Total
Beginning balance	₩	569,398,625	42,621,023	80,813,365	43,892,058	736,725,071
Acquisition		-	8,548,099	1,013,347	21,098,220	30,659,666
Transfer		-	-	1,323	-	1,323
Transfer to other account		-	4,350	-	-	4,350
Disposal		-	-	(257,974)	(339,403)	(597,377)
Amortization		-	(17,398,453)	(15,248,491)	(22,503,596)	(55,150,540)
Impairment loss		-	-	(214)	-	(214)
Reversal of Impairment loss		-	-	3,114,550	-	3,114,550
Others		351,306	3,482	(358,603)	608,885	605,070
Ending balance	₩	569,749,931	33,778,501	69,077,303	42,756,164	715,361,899

(3) Amortization of intangible assets for the years ended December 31, 2022 and 2021, is presented in the following accounts:

(In thousands of Korean won)

		2022	2021
Cost of sales	₩	31,069,309	29,492,371
Selling and administrative expenses (*1)		19,504,434	25,658,169
Total	₩	50,573,743	55,150,540

(*1) Research and development expenses of ₩120 million and ₩177 million are included in selling and administrative expenses for the years ended December 31, 2022 and 2021, respectively.

(4) The Group recognized research and development expenses, amounting to ₩172,032 million and ₩150,156 million for the years ended December 31, 2022 and 2021, respectively.

15. INTANGIBLE ASSETS, Continued

(5) Goodwill

1) Goodwill was allocated to the Group's CGUs (groups) as of December 31, 2022 and 2021, as follows:

(In thousands of Korean won)

Segment	CGU		December 31, 2022	December 31, 2021
IT service	Samsung Networks, Inc. (*1)	₩	417,495,744	417,495,744
	MultiCampus Co., Ltd.		42,558,636	42,558,636
	Samsung SNS Co., Ltd.		28,595,632	37,428,837
	S-CORE CO., Ltd.		19,967,668	19,967,668
	Miracom Inc.		8,125,514	8,125,514
	SERICEO		6,458,968	6,458,968
	Language Testing International, Inc.		4,566,264	4,271,527
	SECUi Corp.		23,759,221	23,759,221
	Others		2,400,000	2,400,000
	Subtotal		553,927,647	562,466,115
Logistics service	EXE C&T Co., Ltd.		7,283,816	7,283,816
	Total	₩	561,211,463	569,749,931

(*1) Goodwill allocated to major CGU
Goodwill allocated to CGU of Samsung Networks, Inc. accounts for most of total carrying amount of goodwill. It was recognized in merger with Samsung Networks, Inc. in 2010 and the CGU of Samsung Network, Inc. has been stable with consistent growth considering past experiences regarding strategic decisions for CGU and sales and market trend.

The CGU of Samsung Networks, Inc. is in IT service segment and it provides Network Service (VPN, Wireless LAN u-Ready, etc.), Telephony Service (Wyz070, telephone, etc.), NI service (Network Consulting, Telecommunications infrastructure services, provision of telecommunication equipment, etc.) and Telecommunications Application Service (Contact center, IDC, etc.)

2) Key assumptions used for value-in-use estimation as of December 31, 2022, are as follows:

The Group performed an impairment test on goodwill as of December 31, 2022, considering the changes in CGUs for the year ended December 31, 2022. The recoverable amounts of CGUs (groups) have been determined based on fair value, less costs to sell as of impairment test date and value in use. The recoverable amount of the MultiCampus Co., Ltd. was determined based on the calculation of fair value, less costs to sell and it is calculated by deducting the disposal cost from stock price as of impairment test date. The impairment test of CGUs (groups) except for MultiCampus Co., Ltd. is performed based on value in use and it is calculated using cash flow projections based on financial budgets approved by management covering a one-year period. The forecasts used are consistent with those contained in the industry report.

	Samsung Networks, Inc.	Samsung SNS Co., Ltd.	EXE C&T Co., Ltd.	MultiCampus Co., Ltd.
Sales growth rate (*1)	1.1%~3.3%	5.3%~13.5%	6.5%~19.8%	3.9%~10.7%
Permanent growth rate (*2)	0.00%	0.00%	0.00%	0.00%
Discount rate (*3)	7.12%	9.34%	19.40%	9.89%

(*1) This is the sales growth rate to estimate the cash flow projections over the next five years. The Group has determined the sales growth rate of CGU based on historical performance and its expectations of market development.
(*2) The Group applied 0% as a steady growth rate for subsequent years, according to paragraphs 33(3) in K-IFRS 1036, *Impairment of Assets*.
(*3) Weighted-average cost of capital applied to cash flow projections is the rate that reflects intrinsic risk of CGUs (groups) as of the impairment test date.

15. INTANGIBLE ASSETS, Continued

3) Impairment of goodwill

As a result of the impairment test, the Group did not recognize any impairment loss on goodwill because the recoverable amount exceeds the carrying amount.

(6) No impairment loss on development costs is recognized as costs for the year ended December 31, 2022.

(7) Details of major development costs as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021	Residual amortization period
Project A	₩	9,063,246	12,084,328	3 year
Project B		-	5,667,137	-
Project C		-	100,278	-
Project D		23,300,275	-	3 year – 4 years
Others		11,937,369	15,926,758	-
Total	₩	44,300,890	33,778,501	

16. LEASE:

(1) Details of the carrying amounts of right-of-use assets as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022				
		Buildings	Machinery and equipment	Vehicles	Others	Total
Acquisition costs	₩	1,215,487,727	20,609,171	13,002,622	303,357	1,249,402,877
Accumulated depreciation		(407,439,246)	(8,026,291)	(6,286,067)	(55,985)	(421,807,589)
Net book value	₩	808,048,481	12,582,880	6,716,555	247,372	827,595,288

(In thousands of Korean won)

		December 31, 2021				
		Buildings	Machinery and equipment	Vehicles	Others	Total
Acquisition costs	₩	712,052,800	40,671,556	8,293,984	576,673	761,595,013
Accumulated depreciation		(280,960,713)	(36,171,352)	(4,205,246)	(359,949)	(321,697,260)
Net book value	₩	431,092,087	4,500,204	4,088,738	216,724	439,897,753

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

(In thousands of Korean won)

		December 31, 2022				
		Buildings	Machinery and equipment	Vehicles	Others	Total
Beginning balance	₩	431,092,087	4,500,204	4,088,738	216,724	439,897,753
Acquisition		314,153,864	12,604,411	5,968,831	443,200	333,170,306
Depreciation		(175,194,850)	(9,951,962)	(3,250,569)	(221,760)	(188,619,141)
Others (*1)		237,997,380	5,430,227	(90,445)	(190,792)	243,146,370
Ending balance	₩	808,048,481	12,582,880	6,716,555	247,372	827,595,288

(*1) Others include the increase or decrease due to the exchange rate fluctuation or the replacement of the sublease receivables.

(In thousands of Korean won)

		December 31, 2021				
		Buildings	Machinery and equipment	Vehicles	Others	Total
Beginning balance	₩	325,921,042	10,931,812	9,292,586	325,471	346,470,911
Acquisition		503,478,181	44,911,901	9,109,900	3,000,851	560,500,833
Depreciation		(134,372,797)	(13,259,944)	(2,882,197)	(228,918)	(150,743,856)
Others (*1)		(263,934,339)	(38,083,565)	(11,431,551)	(2,880,680)	(316,330,135)
Ending balance	₩	431,092,087	4,500,204	4,088,738	216,724	439,897,753

(*1) Others include the increase or decrease due to the exchange rate fluctuation or the replacement of the sublease receivables.

The Group leases several assets, including buildings, machinery and vehicles. The average lease term is 8.25 years (December 31, 2021: 5.55 years). Legal ownership of leased assets is held by the lessor as collateral for the lease liabilities. The carrying amount of right-of-use assets has increased by ₩533,143 million due to the renewal of the lease and the contract for the new lease for the year ended December 31, 2022. See Note 17 for an analysis of the maturity of lease liabilities.

16. LEASE, Continued

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

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Depreciation of right-of-use assets	₩	188,619,141	150,743,856
Interest expense on lease liabilities		26,801,099	15,097,984
Expense relating to short-term leases or to lease of low-value assets		30,987,039	21,128,480
Income from subleasing right-of-use assets		(249,890)	(318,239)

The total cash outflow for leases amounts to ₩224,606 million and ₩182,706 million for the years ended December 31, 2022 and 2021, respectively.

17. LEASE LIABILITIES:

The Group leases buildings and vehicles. The lessor owns legal ownership of the leased assets with the carrying amount of ₩827,595 million (December 31, 2021 : ₩439,898 million) as collateral for lease liability.

