S-1 Corporation and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2019 and 2018
with the independent auditor's report

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Independent auditor's report

The Shareholders and Board of Directors
S-1 Corporation

Opinion

We have audited the consolidated financial statements of S-1 Corporation (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2019 and 2018, and the consolidated statements of income, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and the 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, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards (KIFRS).

Basis of opinion

We conducted our audits in accordance with Korean Auditing Standards (KGAAS). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our 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 opinion.

Key audit matters

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

Goodwill impairment assessment of Building Management Division

As described in Note 14 to the consolidated financial statements, the goodwill of the cash-generating unit of the Building Management Division is ₩328,093 million as of December 31, 2019. We selected the goodwill impairment assessment as a key audit matter, considering the importance of goodwill and the significant judgment and estimation of the Company's management when assessing the impairment assessment.

The main audit procedures that we performed related to the item described above are as follows:

- ✓ Evaluated the eligibility and independence of external experts engaged by the Company by checking the experience, qualifications and interests thereof
- ✓ Evaluated the rationality of assumptions applied to goodwill impairment assessment through communication with the personnel of the Company and external experts
- ✓ Evaluated the variables applied to the valuation methodology and model used to measure the recoverable amounts in the external evaluation report by using the internal experts of the auditor
- ✓ Compared the independently calculated discount rate by using the observable information with the discount rate applied by management
- ✓ Recalculated for the accuracy of the goodwill impairment report

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

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

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

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

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

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

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

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

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

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

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

Ernst & Young Han Young

March 11, 2020

This audit report is effective as of March 11, 2020, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

S-1 Corporation and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2019 and 2018

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

Yook, Hyun Pyo
Chief Executive Officer
S-1 Corporation

S-1 Corporation and its subsidiaries
Consolidated statements of financial position
as of December 31, 2019 and 2018

(Korean won in thousands)

	Notes		2019		2018
Assets					
Current assets:					
Cash and cash equivalents	6,7	₩	200,582,006	₩	147,433,369
Short-term financial assets	2,6,7		226,751,126		252,836,136
Trade and other receivables, net	2,6,9,21		143,839,685		123,049,402
Contract assets	2,9,21		50,023,552		32,744,473
Accrued income	2,6		1,553,808		2,359,532
Inventories, net	10		41,408,118		42,945,860
Advance payments			7,790,689		1,495,037
Prepaid expenses			59,130,874		58,354,501
Prepaid Value Added Tax			1,823,647		210,575
Other current assets			280,281		29,484
Total current assets			733,183,786		661,458,369
Non-current assets:					
Long-term contract assets	2,9,21		3,210,559		2,179,596
Long-term financial assets	2,6,7		6,000		6,000
Financial assets at fair value through OCI	2,5,6,8		10,270,706		9,383,429
Financial assets at fair value through profit or loss	2,5,6,8		2,555,935		4,205,626
Loans and receivables	2,6		48,346,937		52,417,738
Investment in Subsidiary, Associate, Joint Vent	11		2,561,156		-
Property and equipment, net	12		470,234,332		459,228,550
Intangible assets, net	14		439,926,290		443,261,734
Right-of-use assets, net	13		26,734,155		-
Long-term prepaid expenses	2		54,096,478		47,768,120
Net defined benefit assets	16		784,390		-
Deferred tax assets	2,27		3,048,995		2,945,132
Total non-current assets			1,061,775,933		1,021,395,925
Total assets		**₩**	**1,794,959,719**	**₩**	**1,682,854,294**

(Continued)

S-1 Corporation and its subsidiaries
Consolidated statements of financial position
as of December 31, 2019 and 2018 (cont'd)

(Korean won in thousands)