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

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Current liabilities	₩	192,817,816	149,014,065
Non-current liabilities		676,178,946	312,583,282
Total	₩	868,996,762	461,597,347

(2) Maturity analysis of the lease liabilities as of December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Within 1 year	₩	194,826,805	157,629,932
1 year to 2 years		162,355,727	130,688,838
2 to 3 years		137,256,582	65,549,489
3 to 4 years		124,300,635	37,984,422
4 to 5 years		105,832,780	26,451,612
More than 5 years		257,322,971	90,424,697
Subtotal		981,895,500	508,728,990
Less adjustment for present value		(112,898,738)	(47,131,643)
Present value of lease liability	₩	868,996,762	461,597,347

The Group is not exposed to a significant liquidity risk with regard to its lease liabilities. Lease liabilities are monitored within the Group's treasury division. All lease obligations are presented in Korean won.

18. FINANCE LEASE RECEIVABLES:

(1) Details of finance lease receivables as of December 31, 2022 and 2021, are as follows:

		December 31, 2022		December 31, 2021	
		Undiscounted Lease Receivable	**Net investment in the lease**	**Undiscounted Lease Receivable**	**Net investment in the lease**
Current assets	₩	7,083,494	6,979,442	5,165,189	5,102,335
Non-current assets		2,451,081	2,355,462	6,493,480	6,253,214
Total	₩	9,534,575	9,334,904	11,658,669	11,355,549

The average commitment terms of financial lease are 4.86 years as of December 31, 2022. Generally, lease commitments do not include an extension option or a termination option.

(2) Details of the finance lease receivables as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	**December 31, 2021**
Within 1 year	₩	7,083,494	5,165,189
1 year to 2 years		2,451,081	5,191,906
2 to 3 years		-	1,301,574
Total lease payments		9,534,575	11,658,669
Addition: unguaranteed residual values		-	-
Subtotal		9,534,575	11,658,669
Less unearned finance income		(199,671)	(303,120)
Present value of lease receivable		9,334,904	11,355,549
Less impairment loss allowance		-	-
Net investment in the lease	₩	9,334,904	11,355,549

(3) The amounts recognized in profit or loss of net investment in the lease from finance lease receivables for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	**2021**
Finance income on the net investment in finance leases	₩	249,890	318,239

The Group's finance lease arrangements do not include variable receivables. The average effective interest rate contracted approximates 2.85% per annum.

(4) Impairment of finance lease receivables

The management of the Group estimates the loss allowance on finance lease receivables at the end of the reporting period as the end of the reporting period. None of the finance lease receivables as an amount equal to lifetime ECL is past due at the end of the reporting period, and taking into account the historical default experience and the future prospects of the industries in which the lessees operate, together with the value of collateral held over these finance lease receivables, the management of the Group considers that no finance lease receivable are impaired.

There has been no change in the estimation techniques or significant assumptions made during the current reporting period in assessing the loss allowance for finance lease receivables.

19. BORROWINGS:

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

(In thousands of Korean won)

	Financial institutions	Annual interest rate (%)		December 31, 2022	December 31, 2021
Short-term borrowings	CITIBANK	5.95	₩	-	464,000

20. PROVISIONS:

(1) Details of provisions as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022		
		Current	Non-Current	Total
Provision for repairs	₩	162,923	-	162,923
Provision for project losses		3,685,492	-	3,685,492
Provision for warranties		2,560,552	-	2,560,552
Asset retirement obligation		193,762	23,664,617	23,858,379
Emission liability		307,312	-	307,312
Others		2,810,639	936,160	3,746,799
Total	₩	9,720,680	24,600,777	34,321,457

(In thousands of Korean won)

		December 31, 2021		
		Current	Non-Current	Total
Provision for repairs	₩	172,841	24,170	197,011
Provision for project losses		1,711,816	416,085	2,127,901
Provision for warranties		2,903,229	-	2,903,229
Asset retirement obligation		195,540	18,515,160	18,710,700
Emission liability		101,941	-	101,941
Others		11,029,226	946,905	11,976,131
Total	₩	16,114,593	19,902,320	36,016,913

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

(In thousands of Korean won)

		2022					
		Beginning balance	Increase	Utilization	Reversal	Business transfer(*1)	Ending balance
Provision for repairs ①	₩	197,011	84,972	-	(85,765)	(33,295)	162,923
Provision for project losses		2,127,901	4,262,857	(1,282,022)	(1,423,244)	-	3,685,492
Provision for warranties ②		2,903,229	477,191	-	(10,949)	(808,919)	2,560,552
Asset retirement obligation ③		18,710,700	5,343,524	(195,845)	-	-	23,858,379
Emission liability		101,941	307,312	(101,941)	-	-	307,312
Others		11,976,131	2,185,247	(2,244,037)	(8,170,542)	-	3,746,799
Total	₩	36,016,913	12,661,103	(3,823,845)	(9,690,500)	(842,214)	34,321,457

(*1) There is a decrease due to business transfer as of December 31, 2022 (see Note 38).

20. PROVISIONS, Continued

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

(In thousands of Korean won)

		2021				
		Beginning balance	Increase	Utilization	Reversal	Ending balance
Provision for repairs ①	₩	114,674	140,007	-	(57,670)	197,011
Provision for project losses		877,469	1,862,080	(607,849)	(3,799)	2,127,901
Provision for warranties ②		1,645,216	1,482,916	-	(224,903)	2,903,229
Asset retirement obligation ③		17,801,048	1,750,502	(710,086)	(130,764)	18,710,700
Emission liability		-	101,941	-	-	101,941
Others		14,703,138	3,339,340	(6,066,347)	-	11,976,131
Total	₩	35,141,545	8,676,786	(7,384,282)	(417,136)	36,016,913

① The Group makes provisions for estimated costs of project repairs based on historical experience and terms of guarantees.
② The Group makes provisions for estimated costs of future services arising from warranties, exchanges and refunds and repairs based on warranty period (one year) and historical rate.
③ The Group makes provisions for expected expense to be paid for restoration of leasehold assets to their original condition in the future.

21. RETIREMENT BENEFIT PLANS:

The Group concurrently operates defined contribution retirement benefit plans and defined benefit retirement benefit plans.

(1) Defined contribution retirement benefit plans

Defined contribution retirement benefit plans of ₩11,097 million and ₩9,904 million were recognized as expense in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021, respectively. The Group has unpaid contributions of ₩277 million and ₩244 million as of December 31, 2022 and 2021, respectively.

(2) Defined benefit retirement benefit plans

1) Net defined benefit liabilities (assets) recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Present value of funded defined benefit obligation	₩	1,454,033,535	1,494,551,766
Present value of unfunded defined benefit obligation		32,349,371	29,540,787
Subtotal		1,486,382,906	1,524,092,553
Less fair value of plan assets		(1,979,115,824)	(1,721,455,382)
Total	₩	(492,732,918)	(197,362,829)

21. RETIREMENT BENEFIT PLANS, Continued

2) Changes in net defined benefit liabilities (assets) for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022		
		Defined benefit obligation	**Fair value of plan assets**	**Net defined benefit liabilities (assets)**
Beginning balance	₩	1,524,092,553	(1,721,455,382)	(197,362,829)
Included in profit or loss:				
Current service cost		128,736,878	-	128,736,878
Past service cost		-	-	-
Interest cost (income)		52,520,617	(58,918,877)	(6,398,261)
Others		-	-	-
Subtotal		181,257,495	(58,918,877)	122,338,617
Included in OCI:				
Remeasurement elements:				
Actuarial loss (gain) arising from:		(123,367,235)	-	(123,367,235)
Effect of change in discount rate		(250,220,598)	-	(250,220,598)
Financial assumptions		46,040,737	-	46,040,737
Demographical assumptions		2,039,904	-	2,039,904
Experience adjustment		78,772,722	-	78,772,722
Return on plan assets		-	26,417,388	26,417,388
Subtotal		(123,367,235)	26,417,388	(96,949,847)
Others:				
Contributions paid by the employer		-	(314,359,890)	(314,359,890)
Benefits paid		(86,750,244)	79,472,665	(7,277,579)
Transfer from affiliates		976,142	(422,042)	554,100
Impact from business transfer		(9,383,534)	9,383,534	-
Others		(442,271)	766,781	324,510
Subtotal		(95,599,907)	(225,158,952)	(320,758,859)
Ending balance	₩	1,486,382,906	(1,979,115,824)	(492,732,918)

21. RETIREMENT BENEFIT PLANS, Continued

2) Changes in net defined benefit liabilities (assets) for the years ended December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)

		2021		
		Defined benefit obligation	Fair value of plan assets	Net defined benefit liabilities (assets)
Beginning balance	₩	1,368,220,633	(1,434,040,606)	(65,819,973)
Included in profit or loss:				
Current service cost		119,102,978	-	119,102,978
Past service cost		-	-	-
Interest cost (income)		40,842,062	(42,030,366)	(1,188,304)
Others		-	-	-
Subtotal		159,945,040	(42,030,366)	117,914,674
Included in OCI:				
Remeasurement elements:				
Actuarial loss (gain) arising from:		48,588,007	-	48,588,007
Effect of change in discount rate		(56,434,835)	-	(56,434,835)
Financial assumptions		56,542,809	-	56,542,809
Demographical assumptions		41,604	-	41,604
Experience adjustment		48,438,429	-	48,438,429
Return on plan assets		-	12,049,160	12,049,160
Subtotal		48,588,007	12,049,160	60,637,167
Others:				
Contributions paid by the employer		-	(306,614,404)	(306,614,404)
Benefits paid		(47,864,876)	47,236,359	(628,517)
Transfer from affiliates		3,736	236,252	239,988
Impact from business transfer		-	-	-
Others		(4,799,987)	1,708,223	(3,091,764)
Subtotal		(52,661,127)	(257,433,570)	(310,094,697)
Ending balance	₩	1,524,092,553	(1,721,455,382)	(197,362,829)

3) The principal actuarial assumptions used as of December 31, 2022 and 2021, are as follows:

	December 31, 2022	December 31, 2021
Discount rate	2.3% - 6.2%	2.4% - 3.8%
Expected rate of salary increase (including inflation rate)	3.0% - 8.2%	4.5% - 6.1%

Assumptions regarding the future mortality rate are based on average life expectancy and published statistics.

4) Details of fair value of plan assets as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022		December 31, 2021	
		Carrying amounts	Composition (%)	Carrying amounts	Composition (%)
Cash and cash equivalents	₩	1,978,649,926	99.9	1,720,967,863	99.9
Others		465,898	0.1	487,519	0.1
Total	₩	1,979,115,824	100	1,721,455,382	100

21. RETIREMENT BENEFIT PLANS, Continued

5) The sensitivity analysis of the overall defined benefit liability in accordance with changes to the principal assumptions as of December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

	December 31, 2022			
	Changes in principal assumption		Effect due to increase in principal assumption	Effect due to decrease in principal assumption
Discount rate	1.0% point	₩	(91,419,402)	103,111,535
Salary growth rate	1.0% point		105,972,369	(95,405,191)

(In thousands of Korean won)

	December 31, 2021			
	Changes in principal assumption		Effect due to increase in principal assumption	Effect due to decrease in principal assumption
Discount rate	1.0% point	₩	(108,219,623)	123,556,045
Salary growth rate	1.0% point		123,927,591	(110,515,725)

6) Expected contributions to defined benefit plans for the year ended December 31, 2022, amounted to ₩180,508 million.

7) The weighted-average duration of the defined benefit liabilities as of December 31, 2022, is 4.19 – 7.68 years.

22. COMMITMENTS AND CONTINGENCIES:

(1) Guarantees

Details of guarantees provided for employees by the Group as of December 31, 2022, are as follows:

(In thousands of Korean won)

	Detail	Financial institutions		Amounts
Employees	Debt guarantee	Woori Bank (*1)	₩	10,000,000

(*1) Guarantees are provided for the employee's housing loan owed to the financial institutions.

22. COMMITMENTS AND CONTINGENCIES, Continued

(2) Guarantees provided and major commitments

Details of guarantees provided to the Group and major commitments with financial institutions as of December 31, 2022, are as follows:

(In thousands of Korean won, USD,KWD,CNY,VND,EUR,INR,AUD,MYR ,TRY,AED,SEK)

Financial institutions	Detail		Executed amounts		Limits
KEB Hana Bank	Payment guarantee		-	USD	14,500,000
		CNY	2,615,737	CNY	50,000,000
Shinhan Bank	Import letter of credit		-	USD	27,000,000
	Bills bought		-	USD	5,000,000
	Payment guarantee		-	USD	34,299,000
	Payment guarantee	VND	124,292,498,636	USD	7,700,000
	Payment guarantee	VND	46,821,100,000	VND	52,278,500,000
	Payment guarantee	USD	812,500	USD	812,500
Woori Bank	Payment guarantee		-	USD	22,000,000
	Payment guarantee	CNY	2,000,000	CNY	2,000,000
Kookmin Bank	Payment guarantee		-		
	Import letter of credit		-	USD	20,000,000
	Local letter of credit		-	KRW	5,000,000
HSBC	Payment guarantee		-	USD	10,000,000
		AUD	8,082,058	AUD	8,082,058
	Overseas financing guarantee		-	USD	3,100,000
			-	INR	360,000,000
Citi Bank	Payment guarantee	EUR	98,730	EUR	98,730
	Payment guarantee	KWD	97,719	KWD	97,719
		AED	359,000		
		EUR	4,850,815		
	Overseas financing guarantee	MYR	190,000		
		USD	890,351		
		SEK	8,706,800		
		TRY	500,000	USD	53,500,000
Commerzbank AG	Payment guarantee	EUR	3,042,408	EUR	3,300,000
BOA(Bank of America)	Payment guarantee	USD	6,327,439	USD	6,327,439
Emirates NBD	Payment guarantee	AED	3,626	AED	3,626

22. COMMITMENTS AND CONTINGENCIES, Continued

(3) Other commitments

1) The Company entered into general term loan agreements with an aggregate credit limit of ₩20,000 million with Shinhan Bank as of December 31, 2022.

2) The Company has bank overdraft facilities with Woori Bank and three other banks amounting to ₩70,500 million in aggregate, and a domestic subsidiary, Miracom Inc., has bank overdraft facilities with Woori Bank and one other bank amounting to ₩4,800 million in aggregate as of December 31, 2022.

3) The Company has a contractual agreement of business-to-business electronic payment system with KEB Hana Bank and three other banks amounting to ₩104,598 million, with a credit limit of ₩340,000 million as of December 31, 2022.

4) The Company has a comprehensive credit limit with KEB Hana Bank to ₩19,300 million as of December 31, 2022.

5) The Company has been provided a payment guarantee amounting to ₩323,735 million by Korea Software Financial Cooperative and Seoul Guarantee Insurance Company, and in relation to the guarantee, an equity investment of ₩2,794 million is provided to Korea Software Financial Cooperative as collateral as of December 31, 2022. Miracom Inc. and MultiCampus Co., Ltd., which are domestic subsidiaries of the Company, are provided with payment guarantees by Korea Software Financial Cooperative amounting to ₩32,459 million and ₩7,082 million, respectively, and each of these subsidiaries has provided equity investment of ₩422 million and ₩225 million, respectively, to Korea Software Financial Cooperative as collateral. In addition, MultiCampus Co., Ltd.; SECUi. Corp.; and S-Core Co., Ltd. are provided with payment guarantees by Seoul Guarantee Insurance Company amounting to ₩3,223 million, ₩2,005 million and ₩1,212 million as of December 31, 2022, respectively. The Company has provided a time deposit of ₩10,000 million as collateral in relation to the outsourcing service contract for information system operation business concluded with Korea Development Bank.

23. SHARE CAPITAL AND PREMIUM:

Under its articles of incorporation, the Group is authorized to issue 200,000,000 common shares with a par value of ₩500 per share, and 50,000,000 shares of participating preferred share, which are non-voting and are entitled to receive a minimum cash dividend of more than 1% of par value by resolution of the board of directors. In addition, the Group is authorized to issue to investors, other than current shareholders, convertible debentures and debentures with warrants with face values of up to ₩67,000 million, where ₩50,000 million of such debentures is for common shares and the remaining ₩17,000 million is for preferred shares. As of December 31, 2022, 77,377,800 shares are issued and share capital amounts to ₩38,689 million. As of December 31, 2022, there are no issued convertible debentures, debentures with warrants and participating preferred share, which are non-voting.

24. RETAINED EARNINGS:

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

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Legal reserve			
Earned surplus reserve (*1)	₩	19,344,450	19,344,450
Reserve for business development (*2)		21,000,000	21,000,000
Subtotal		40,344,450	40,344,450
Discretionary reserve			
Reserve for business rationalization (*3)		10,098,807	10,098,807
Subtotal		10,098,807	10,098,807
Unappropriated retained earnings		6,950,509,983	6,036,405,686
Total	₩	7,000,953,240	6,086,848,943

(*1) The Commercial Code of the Republic of Korea requires the Group to appropriate, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid, until such reserve equals 50% of its issued capital stock. This reserve is not available for the payment of cash dividends, but may be transferred to capital stock or used to reduce accumulated deficit, if any, with the ratification of the Group's majority shareholders.

(*2) In accordance with the former corporate income tax law, the Group has accumulated reserves for business development by the amount of retained earnings in excess of accumulated earnings. This amount may be transferred to capital stock or used to reduce accumulated deficit, if any, with the ratification of the Group's majority shareholders.

(*3) Pursuant to the Special Tax Treatment Control Law, the Group is required to appropriate, as a reserve for business rationalization, a portion of retained earnings equal to tax reductions arising from investment and other tax credits. Due to revision made to Korean tax laws during 2002, such reserves are no longer required.