	Notes		2019		2018
Liabilities					
Current liabilities:					
Trade and other payables	4,6,15	₩	217,488,064	₩	199,836,398
Current lease liabilities	4,6,12		11,754,871		-
Value added tax withheld			24,684,833		21,802,202
Income tax payables			24,000,654		20,323,817
Advance received	21		48,108,857		41,784,796
Unearned revenue	21		15,930,319		15,667,923
Withholdings			7,134,477		6,676,186
Liquidity deposit	4,6		34,979,136		-
Total current liabilities			384,081,211		306,091,322
Non-current liabilities:					
Long-term trade and other payables	4,6,15		5,467,817		8,835,634
Long-term lease liabilities	4,6,12,15		15,097,078		-
Net defined benefit liabilities	16		3,883,712		13,298,105
Deferred tax liabilities	27		2,630,947		-
Deposits received	4,6		5,955,007		42,525,354
Provisions			2,482,570		5,820,000
Long-term unearned Income	2,21		15,167,176		16,247,861
Other non-current liabilities			32,587,723		27,718,302
Total non-current liabilities			83,272,030		114,445,256
Total liabilities		**₩**	**467,353,241**	**₩**	**420,536,578**
Equity					
Issued capital	1,18	₩	18,999,589	₩	18,999,589
Share premium	18		192,913,601		192,913,601
Retained earnings	19		1,267,598,907		1,203,001,156
Other components of equity	20		(151,931,592)		(152,613,778)
Equity attributable to the owners of the parent			**1,327,580,505**		**1,262,300,568**
Non-controlling interests	31		**25,973**		**17,148**
Total equity			**1,327,606,478**		**1,262,317,716**
Total liabilities and equity		**₩**	**1,794,959,719**	**₩**	**1,682,854,294**

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

S-1 Corporation and its subsidiaries
Consolidated statements of income
for the years ended December 31, 2019 and 2018

(Korean won in thousands except earnings per share amounts)

	Notes		2019		2018
Sales	2,21,31	₩	2,151,521,516	₩	2,018,339,271
Cost of sales	22		1,607,782,233		1,471,226,713
Gross profit			**543,739,283**		**547,112,558**
Selling and administrative expenses	23,24		346,917,277		347,984,429
Operating profit			**196,822,006**		**199,128,129**
Other non-operating income	25		9,805,451		14,182,508
Other non-operating expenses	25		19,596,961		20,826,258
Finance income	26		6,282,757		6,274,287
Finance costs	26		859,244		196,748
Profit before tax			**192,454,009**		**198,561,918**
Income tax expense	27		45,812,728		95,593,144
Net profit for the year		₩	**146,641,281**	₩	**102,968,774**
Profit attributable to:					
Owners of the parent		₩	146,642,457	₩	102,970,863
Non-controlling interests		₩	(1,176)	₩	(2,089)
Earnings per share attributable to the equity holders of the parent	28				
Basic earnings per share (Korean won)		₩	4,337	₩	3,046
Diluted earnings per share (Korean won)		₩	4,337	₩	3,046

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

S-1 Corporation and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2019 and 2018
(Korean won in thousands)

	Notes	2019	2018
Net profit for the year		**₩ 146,641,282**	**₩ 102,968,775**
Other comprehensive income:			
Other comprehensive income not to be reclassified to profit or loss in subsequent periods (net of tax):			
Re-measurement gain(loss) on defined benefit plans		2,480,892	(16,704,924)
Gain on valuation of financial assets at fair value through OCI		560,769	3,936
Other comprehensive income to be reclassified to profit or loss in subsequent periods (net of tax):			
Net gain(losses) on valuation of available-for-sale financial assets		-	-
Exchange differences on translation of foreign operations		121,417	(11,461)
Other comprehensive income(loss) for the year, net of tax		**3,163,078**	**(16,712,449)**
Total comprehensive income for the year, net of tax		**₩ 149,804,360**	**₩ 86,256,326**
Total comprehensive income for the year attributable to:			
Equity holders of the parent		₩ 149,805,534	₩ 86,258,415
Non-controlling interests		(1,176)	(2,089)

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

S-1 Corporation and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2019 and 2018
(Korean won in thousands)