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

(In thousands of Korean won)

		2022	2021
Beginning balance	₩	6,086,848,943	5,661,318,543
Net income attributable to the owners of the Group		1,099,744,743	611,170,846
Dividends		(185,640,446)	(185,640,446)
Ending balance	₩	7,000,953,240	6,086,848,943

24. RETAINED EARNINGS, Continued

(3) Details of dividends declared and dividends' payout ratio for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

			2022	2021
Number of common shares outstanding	common shares		77,350,186 shares	77,350,186 shares
Dividend ratio	common shares		640%	480%
Dividends	common shares	₩	247,520,595	185,640,446

25. OTHER COMPONENTS OF EQUITY:

(1) Details of other components of equity as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Valuation gain on FVOCI	₩	45,960,223	50,902,736
Changes in associates' accumulated other comprehensive losses		12,507,390	10,827,380
Changes in associates' accumulated other comprehensive losses		(9,554,504)	(9,554,504)
Foreign currency translation differences		1,266,471	(18,368,445)
Treasury stock		(1,592,531)	(1,592,531)
Other capital adjustment		80,353,908	80,353,908
Remeasurement of defined benefit liability		(242,856,645)	(306,852,606)
Total	₩	(113,915,688)	(194,284,062)

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

(In thousands of Korean won)

	2022			2021		
	Number of shares		Book value	Number of shares		Book value
Beginning	27,614 shares	₩	1,592,531	27,614 shares	₩	1,592,531
Acquisition	-		-	-		-
Ending	27,614 shares	₩	1,592,531	27,614 shares	₩	1,592,531

The Group acquired 13,515 shares (at ₩56,406 per share) of treasury stocks from shareholders who exercised the appraisal right against the merger of Samsung Networks Co., Ltd., in accordance with the Commercial Code of the Republic of Korea. The Group holds 9,005 common shares due to transfer of treasury shares owned by Samsung Networks Co., Ltd. and 4,197 common shares due to acquisition of fractional shares.

In addition, the Group holds 346 common shares due to transfer of treasury shares owned by Samsung SNS Co., Ltd. and 551 common shares due to acquisition of fractional shares for the year ended December 31, 2013.

The Group intends to dispose of its treasury shares depending on the market conditions.

26. REVENUE

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

(In thousands of Korean won)

		2022	2021
Sales of goods	₩	344,932,254	309,635,813
IT service (*1)		5,623,261,407	5,327,561,331
Logistics service		11,266,555,877	7,992,805,295
Total	₩	17,234,749,538	13,630,002,439

(*1) Revenue from fixed-price contracts is included.

(2) Details of contract assets as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Installation of software services, etc.	₩	688,435,607	667,349,971
Less : allowance for doubtful accounts		(2,977,831)	-
Total		685,457,776	667,349,971
Current		678,180,178	656,725,165
Non-Current		7,277,598	10,624,806
Total	₩	685,457,776	667,349,971

(3) Details of changes in expected credit losses of the contract assets for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Beginning balance	₩	-	-
Increase in allowances for losses		2,977,831	-
Ending balance		2,977,831	-

(4) Details of contract liabilities as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Installation of software services, etc. (*1)	₩	189,459,929	238,379,382
Total		189,459,929	238,379,382
Current		189,337,493	238,379,382
Non-Current		122,436	-
Total	₩	189,459,929	238,379,382

(*1) Contract liabilities relating to software installation services are balances due to customers under contracts. These arise if a particular milestone payment exceeds the revenue recognized to date under the cost-to-cost method.

26. REVENUE, Continued

(5) No revenue was recognized for the years ended December 31, 2022 and 2021, in relation to performance obligations fulfilled in the accounting periods beginning on or before January 1, 2021. The amount of revenue recognized for the years ended December 31, 2022 and 2021, arising from contract liabilities carried forward from prior year is as follows:

(In thousands of Korean won)

		2022	2021
Installation of software services, etc.	₩	218,852,513	184,810,611

(6) There are no contract assets or trade receivables in relation to the major contract more than 5% of the Group's revenue in the prior period that is recognized in the current period by the cost-to-cost method for basis of the percentage of total costs incurred to date for the year ended December 31, 2022.

(7) Changes in estimated total contract costs

Applying the cost-to-cost method, which is a basis of the total contract amount and total contract cost associated with a contract that recognize revenue over time, the effects of changes in estimates and changes in those for current and future periods on gains and losses, contract assets and contract liabilities changes are as follows:

(In thousands of Korean won)

		Change in contract amount	Change in estimated total contract cost	Effect on net income	Effect on future income	Change in contract assets
Installation of Software services, etc.	₩	37,956,516	23,642,523	21,129,067	(6,815,074)	21,129,067

The impact on current and future periods is calculated based on total estimated contract costs considering events that occurred until December 31, 2022, after the commencement of the contract and the current estimate of total contract revenue as of December 31, 2022. Estimates of total contract revenue and total contract costs may change in future periods.

27. EXPENSES BY NATURE:

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

(In thousands of Korean won)

		2022	2021
Changes in inventories and purchase of inventories	₩	598,680,347	611,770,390
Wages and salaries		2,447,404,839	2,245,855,709
Employee welfare		461,295,658	413,122,974
Depreciation		272,966,476	236,453,542
Depreciation of right-of-use assets		188,619,141	150,743,856
Amortization		50,573,743	55,150,540
Advertising		7,891,922	5,191,212
Transportation		1,658,561	1,811,579
Travel		55,237,340	29,461,694
Training		84,626,622	77,411,789
Commission and service charges		258,581,341	194,347,028
Rent		62,050,871	53,450,499
Outsourcing		1,221,089,780	1,090,070,578
Communication		178,930,570	169,449,798
Taxes and dues		35,863,066	32,827,172
Logistics		10,177,470,177	7,281,093,766
Others		215,735,060	173,692,541
Total	₩	16,318,675,514	12,821,904,667

28. SELLING AND ADMINISTRATIVE EXPENSES:

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

(In thousands of Korean won)

		2022	2021
Wages and salaries	₩	468,991,984	444,374,975
Provision for severance indemnities		34,743,630	36,674,217
Employee welfare		103,924,784	91,009,323
Depreciation		17,062,046	14,589,800
Depreciation of right-of-use assets		53,671,123	39,546,189
Amortization		19,384,052	25,481,350
Repairs and maintenance		3,863,565	3,344,212
Supplies		4,945,095	2,008,236
Utility		1,898,082	1,513,100
Outsourcing		45,701,653	44,034,764
Travel		13,357,105	6,011,861
Communication		1,666,839	1,231,478
Insurance premium		3,787,671	3,000,953
Commission and service charges		58,362,304	38,606,524
Advertising		7,891,922	5,125,808
Rent		25,357,622	21,414,020
Publication		438,480	449,253
Entertainment		5,464,246	4,736,342
Conference		2,512,844	1,888,241
Training		9,290,747	5,918,518
Recreation		2,712,160	1,167,220
Broadcasting		26,155	48,336
Bad debt		11,544,259	(679,960)
Service charge		4,554,679	2,432,365
Research and development		69,610,827	69,500,594
Others		13,717,883	11,637,979
Total	₩	984,481,757	875,065,698

29. OTHER OPERATING INCOME AND EXPENSES:

(1) Details of other operating income for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Commission income	₩	2,378,870	1,450,463
Dividend income		17,950	16,350
Gain on disposal of property and equipment		1,498,483	655,899
Gains on disposal of intangible assets		86	(25)
Reversal of impairment losses on intangible assets		-	3,114,550
Valuation gain on FVPL		4,394,790	2,753,739
Reversal of allowance for doubtful accounts		359,376	10,333
Gain on business transfer		71,124,050	-
Others		49,077,270	15,508,675
Total	₩	128,850,875	23,509,984

(2) Details of other operating expenses for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Loss on disposal of FVPL	₩	6,833,140	-
Valuation loss on FVPL		-	531,419
Loss on disposal of property and equipment		309,398	117,022
Loss on disposal of intangible assets		1,213,018	291,124
Impairment loss on property and equipment		379,919	701,800
Impairment loss on intangible assets		803,333	214
Donations		2,837,314	2,701,116
Other bad debt expense		1,732,424	4,198
Others		13,683,363	26,967,848
Total	₩	27,791,909	31,314,741

30. FINANCE INCOME AND EXPENSES:

(1) Details of finance income and expenses for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Finance income			
Interest income			
Financial asset measured at amortized cost	₩	111,124,879	60,808,535
Gain on foreign currency transaction		150,716,626	54,617,874
Foreign exchange gain		52,766,749	15,471,654
Total	₩	314,608,254	130,898,063
Finance expenses			
Interest expense			
Financial asset measured at amortized cost		28,811,125	17,648,968
Loss on foreign currency transaction		143,215,788	49,992,745
Foreign exchange loss		34,549,218	12,481,224
Total	₩	206,576,131	80,122,936

(2) The Group recognizes the gain and loss from foreign exchange differences as finance income and expenses.

31. INCOME TAX EXPENSE

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

(In thousands of Korean won)

		2022	2021
Current income taxes	₩	269,897,561	193,264,492
Additional income taxes for prior years and other		(26,826)	1,216,539
Adjustment amount recognized in the current period (*1)		(163,936,582)	-
Deferred income tax arising from temporary differences and other differences		(103,866,531)	29,679,297
Income tax expense	₩	2,067,622	224,160,328

(*1) The Group filed a lawsuit against the Seoul High Court related to income tax disposition-imposed cancellation. As a result, the Group won the case for the years ended December 31, 2022 and recognized an income tax revenue. (see Note 2).