	Attributable to the equity holders of the parent						
	Issued capital	Share premium	Retained earnings	Other components of equity	Sub-total	Non-controlling interests	Total equity
As of January 1, 2018	₩ **18,999,589**	₩ **192,913,601**	₩ **1,148,521,529**	₩ **(152,606,253)**	₩ **1,207,828,466**	₩ **9,037**	₩ **1,207,837,503**
Effect of adoption of new accounting standards	**-**	**-**	**52,739,285**	**-**	**52,739,285**	**-**	**52,739,285**
As of January 1, 2018 (modified)	**18,999,589**	**192,913,601**	**1,201,260,814**	**(152,606,253)**	**1,260,567,751**	**9,037**	**1,260,576,788**
Profit for the year	-	-	102,970,864	-	102,970,864	(2,089)	102,968,775
Net gain on valuation of Fair value through OCI	-	-	-	3,937	3,936	-	3,936
Re-measurement gain on defined benefit plans	-	-	(16,704,924)	-	(16,704,924)	-	(16,704,924)
Exchange differences on translation of foreign operations	-	-	-	(11,461)	(11,461)	-	(11,461)
Total comprehensive income for the year	**-**	**-**	**86,265,940**	**(7,525)**	**86,258,415**	**(2,089)**	**86,256,326**
Dividends	-	-	(84,525,598)	-	(84,525,598)	-	(84,525,598)
Acquisition of investments in subsidiaries	-	-	-	-	-	10,200	10,200
Total transactions with equity holders of the parent	**-**	**-**	**(84,525,598)**	**-**	**(84,525,598)**	**10,200**	**(84,515,398)**
As of December 31, 2018	₩ **18,999,589**	₩ **192,913,601**	₩ **1,203,001,156**	₩ **(152,613,778)**	₩ **1,262,300,568**	₩ **17,148**	₩ **1,262,317,716**
As of January 1, 2019	₩ **18,999,589**	₩ **192,913,601**	₩ **1,203,001,156**	₩ **(152,613,778)**	₩ **1,262,300,568**	₩ **17,148**	₩ **1,262,317,716**
Profit for the year	-	-	146,642,457	-	146,642,457	(1,176)	146,641,281
Net gain on valuation of Fair value through OCI	-	-	-	560,769	560,769	-	560,769
Re-measurement loss on defined benefit plans	-	-	2,480,892	-	2,480,892	-	2,480,892
Exchange differences on translation of foreign operations	-	-	-	121,417	121,417	-	121,417
Total comprehensive income for the year	**-**	**-**	**149,123,349**	**682,186**	**149,805,535**	**(1,176)**	**149,804,359**
Dividends	-	-	(84,525,598)	-	(84,525,598)	-	(84,525,598)
Acquisition of investments in subsidiaries	-	-	-	-	-	10,000	10,000
Total transactions with equity holders of the parent	**-**	**-**	**(84,525,598)**	**-**	**(84,525,598)**	**10,000**	**(84,515,598)**
As of December 31, 2019	₩ **18,999,589**	₩ **192,913,601**	₩ **1,267,598,907**	₩ **(151,931,592)**	₩ **1,327,580,505**	₩ **25,972**	₩ **1,327,606,477**

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

S-1 Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2019 and 2018
(Korean won in thousands)

	Notes	2019	2018
Operating activities			
Net profit for the year		₩ 146,641,282	₩ 102,968,775
Adjustments to reconcile net profit to net cash flows provided by operating activities	29	251,792,834	282,095,164
Working capital adjustments	29	(84,299,769)	(55,567,746)
Interest received		6,976,521	5,443,385
Interest paid		(694,358)	-
Dividend received		502,500	186,660
Income tax paid		(41,087,508)	(98,154,713)
Net cash flows provided by operating activities		**279,831,502**	**236,971,525**
Investing activities			
Increase in financial instruments		26,085,010	(44,428,266)
Acquisition of financial assets of fair value through OCI		(147,477)	(3,578,500)
Acquisition of financial assets of fair value through profit or loss		(1,050,309)	(3,679,462)
Acquisition of property, plant and equipment		(152,771,780)	(129,959,533)
Proceeds from disposal of property, plant and equipment		67,699	6,892,143
Acquisition of intangible assets		(515,476)	(372,204)
Proceeds from disposal of intangible assets		669,160	-
Decrease(increase) in loans and receivables		4,071,528	(1,032,640)
Net cash flows used in investing activities		**(123,591,645)**	**(176,158,462)**
Financing activities			
Payment of dividends		(84,525,598)	(84,525,598)
Payments of finance lease liabilities		(18,635,772)	-
Acquisition of investment in subsidiaries		10,000	10,200
Net cash flows used in financing activities		**(103,151,370)**	**(84,515,398)**
Net foreign exchange difference		**60,150**	**21,406**
Net increase(decrease) in cash and cash equivalents		**53,148,637**	**(23,680,929)**
Cash and cash equivalents as of January 1		**147,433,369**	**171,114,297**
Cash and cash equivalents as of December 31		**₩ 200,582,006**	**₩ 147,433,368**