(2) The actual income tax expense on the Group's profit before tax differs from the amount that is computed using the tax calculated at the weighted-average rate applied to profits for the years ended December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		2022	2021
Profit before income tax expenses	₩	1,132,080,207	857,541,761
Income tax based on statutory tax rate		285,411,146	202,112,783
Weighted-average tax rate (*1)		25.21%	23.57%
Adjustment amount recognized in the current period for prior-period current tax (*1)		(163,936,582)	-
Adjustments			
Permanent differences		10,637,233	13,500,207
Tax credit		(26,377,103)	(11,652,661)
Tax credit for which no deferred tax asset was recognized		-	-
Adjustment related to investments in subsidiaries		(120,949,741)	(708,194)
Others (*2)		17,282,669	20,908,193
Income tax expense	₩	2,067,622	224,160,328
Effective tax rate		0.18%	26.14%

(*1) The Group's statutory tax rate is applied differently according to the tax authorities as of December 31, 2022 and 2021.
(*2) Other adjustments consist of additional income taxes for prior years and tax effect from tax rate change, etc.

31. INCOME TAX EXPENSE, Continued

(3) Changes in deferred income tax assets and liabilities resulting from the tax effect of cumulative temporary differences and others for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022					
		Cumulative temporary differences			Deferred tax assets (liabilities)		
		Beginning	Changes	End	Beginning	Changes	End
Deferred income tax arising from temporary differences:							
Net defined benefit liabilities	₩	(234,310,475)	(207,999,192)	(442,309,667)	(172,142,332)	(27,430,220)	(199,572,552)
Investment in associates		21,808,824	(4,282,560)	17,526,264	(6,856,766)	(704,221)	(7,560,987)
Property and equipment		28,595,116	15,864,328	44,459,444	(778,363)	12,560,117	11,781,754
Employee welfare fund		(5,323,185)	(313,561)	(5,636,746)	(1,463,876)	(29,862)	(1,493,738)
Prepaid rent expenses		(3,818,982)	(635,198)	(4,454,180)	(1,050,220)	(130,138)	(1,180,358)
Investment in subsidiaries		(881,630,365)	355,493,450	(526,136,915)	(242,448,350)	103,022,068	(139,426,282)
Right-of-use assets		(188,778,096)	(230,043,032)	(418,821,128)	(51,913,976)	(59,073,623)	(110,987,599)
Accrued expenses		116,377,009	1,507,025	117,884,034	32,003,677	(764,408)	31,239,269
Long-term accrued expense		39,879,004	(3,958,599)	35,920,405	10,966,726	(1,447,819)	9,518,907
Provision		17,002,007	5,356,992	22,358,999	4,675,552	1,249,583	5,925,135
Deposit		4,180,502	551,506	4,732,008	1,149,638	104,344	1,253,982
Foreign exchange gains and losses		(4,353,156)	7,305,017	2,951,861	(1,197,118)	1,979,361	782,243
Taxes and dues		714,961	93,061	808,022	196,614	17,512	214,126
Lease liabilities		199,202,107	242,337,799	441,539,906	54,780,579	62,227,496	117,008,075
Others		(292,502,879)	(8,217,551)	(300,720,430)	(3,718,528)	19,531,523	15,812,995
Subtotal		(1,182,957,608)	173,059,485	(1,009,898,123)	(377,796,743)	111,111,713	(266,685,030)
Deferred tax charged directly to shareholders' equity:							
Valuation of FVOCI and others		480,739,877	(45,189,111)	435,550,766	148,054,777	(32,151,266)	115,903,511
					Deferred tax assets		48,789,194
					Deferred tax liabilities		(199,570,713)
					Net deferred tax liabilities	₩	(150,781,519)

31. INCOME TAX EXPENSE, Continued

(3) Changes in deferred income tax assets and liabilities resulting from the tax effect of cumulative temporary differences and others for the years ended December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)

		2021					
		Cumulative temporary differences			Deferred tax assets (liabilities)		
		Beginning	Changes	End	Beginning	Changes	End
Deferred income tax arising from temporary differences:							
Net defined benefit liabilities	₩	(128,564,394)	(105,746,081)	(234,310,475)	(126,441,957)	(45,700,375)	(172,142,332)
Investment in associates		16,834,637	4,974,187	21,808,824	(6,809,193)	(47,573)	(6,856,766)
Property and equipment		23,935,006	4,660,110	28,595,116	(4,018,302)	3,239,939	(778,363)
Employee welfare fund		(5,115,608)	(207,577)	(5,323,185)	(1,406,792)	(57,084)	(1,463,876)
Prepaid rent expenses		(3,685,580)	(133,402)	(3,818,982)	(1,013,535)	(36,685)	(1,050,220)
Investment in subsidiaries		(882,033,267)	402,902	(881,630,365)	(242,559,148)	110,798	(242,448,350)
Right-of-use assets		(148,552,690)	(40,225,406)	(188,778,096)	(40,851,990)	(11,061,986)	(51,913,976)
Accrued expenses		99,341,278	17,035,731	116,377,009	27,318,852	4,684,825	32,003,677
Long-term accrued expense		33,905,525	5,973,479	39,879,004	9,324,019	1,642,707	10,966,726
Provision		15,354,583	1,647,424	17,002,007	4,222,510	453,042	4,675,552
Deposit		4,110,497	70,005	4,180,502	1,130,387	19,251	1,149,638
Foreign exchange gains and losses		3,681,325	(8,034,481)	(4,353,156)	1,012,364	(2,209,482)	(1,197,118)
Taxes and dues		742,349	(27,388)	714,961	204,146	(7,532)	196,614
Lease liabilities		156,414,727	42,787,380	199,202,107	43,014,050	11,766,529	54,780,579
Others		(281,557,943)	(10,944,936)	(292,502,879)	2,654,043	(6,372,571)	(3,718,528)
Subtotal		(1,095,189,555)	(87,768,053)	(1,182,957,608)	(334,220,546)	(43,576,197)	(377,796,743)
Deferred tax charged directly to shareholders' equity:							
Valuation of FVOCI and others		431,035,570	49,704,307	480,739,877	125,552,262	22,502,515	148,054,777
					Deferred tax assets		44,462,489
					Deferred tax liabilities		(274,204,454)
					Net deferred tax liabilities	₩	(229,741,965)

Realization of the future tax benefits related to the deferred tax assets is dependent on many factors, including the Group's ability to generate sufficient taxable income within the period during which the temporary differences reverse, the outlook of the global economic environment and the overall future industry outlook. The Group's management periodically considers these factors in reaching its conclusion.

31. INCOME TAX EXPENSE, Continued

(4) Deferred income tax assets and liabilities credited (charged) directly to equity as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Temporary differences:			
Valuation gain on FVOCI	₩	62,891,053	444,332
Other capital adjustment		19,306,476	21,953,355
Remeasurement of the net defined benefit liabilities		353,353,237	458,342,190
Subtotal		435,550,766	480,739,877
Deferred tax assets	₩	115,903,511	148,054,777

(5) Details temporary differences to be added and deducted not recognized as deferred tax liabilities (assets) in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Temporary differences to be added	₩	418,844,990	424,597,242
Temporary differences to be deducted		(4,273,153)	-
Total	₩	414,571,837	424,597,242

32. CASH FLOWS FROM OPERATING ACTIVITIES:

(1) Adjustment items to net income for cash flows from operating activities and changes in operating assets and liabilities for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Net income	₩	1,130,012,586	633,381,433
Adjustment items:			
Foreign exchange losses		34,549,218	12,481,224
Depreciation		272,966,476	236,453,542
Depreciation of right-of-use assets		188,619,141	150,743,856
Amortization		50,573,743	55,150,540
Provision for severance indemnities		122,338,617	117,914,674
Foreign exchange gains		(52,766,749)	(15,471,654)
Reversal of provision for project loss		(1,423,244)	(3,799)
Impairment loss on property and equipment		379,919	701,800
Impairment loss on intangible assets		803,333	214
Income tax expense		2,067,622	224,160,328
Gain on business transfer		(71,124,050)	-
Others		(83,022,391)	(24,674,590)
Subtotal		463,961,635	757,456,135
Changes in operating assets and liabilities:			
Increase (decrease) in trade receivables		203,317,566	(400,642,363)
Increase (decrease) in other receivables		(96,241,799)	23,886,277
Increase (decrease) in prepaid expenses		(88,956,582)	(65,775,078)
Increase (decrease) in trade payables		(96,269,155)	224,359,594
Increase (decrease) in other payables		46,777,044	16,262,321
Increase (decrease) in accrued expenses		(122,032,962)	223,861,557
Changes in net defined benefit liabilities		(320,432,968)	(307,981,584)
Increase (decrease) in advances received		(27,142,815)	57,657,830
Increase (decrease) in withholdings		7,926,988	3,304,951
Others		393,538,408	(40,904,680)
Subtotal		(99,516,275)	(265,971,175)
Cash flows from operating activities	₩	1,494,457,946	1,124,866,393

(2) Significant transactions not affecting cash flows for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Write-off of accounts receivable and long-term and short-term other receivables by offset of allowance for doubtful accounts	₩	930,477	596,120
Transfer of construction in progress		18,125,240	2,552,651
Changes in other payables in connection with the acquisition of property and equipment		20,269,537	5,731,238
Changes in other payables in connection with the acquisition of intangible assets		(14,587)	(2,508,060)
Right-of-use assets transfer of lease liabilities		458,631,616	133,438,660
Finance lease receivables transfer of right-of-use assets		3,104,675	2,942,061

32. CASH FLOWS FROM OPERATING ACTIVITIES, Continued

(3) Adjustments of liabilities from financing activities for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022			
		Beginning Balance	Other (*1)	Cash flows	Ending Balance
Short-term borrowings	₩	464,000	-	(464,000)	-
Current portion of lease liabilities		149,014,065	210,621,646	(166,817,895)	192,817,816
Lease liabilities		312,583,282	363,595,664	-	676,178,946
Deposits received (*2)		786,670	(446,195)	279,394	619,869
Long-term deposits received (*2)		4,329,121	446,195	(182,767)	4,592,549
Total	₩	467,177,138	574,217,310	(167,185,268)	874,209,180

(*1) This includes effects from transfer and foreign currency translation.
(*2) This only includes deposits for finance lease borrowed in exchange for the use of finance lease assets.

(In thousands of Korean won)

		December 31, 2021			
		Beginning Balance	Other (*1)	Cash flows	Ending Balance
Short-term borrowings	₩	899,729	-	(435,729)	464,000
Current portion of lease liabilities		125,977,966	157,668,767	(134,632,668)	149,014,065
Current portion of corporate bond		10,000	-	(10,000)	-
Lease liabilities		238,795,878	73,787,404	-	312,583,282
Deposits received (*2)		1,141,657	(34,458)	(320,529)	786,670
Long-term deposits received (*2)		4,403,628	34,458	(108,965)	4,329,121
Total	₩	371,228,858	231,456,171	(135,507,891)	467,177,138

(*1) This includes effects from transfer and foreign currency translation.
(*2) This only includes deposits for finance lease borrowed in exchange for the use of finance lease assets.

33. FINANCIAL RISK MANAGEMENT:

The Group is exposed to credit risk, liquidity risk and market risk. Market risk arises from currency risk, interest rate risk and fair value risk associated with investments. The Group has a risk management program in place to monitor and actively manage such risks.

The Group's finance management team is responsible for financial risk management. Also, the financial risk management officers develop, evaluate and estimate the financial risk, and hedge the risk exposures in cooperation with the business units of the Group and domestic and overseas subsidiaries.

The Group’s financial assets that are under financial risk management are composed of cash and cash equivalents, short-term financial instruments, financial assets measured at fair value, trade and other receivables and other financial assets. The Group’s financial liabilities under financial risk management are composed of trade and other payables and others.

(1) Market risk

1) Foreign exchange risk

The Group is exposed to foreign exchange risk due to revenues and expenses arising from foreign currency transactions through global business activities. These transactions are mainly conducted in USD, EUR, GBP and other foreign currencies.

To minimize foreign exchange risk arising from operating activities, the Group’s foreign exchange management policy requires all normal business transactions, such as import-export, to be in functional currency or cash inflows in foreign currencies to match up with cash outflows in foreign currencies. Foreign exchange risk for inevitably occurring foreign exchange positions is managed in accordance with the procedures and regulations prescribed in advance.

The Group’s foreign currency risk management policy also defines foreign exchange risk, measurement period, controlling responsibilities and management procedures. The Group restricts all speculative foreign exchange transactions and operates a system to manage receivables and payables denominated in foreign currency. The Group’s global foreign currency management system monitors, evaluates, manages and reports its foreign exchange risk (Net assets in foreign currencies = Assets in foreign currencies – Liability in foreign currencies).

The carrying amounts of financial assets and liabilities denominated in foreign currency held by the Group as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		Assets		Liabilities	
		December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
USD	₩	1,438,544,392	551,941,991	765,721,228	307,953,465
EUR		393,635,821	237,445,855	209,319,864	199,895,217
GBP		134,942,704	140,388,637	43,317,628	36,851,423

In addition to the major currencies, the Group has other financial assets denominated in foreign currency amounting to ₩1,493,303 million and ₩583,526 million as of December 31, 2022 and 2021, respectively, and other financial liabilities denominated in foreign currency amounting to ₩649,338 million and ₩149,949 million as of December 31, 2022 and 2021, respectively.

33. FINANCIAL RISK MANAGEMENT, Continued

(1) Market risk, Continued

1) Foreign exchange risk, Continued

Foreign currency exposure to financial assets and liabilities of a 5% currency rate change against the Korean won as of December 31, 2022 and 2021, is presented below. The 5% represents reasonably possible changes in exchange rates by applying sensitivity when foreign exchange rate risk is internally reported to key management personnel. Sensitivity analysis includes only monetary items to be paid denominated in foreign currencies. Foreign currency translations are adjusted by assuming a 5% change in foreign exchange rates at the end of the reporting period. The effect of foreign currency changes to the Company's equity is calculated by the sum of net effect of exchange rate fluctuations in the Korean won against foreign currencies.

(In thousands of Korean won)

		USD Effect		**EUR Effect**		**GBP Effect**	
		December 31, 2022	**December 31, 2021**	**December 31, 2022**	**December 31, 2021**	**December 31, 2022**	**December 31, 2021**
Net income for the year	₩	33,641,158	12,199,426	9,215,798	1,877,532	4,581,254	5,176,861
Net assets		33,641,158	12,199,426	9,215,798	1,877,532	4,581,254	5,176,861

2) Stock price risk

The Group's investment portfolio consists of investments in listed and unlisted securities using direct and indirect investment vehicles for strategic purposes (see Note 11). The Group has no listed securities except for investments in subsidiaries and investments in associates as of December 31, 2022.

3) Interest rate risk

The Group is exposed to fair value risk of consolidated statements of financial position items due to changes in market price rates, and is exposed to interest rate risk, such as changes in cash flows of interest income and expense arising from investing and financing activities, including investment risk. The Group's position with regard to interest rate risk exposure is mainly driven by interest-bearing deposits and variable-rate borrowings. The Group establishes the policy to manage the uncertainty related to interest rate fluctuations and minimize interest expenses.

In order to avoid interest rate risk, the Group maintains minimum external borrowings by facilitating cash pooling systems on regional and global bases. The Group manages exposed interest rate risk via periodic monitoring and planning.

The Group does not have variable rate borrowings as of December 31, 2022 and 2021.

33. FINANCIAL RISK MANAGEMENT, Continued

(2) Credit risk

Credit risk arises during the normal course of transactions and investing activities, where clients or other party fails to discharge an obligation. The Group monitors and sets the customer's and counterparty's credit limit on a periodic basis based on the counterparty's financial conditions, default history and other important factors.

Credit risk also arises from cash and cash equivalents, savings and derivative instrument transactions with financial institutions. To minimize such risk, the Group transacts only with banks that have strong international credit rating, and all new transactions with financial institutions with no prior transaction history are approved, managed and monitored by the Group's finance team.

Book value of financial assets represents the maximum exposure to credit risk. The Group's maximum exposure to credit risk as of December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Financial guarantee agreement (*1)	₩	10,000,000	10,000,000

(*1) The Group's maximum exposure in relation to financial guarantee contracts is the maximum amount to be paid by the Group if warranties are claimed.

Financial assets exposed to credit risk, excluding financial guarantee contracts, are excluded from disclosure because the carrying amounts best represent maximum exposure to credit risk.

(3) Liquidity risk

It is important for the Group to maintain adequate level of liquidity considering the Group's large-scale investments. The Group manages its liquidity risk to maintain adequate liquidity by constantly managing periodic projected cash flows through estimated required cash levels and cash flow management.

Accordingly, the Group estimates and manages required working capital, including required cash and cash equivalents. Funding is deposited and procured in banks at an amount greater than a predetermined level.

Meanwhile, the Group mitigates liquidity risk by contracting with financial institutions with respect to bank overdrafts or banking facility agreement.

Also, in the event of large investments in facilities, the Group manages liquidity risk using available cash reserves or long-term borrowings.

The following table shows in detail the contractual maturities of non-derivative financial liabilities. This table was prepared on the basis of earliest maturity date based on undiscounted cash flows of financial liabilities and includes all cash flows of principal and interest. Contractual maturity is based on the earliest date the Group could be required to make payment.

33. FINANCIAL RISK MANAGEMENT, Continued

(3) Liquidity risk, Continued

(In thousands of Korean won)

		December 31, 2022		December 31, 2021	
		Less than 1 year	1 year to 5 years	Less than 1 year	1 year to 5 years
Financial liabilities:					
Trade and other payables	₩	797,271,423	-	892,026,689	-
Accrued expenses		638,807,039	-	540,551,816	-
Borrowings and corporate bond		-	-	464,000	-
Lease liabilities		194,826,805	787,068,695	157,629,932	351,099,058
Other financial liabilities		1,091,269	4,592,549	4,885,717	4,329,121
Subtotal		1,631,996,536	791,661,244	1,595,558,154	355,428,179
Financial guarantee agreement		10,000,000	-	10,000,000	-
Total	₩	1,641,996,536	791,661,244	1,605,558,154	355,428,179

(4) Capital risk management

The Group's capital management objective is to maintain a sound capital structure. The Group uses the debt-to-equity ratio as an indicator to manage capital. This ratio is calculated by dividing total liabilities with total equity.