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

1. General information

The accompanying consolidated financial statements have been prepared for S-1 Corporation, the controlling company and its seven subsidiaries (collectively referred to as the "Group"), in accordance with International Financial Reporting Standards as adopted by Republic of Korea (KIFRS) 1110 *Consolidated Financial Statements.*

The controlling company was established on November 28, 1977, under the Commercial Code of the Republic of Korea. The controlling company is mainly engaged in fire, crime and disaster prevention services, security services and building management services. On January 30, 1996, the controlling company listed its common shares on the Korea Exchange.

As of December 31, 2019, the controlling company's issued capital amounts to ₩19,000 million and major shareholders are Secom Co., Ltd. in Japan (25.65%) and affiliates of the Samsung Group (20.57%).

1.1 Consolidated subsidiaries

Details of subsidiaries as of December 31, 2019 and 2018 are as follows:

		2019		2018			
Subsidiaries	Location	Controlling	Non-controlling	Controlling	Non-controlling	Closing month	Main business
HTSS (Human Total Security Systems Corp.)	Korea	100.00%	-	100.00%	-	December	Security system service
S1CRM	Korea	100.00%	-	100.00%	-	December	Call center and telemarketing
SBSS (Samsung Beijing Security System)	China	100.00%	-	100.00%	-	December	Security system service
SOCM LLC.	Mongolia	100.00%	-	100.00%	-	December	Security system service
S-1 Corporation Vietnam Co., Ltd.	Vietnam	100.00%	-	100.00%	-	December	Security system service
SVIC35 (*1)	Korea	99.00%	1.00%	99.00%	1.00%	December	New technology investment association
S-1CORPORATION HUNGARY LLC	Hungary	100.00%	-	100.00%	-	December	Security system service

Details of assets, liabilities of the consolidated subsidiaries as of December 31, 2019 and 2018 are as follows (Korean won in thousands):

	2019		2018	
	Total assets	Total liabilities	Total assets	Total liabilities
HTSS	₩ 29,367,763	₩ 26,221,471	₩ 27,880,356	₩ 24,018,285
S1CRM	3,990,889	2,830,661	3,193,243	1,910,673
SBSS	14,240,431	7,031,768	12,021,395	7,611,026
SOCM LLC.	104,347	2,326	108,091	2,062
S-1 Vietnam	4,216,421	980,947	3,178,310	786,025
SVIC35	2,613,054	15,817	1,780,445	65,654
S-1 Hungary	2,189,760	2,282,739	1,475,891	1,458,149

1.1 Consolidated subsidiaries (cont'd)

Summarized financial information of the consolidated subsidiaries as at and for the years ended December 31, 2019 and 2018 are as follows (Korean won in thousands):

	2019			2018		
	Sales	Profit (loss) for the year	Total comprehensive income (loss)	Sales	Profit (loss) for the year	Total comprehensive income (loss)
HTSS	₩ 146,112,646	₩ 2,264,625	₩ (715,779)	₩ 129,918,909	₩ 3,247,142	₩ 1,599,854
S1CRM	13,177,649	250,173	(122,342)	11,491,085	(13,924)	(322,853)
SBSS	31,819,845	2,763,618	2,763,618	22,152,537	881,696	881,696
SOCM LLC.	-	(4,200)	(4,200)	34,590	(34,321)	(34,321)
S-1 Vietnam	5,468,256	756,866	756,866	5,910,908	1,036,499	1,036,499
SVIC35	59,787	(117,553)	(117,533)	11,774	(208,899)	(208,899)
S-1 Hungary	5,320,054	(110,946)	(110,946)	1,237,762	(8,937)	(8,937)

2. Significant accounting policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of consolidated financial statements preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with KIFRS. The accompanying financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying financial statements.