There was no change in the Group's capital risk management policy in comparison with the year ended December 31, 2021.

Debt-to-equity ratio of the Group as of December 31, 2022 and 2021, is as follows:

(In thousands of Korean won)

		December 31, 2022	December 31, 2021
Total debt	₩	3,485,454,955	3,073,731,543
Total equity		8,466,969,935	7,443,700,632
Debt-to-equity ratio		41.2%	41.3%

34. RELATED-PARTY TRANSACTIONS:

(1) The Group's related parties as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

	Ownership (%)	
	December 31, 2022	December 31, 2021
Entity with significant influence over the Group:		
Samsung Electronics Co., Ltd. and its subsidiaries	-	-
Associates:		
DongA.com Co., Ltd.	18.97	18.97
Dunet, Inc.	18.01	18.01
Korea Information Certificate Authority, Inc.	4.79	4.79
SERI Technologies, Inc.	29.00	29.00
iMarket Asia Co., Ltd.	40.56	40.56
CMC Corporation	30.00	30.00
Other related parties (*1):		
Samsung SDI Co., Ltd. and etc.	-	-

(*1) A large-scale business group affiliation (other related parties) does not correspond to the related parties defined in paragraph 9 of K-IFRS 1024. However, a large-scale business group affiliation designated by the Fair Trade Commission is a group classified as related party and in accordance with the resolution of the Securities and Futures Commission, is classified as a related party in accordance with the substantive relationship stipulated in paragraph 10 of K-IFRS 1024.

(2) Revenue and purchase transactions to related parties for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	
		Revenue	Purchase
Entities with significant influence over the Group:			
Samsung Electronics Co., Ltd. (*1)	₩	2,336,233,664	171,344,377
Samsung Display Co., Ltd.		179,193,299	1,104
Samsung Electronics Service Co., Ltd.		19,448,031	8,325
Samsung Electronics Sales Co., Ltd.		7,408,553	105,725
Samsung Electronics Logitech Corp.		250,751,699	21
Samsung Medison Co., Ltd.		1,564,757	94
Samsung Electronics America, Inc.		1,328,335,054	21,386,935
Samsung International, Inc.		443,101,970	-
Samsung Austin Semiconductor LLC.		200,873,526	-
Samsung Electronic Digital appliance S.A. de C.V		716,687,429	26,126
Samsung Electronics Ltd. (UK)		156,009,620	2,831,676
Samsung Electronics Hungarian Private Co. Ltd.		220,154,247	131,309
Samsung Electronics Europe Logistics		378,900,914	1,186,395
Samsung Electronics Slovakia s.r.o		107,830,399	8,853
Samsung India Electronics Private Ltd.		356,025,734	239,526
Thai Samsung Electronics Co., Ltd.		648,464,853	331,157
Samsung Display Vietnam Co., Ltd.		146,753,472	1,657
Samsung Electronics Vietnam Co., Ltd.		505,995,871	618,268
Samsung Electronics Vietnam THAINGUYEN Co., Ltd.		553,576,516	637,214
Samsung Electronics HCMC CE Complex Co., Ltd.		330,579,771	1,915,542
Samsung (China) Semiconductor Co. Ltd.		209,768,512	230
Others (*2)		3,037,725,512	118,375,404

34. RELATED-PARTY TRANSACTIONS, Continued

(2) Revenue and purchase transactions to related parties for the years ended December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)

		2022	
		Revenue	Purchase
Associates:			
iMarket Asia Co., Ltd.	₩	1,230,137	1,083,602
DongA.com Co., Ltd.		96,550	-
Korea Information Certificate Authority, Inc.		240,000	266,707
SERI Technologies, Inc.		10,592	2,482,110
Total	₩	12,136,960,682	322,982,357

(*1) The Group purchased machinery and other equipment of ₩124,573 million from Samsung Electronics Co., Ltd. for the year ended December 31, 2022.
(*2) Others consist of the subsidiaries of Samsung Electronics Co., Ltd.

(In thousands of Korean won)

		2021	
		Revenue	Purchase
Entities with significant influence over The Group:			
Samsung Electronics Co., Ltd. (*1)	₩	2,187,324,915	99,264,150
Samsung Display Co., Ltd.		178,780,550	7,168
Samsung Electronics Service Co., Ltd.		21,659,275	26,015
Samsung Electronics Sales Co., Ltd.		10,188,174	20,688
Samsung Electronics Logitech Corp.		121,987,485	-
Samsung Medison Co., Ltd.		1,615,660	67,468
Samsung Electronics America, Inc.		775,494,961	20,412,626
Samsung International, Inc.		282,906,235	209,846
Samsung Austin Semiconductor LLC.		148,951,414	-
Samsung Electronic Digital appliance S.A. de C.V		365,951,569	57,317
Samsung Electronics Ltd. (UK)		128,413,734	2,043,037
Samsung Electronics Hungarian Private Co. Ltd.		233,471,708	123,358
Samsung Electronics Europe Logistics		312,096,180	1,483,697
Samsung Electronics Slovakia s.r.o		57,028,252	22,836
Samsung India Electronics Private Ltd.		247,079,613	11,932
Thai Samsung Electronics Co., Ltd.		526,845,323	282,707
Samsung Display Vietnam Co., Ltd.		91,122,518	5,243
Samsung Electronics Vietnam Co., Ltd.		405,227,540	595,844
Samsung Electronics Vietnam THAINGUYEN Co., Ltd.		455,270,459	464,638
Samsung Electronics HCMC CE Complex Co., Ltd		248,460,878	480,505
Samsung(China) Semiconductor Co. Ltd.		342,128,051	71
Samsung Electronics da Amazonia Ltda		426,767,044	50,186,762
Others (*2)		2,056,392,334	78,972,419
Associates:			
iMarket Asia Co., Ltd.		1,072,649	138,703
DongA.com Co., Ltd.		222,478	-
Korea Information Certificate Authority, Inc.		200,000	189,430
SERI Technologies, Inc.		388,611	2,213,578
Total	₩	9,627,047,610	257,280,038

(*1) The Group purchased machinery and other equipment of ₩13,955 million from Samsung Electronics Co., Ltd. for the year ended December 31, 2021.
(*2) Others consist of the subsidiaries of Samsung Electronics Co., Ltd.

34. RELATED-PARTY TRANSACTIONS, Continued

(2) Revenue and purchase transactions to related parties for the years ended December 31, 2022 and 2021, are as follows, Continued

Revenue and purchase transactions with other related parties for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	
		Revenue	Purchase
Other related parties:			
Samsung SDI Co., Ltd.	₩	169,353,484	11,460
Samsung Fire & Marine Insurance Co., Ltd.		184,578,563	19,738,687
Samsung Life Insurance Co., Ltd.		171,894,637	55,439,913
Samsung C&T Corporation		120,240,802	902,429
Others		1,103,425,041	86,140,410
Total	₩	1,749,492,527	162,232,899

(In thousands of Korean won)

		2021	
		Revenue	Purchase
Other related parties:			
Samsung SDI Co., Ltd.	₩	160,063,004	55,677
Samsung Fire & Marine Insurance Co., Ltd.		162,100,304	14,996,025
Samsung Life Insurance Co., Ltd.		157,956,468	31,865,712
Samsung C&T Corporation		130,696,327	914,465
Others		1,012,707,132	71,113,040
Total	₩	1,623,523,235	118,944,919

34. RELATED-PARTY TRANSACTIONS, Continued

(3) Receivables from and payables to related parties as of December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	
		Receivables	Payables (*2)
Entities with significant influence over The Group:			
Samsung Electronics Co., Ltd.	₩	604,367,955	93,267,712
Samsung Display Co., Ltd.		37,835,383	4,117,599
Samsung Electronics Service Co., Ltd.		1,851,063	1,877
Samsung Electronics Sales Co., Ltd.		426,049	23,182
Samsung Electronics Logitech Corp.		9,570,425	193
Samsung Medison Co., Ltd.		88,204	11,339
Samsung Electronics America, Inc.		172,743,524	3,307,660
Samsung International, Inc.		12,458,755	89,538
Samsung Austin Semiconductor LLC.		29,934,365	1,186,371
Samsung Electronic Digital appliance S.A. de C.V		60,538,011	5,266,420
Samsung Electronics Ltd. (UK)		34,161,065	3,974,515
Samsung Electronics Hungarian Private Co. Ltd.		22,958,754	1,279,301
Samsung Electronics Europe Logistics		60,954,635	3,245,029
Samsung Electronics Slovakia s.r.o		15,236,977	4,497
Samsung India Electronics Private Ltd.		40,325,297	2,046,497
Thai Samsung Electronics Co., Ltd.		9,574,957	3,424,039
Samsung Display Vietnam Co., Ltd.		10,536,463	557,349
Samsung Electronics Vietnam Co., Ltd.		2,514,612	370,251
Samsung Electronics Vietnam THAINGUYEN Co., Ltd.		2,917,074	354,423
Samsung Electronics HCMC CE Complex Co., Ltd.		23,278,545	1,880,369
Samsung(China) Semiconductor Co. Ltd.		38,812,277	1,403,904
Others (*1)		315,244,701	44,226,179
Associates:			
iMarket Asia Co., Ltd.		-	21,238
SERI Technologies, Inc.		-	1,361
Total	₩	1,506,329,091	170,060,843

(*1) Others consist of the subsidiaries of Samsung Electronics Co., Ltd.
(*2) Lease liabilities of ₩22,330 million is included for the year ended December 31, 2022.