The consolidated financial statements have been prepared in accordance with KIFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board ("IASB") that have been adopted by the Republic of Korea.

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

2.2 Changes in accounting policies and disclosures

2.2.1 New and amended standards and interpretations

The Group applied KIFRS 1116 for the first time. The nature and effect of the changes as a result of adoption of these new accounting standards are described below.

Several other amendments and interpretations apply for the first time in 2019, but do not have an impact on the financial statements of the Group. The Group has not early adopted any standards, interpretations or amendments that have been issued but are not yet effective.

2.2 Changes in accounting policies and disclosures (Cont'd)

KIFRS 1116 Leases

KIFRS 1116 supersedes KIFRS 1017 *Leases*, KIFRS 2104 *Determining whether an Arrangement contains a Lease*, KIFRS 2015 *Operating Leases-Incentives* and KIFRS 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*. The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to recognize most leases on the balance sheet.

Lessor accounting under KIFRS 1116 is substantially unchanged from KIFRS 1017. Lessors will continue to classify leases as either operating or finance leases using similar principles as in KIFRS 1017. Therefore, KIFRS 1116 does not have an impact for leases where the Group is the lessor.

The Group adopted KIFRS 1116 using the full retrospective method of adoption, with the date of initial application of January 1, 2019. The Group elected to use the transition practical expedient to not reassess whether a contract is, or contains, a lease at January 1, 2019.

Impact on the statement of financial position (increase/(decrease)) is as follows (Korean won in thousands):

Assets		
Right-of-use assets	₩	33,225,758
Total assets		33,225,758
Liabilities		
Lease liabilities	₩	33,225,758
Total liabilities		33,225,758

The Group has lease contracts for various items of building, vehicles and computerized equipment. Before the adoption of KIFRS 1116, the Group classified each of its leases (as lessee) at the inception date as either a finance lease or an operating lease.

Upon adoption of KIFRS 1116, the Group applied a single recognition and measurement approach for all leases for which it is the lessee, except for short-term leases and leases of low-value assets. Refer to Note 2.9 Leases for the accounting policy beginning 1 January 2019. The standard provides specific transition requirements and practical expedients, which have been applied by the Group.

Leases previously classified as operating leases
The Group recognized right-of-use assets and lease liabilities for those leases previously classified as operating leases, except for short-term leases and leases of low-value assets. The right-of-use assets for most leases were recognized based on the carrying amount as if the standard had always been applied, apart from the use of incremental borrowing rate at the date of initial application. Lease liabilities were recognized based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application.

The Group also applied the available practical expedients wherein it:
- Used a single discount rate to a portfolio of leases with reasonably similar characteristics
- Relied on its assessment of whether leases are onerous immediately before the date of initial application
- Applied the short-term leases exemptions to leases with lease term that ends within 12 months of the date of initial application
- Excluded the initial direct costs from the measurement of the right-of-use asset at the date of initial application
- Used hindsight in determining the lease term where the contract contained options to extend or terminate the lease

2.2 Changes in accounting policies and disclosures (Cont'd)

The lease liabilities as at 1 January 2019 can be reconciled to the operating lease commitments as of 31 December 2018, as follows (Korean won in thousands):

Assets:		
Operating lease commitments as at 31 December 2018	₩	41,599,838
Weighted average incremental borrowing rate as at 1 January 2019		2.16% ~ 2.19%
Discounted operating lease commitments as at 1 January 2019		40,447,147
Less:		
Commitments relating to leases of low value assets		(4,018,485)
Commitments relating to short-term leases		(3,202,904)
Lease liabilities as at 1 January 2019	₩	33,225,758

KIFRS 2123 *Uncertainty over Income Tax Treatment*
The Interpretation addresses the accounting for income taxes when tax treatments involve uncertainty that affects the application of KIFRS 1012 *Income Taxes*. It does not apply to taxes or levies outside the scope of KIFRS 1012, nor does it specifically include requirements relating to interest and penalties associated with uncertain tax treatments.