34. RELATED-PARTY TRANSACTIONS, Continued

(3) Receivables from and payables to related parties as of December 31, 2022 and 2021, are as follows, Continued

(In thousands of Korean won)

		December 31, 2021	
		Receivables	Payables (*2)
Entities with significant influence over The Group:			
Samsung Electronics Co., Ltd.	₩	677,074,537	162,523,961
Samsung Display Co., Ltd.		35,845,324	4,281,592
Samsung Electronics Service Co., Ltd.		2,513,015	63,356
Samsung Electronics Sales Co., Ltd.		1,778,732	34,025
Samsung Electronics Logitech Corp.		14,586,878	68,314
Samsung Medison Co., Ltd.		30,322	10,760
Samsung Electronics America, Inc.		63,516,771	3,049,189
Samsung International, Inc.		35,090,443	13,939
Samsung Austin Semiconductor LLC.		24,037,674	674,863
Samsung Electronic Digital appliance S.A. de C.V		79,649,938	1,182,959
Samsung Electronics Ltd. (UK)		30,700,250	2,180,648
Samsung Electronics Hungarian Private Co. Ltd.		70,615,979	10,703
Samsung Electronics Europe Logistics		40,440,189	10,336
Samsung Electronics Slovakia s.r.o		13,526,141	48069
Samsung India Electronics Private Ltd.		55,450,294	1,003,427
Thai Samsung Electronics Co., Ltd.		36,991,411	4,297,960
Samsung Display Vietnam Co., Ltd.		20,880,750	744,187
Samsung Electronics Vietnam		39,038,200	1,114,676
Samsung Electronics Vietnam THAINGUYEN Co., Ltd.		49,488,659	573,872
Samsung Electronics HCMC CE Complex Co., Ltd.		31,144,803	2,601,695
Samsung(China) Semiconductor Co. Ltd.		53,403,347	10,764,822
Samsung Electronics da Amazonia Ltda		50,725,520	7,530,327
Others (*1)		280,303,802	44,159,766
Associates:			
iMarket Asia Co., Ltd.		4,961	11,732
DongA.com Co., Ltd.		12,285	-
Korea Information Certificate Authority, Inc.		-	-
SERI Technologies, Inc.		53,020	-
Total	₩	1,706,903,245	246,955,178

(*1) Others consist of the subsidiaries of Samsung Electronics Co., Ltd.
(*2) Lease liabilities of ₩33,981 million are included for the year ended December 31, 2021.

34. RELATED-PARTY TRANSACTIONS, Continued

(3) Receivables from and payables to related parties as of December 31, 2022 and 2021, are as follows, Continued

Receivables and payables to other related parties for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		December 31, 2022	
		Receivables (*1)	**Payables (*2)**
Other related parties:			
Samsung SDI Co., Ltd.	₩	46,168,578	3,712,682
Samsung Fire & Marine Insurance Co., Ltd.		29,990,906	2,265,548
Samsung Life Insurance Co., Ltd.		9,162,628	212,286
Samsung C&T Corporation		49,402,424	8,199,792
Others		159,425,590	29,655,061
Total	₩	294,150,126	44,045,369

(*1) Lease receivables of ₩6,418 million are included for the year ended December 31, 2022.
(*2) Lease liabilities of ₩649 million are included for the year ended December 31, 2022.

(In thousands of Korean won)

		December 31, 2021	
		Receivables (*1)	**Payables (*2)**
Other related parties:			
Samsung SDI Co., Ltd.	₩	47,386,869	5,127,485
Samsung Fire & Marine Insurance Co., Ltd.		25,856,612	4,792,796
Samsung Life Insurance Co., Ltd.		9,389,652	2,357,431
Samsung C&T Corporation		59,703,968	7,030,757
Others		195,826,372	29,200,631
Total	₩	338,163,473	48,509,100

(*1) Lease receivables of ₩11,173 million is included for the year ended December 31, 2021.
(*2) Lease liabilities of ₩1,396 million is included for the year ended December 31, 2021.

(4) Key management compensation

Key management compensations for the Group's registered executives for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	**2021**
Short-term benefits	₩	3,848,269	3,586,363
Other long-term benefits		1,834,102	2,893,265
Provision for severance indemnities		605,795	528,603
Total	₩	6,288,166	7,008,231

Key management refers to the registered directors who have significant control and responsibilities over the Group's planning, operating and control activities.

(5) The Group recognized allowance for doubtful accounts of ₩192,564 thousand and ₩268 thousand with respect to receivables from related parties as of December 31, 2022 and 2021, respectively, and the Group recognized bad debt expense ₩192,297 thousand and ₩414,028 thousand for the years ended December 31, 2022 and 2021, respectively.

(6) For the years ended December 31, 2022 and 2021, the Group received dividends of ₩334 million and ₩294 million from related parties, respectively, and declared ₩74,340 million and ₩74,250 million of dividends to the related parties. As of December 31, 2022 and 2021, no dividends declared remains unpaid or received.

35. EARNINGS PER SHARE:

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

(In Korean won)

		2022	2021
Basic earnings per share	₩	14,218	7,901

(2) Basic earnings per share

Net income and the weighted-average number of shares outstanding used in calculating basic earnings per share are as follows:

(In thousands of Korean won, except for share data)

		2022	2021
Net income attributable to owners of the Group	₩	1,099,744,743	611,170,847
Weighted-average number of common shares outstanding (shares)		77,350,186	77,350,186

(3) Diluted earnings per share

Diluted earnings per share and basic earnings per share are identical as the Company did not issue potentially dilutive securities for the years ended December 31, 2022 and 2021.

36. APPROVAL OF CONSOLIDATED FINANCIAL STATEMENTS:

The consolidated financial statements of the Company as of and for the year ended December 31, 2022, approved for issue by the Board of Directors on January 26, 2023, are expected to be finally approved at the ordinary shareholders' meeting on March 15, 2023.

37. EMISSION RIGHTS AND LIABILITIES:

(1) The amount of free allocated gas emission (third planned period 2021-2025) as of December 31, 2022, is as follows:

(KAU)

Year of implementation		Quantity of emission rights allocated free of charge
2021	KAU	93,044
2022		96,402
2023		96,402
2024		95,530
2025		95,530
Total	KAU	476,908

(2) The changes in the quantity of emission rights and the carrying value for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won, except for KAU)

	2022				2021			
		Quantity		Book value		Quantity		Book value
Beginning	KAU	1,260	₩	101,941	KAU	11,178	₩	359,915
Allocated free of charge		96,402		-		93,044		-
Purchase with charge		21,290		340,640		-		-
Disposal		-		-		(1,080)		(257,974)
Submit (*1)		(116,869)		(101,941)		(101,882)		-
Ending	KAU	2,083	₩	340,640	KAU	1,260	₩	101,941

(*1) The change in the quantity of emission rights for the current period is an estimate value, and the change in the quantity of emission rights for the previous period is the actual value.

No emission rights were provided as collateral by the Group as of December 31, 2022.

(3) Changes in emissions liabilities for the years ended December 31, 2022 and 2021, are as follows:

(In thousands of Korean won)

		2022	2021
Beginning	₩	101,941	-
Increase		307,312	101,941
Decrease		(101,941)	-
Ending (*1)	₩	307,312	101,941

(*1) Emission liabilities are included current portion of provisions.

38. BUSINESS TRANSFER:

(1) The Group decided to transfer HomeIoT business by resolution of the Board of Directors' meeting on January 27, 2022 and completed the transfer on July 27, 2022.

(2) Details of the assets and liabilities transferred and the resulting gain or loss on disposal are as follows:

(In thousands of Korean won)

		Amount
Current assets	₩	32,328,558
Non-current assets		10,432,602
Total assets		42,761,160
Current liabilities		7,156,665
Non-current liabilities		493,531
Total liabilities		7,650,196
Net assets		35,110,964
Transfer price		120,830,972
Settlement expense, etc.		14,595,958
Gain on business transfer		71,124,050

(3) The net cash flows from business transfer are as follows:

(In thousands of Korean won)

		Amount
Considerations received for cash and cash equivalents	₩	98,235,014
Considerations to be received in cash and cash equivalents		8,000,000
Less proceeds from disposal of cash and cash equivalents		-
Net cash flow		106,235,014