The Interpretation specifically addresses the following:
- Whether an entity considers uncertain tax treatments separately
- The assumptions an entity makes about the examination of tax treatments by taxation authorities
- How an entity determines taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates
- How an entity considers changes in facts and circumstances

The Group determines whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments and uses the approach that better predicts the resolution of the uncertainty. The Group applies significant judgement in identifying uncertainties over income tax treatments. Since the Group operates in a complex multinational environment, it assessed whether the Interpretation had an impact on its consolidated financial statements.

Amendments to KIFRS 1109: *Prepayment Features with Negative Compensation*
Under KIFRS 1109, a debt instrument can be measured at amortized cost or at fair value through other comprehensive income, provided that the contractual cash flows are 'solely payments of principal and interest on the principal amount outstanding' (the SPPI criterion) and the instrument is held within the appropriate business model for that classification. The amendments to KIFRS 1109 clarify that a financial asset passes the SPPI criterion regardless of an event or circumstance that causes the early termination of the contract and irrespective of which party pays or receives reasonable compensation for the early termination of the contract. These amendments had no impact on the consolidated financial statements of the Group.

2.2.1 New and amended standards and interpretations (Cont'd)

Amendments to KIFRS 1019: *Plan Amendment, Curtailment or Settlement*
The amendments to KIFRS 1019 address the accounting when a plan amendment, curtailment or settlement occurs during a reporting period. The amendments specify that when a plan amendment, curtailment or settlement occurs during the annual reporting period, an entity is required to determine the current service cost for the remainder of the period after the plan amendment, curtailment or settlement, using the actuarial assumptions used to remeasure the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event. An entity is also required to determine the net interest for the remainder of the period after the plan amendment, curtailment or settlement using the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event, and the discount rate used to remeasure that net defined benefit liability (asset). The amendments had no impact on the consolidated financial statements of the Group as it did not have any plan amendments, curtailments, or settlements during the period.

Amendments to KIFRS 1028: *Long-term interests in associates and joint ventures*
The amendments clarify that an entity applies KIFRS 1109 to long-term interests in an associate or joint venture to which the equity method is not applied but that, in substance, form part of the net investment in the associate or joint venture (long-term interests). This clarification is relevant because it implies that the expected credit loss model in KIFRS 1109 applies to such long-term interests. The amendments also clarified that, in applying KIFRS 1109, an entity does not take account of any losses of the associate or joint venture, or any impairment losses on the net investment, recognized as adjustments to the net investment in the associate or joint venture that arise from applying KIFRS 1028 *Investments in Associates and Joint Ventures*. These amendments had no impact on the consolidated financial statements as the Group does not have long-term interests in its associate and joint venture.

Annual Improvements 2015-2017 Cycle

KIFRS 1103 *Business Combinations*
The amendments clarify that, when an entity obtains control of a business that is a joint operation, it applies the requirements for a business combination achieved in stages, including remeasuring previously held interests in the assets and liabilities of the joint operation at fair value. In doing so, the acquirer remeasures its entire previously held interest in the joint operation. An entity applies those amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early application permitted. These amendments had no impact on the consolidated financial statements of the Group as there is no transaction where joint control is obtained

KIFRS 1111 *Joint Arrangements*
An entity that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business as defined in KIFRS 1103. The amendments clarify that the previously held interests in that joint operation are not remeasured. An entity applies those amendments to transactions in which it obtains joint control on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early application permitted. These amendments had no impact on the consolidated financial statements of the Group as there is no transaction where a joint control is obtained.

KIFRS 1012 *Income Taxes*
The amendments clarify that the income tax consequences of dividends are linked more directly to past transactions or events that generated distributable profits than to distributions to owners. Therefore, an entity recognizes the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where it originally recognized those past transactions or events. An entity applies the amendments for annual reporting periods beginning on or after January 1, 2019, with early application permitted. When the entity first applies those amendments, it applies them to the income tax consequences of dividends recognized on or after the beginning of the earliest comparative period. Since the Group's current practice is in line with these amendments, they had no impact on the consolidated financial statements of the Group.

2.2.1 New and amended standards and interpretations (Cont'd)

KIFRS 1023 *Borrowing Costs*
The amendments clarify that an entity treats as part of general borrowings any borrowing originally made to develop a qualifying asset when substantially all of the activities necessary to prepare that asset for its intended use or sale are complete. The entity applies the amendments to borrowing costs incurred on or after the beginning of the annual reporting period in which the entity first applies those amendments. An entity applies those amendments for annual reporting periods beginning on or after January 1, 2019, with early application permitted. Since the Group's current practice is in line with these amendments, they had no impact on the consolidated financial statements of the Group.

Standards issued but not yet effective

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

Amendments to KIFRS 1103: *Definition of a Business*
In October 2018, the KASB issued amendments to the definition of a business in KIFRS 1003 *Business Combinations* to help entities determine whether an acquired set of activities and assets is a business or not. They clarify the minimum requirements for a business, remove the assessment of whether market participants are capable of replacing any missing elements, add guidance to help entities assess whether an acquired process is substantive, narrow the definitions of a business and of outputs, and introduce an optional fair value concentration test. New illustrative examples were provided along with the amendments.

Since the amendments apply prospectively to transactions or other events that occur on or after the date of first application, the Group will not be affected by these amendments on the date of transition.

Amendments to KIFRS 1001 and KIFRS 1008: *Definition of Material*
In October 2018, the IASB issued amendments to KIFRS 1001 *Presentation of Financial Statements* and KIFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* to align the definition of 'material' across the standards and to clarify certain aspects of the definition. The new definition states that, 'Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity.'

The amendments to the definition of material is not expected to have a significant impact on the Group's consolidated financial statements.

2.3 Consolidation

2.3.1 Subsidiaries

Subsidiaries are all entities (including special purpose entities) over which the Group has control. The Group controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Consolidation of a subsidiary begins from the date the Group obtains control of a subsidiary and ceases when the Group loses control of the subsidiary.

2.3.2 Business combinations and goodwill

The Group applies the acquisition method to account for business combinations. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are initially measured at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquiree on an acquisition-by-acquisition basis in the event of liquidation, either at fair value or at the non-controlling interest's proportionate share of the recognized amounts of acquiree's identifiable net assets. All other non-controlling interests are measured at their acquisition-date fair values, unless another measurement basis is required by KIFRS. Acquisition-related costs are expensed as incurred.

2.3 Consolidation (Cont'd)

Goodwill is recognized as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree over the identifiable net assets acquired. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Balances of receivables and payables, income and expenses and unrealized gains on transactions between the Group subsidiaries are eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

If the Group loses control of a subsidiary, any investment retained in the subsidiary is re-measured at its fair value at the date when control is lost and any resulting difference is recognized in profit or loss.

2.4 Segment reporting

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

2.5 Foreign currency translation

2.5.1 Functional and presentation currency

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

2.5.2 Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in profit or loss.

Exchange differences arising on non-monetary financial assets and liabilities such as equity instruments at fair value through profit or loss and fair value through OCI are recognized in profit or loss and included in other comprehensive income, respectively, as part of the fair value gain or loss.

In determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which the Group initially recognizes the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Group determines the transaction date for each payment or receipt of advance consideration.

2.6 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the moving-weighted average method.

2.7 Property, plant and equipment

Property, plant and equipment is stated at its cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditures that is directly attributable to the acquisition of the items.
Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate the difference between their cost and their residual values over their estimated useful life, as follows:

Accounts	Estimated useful life	Accounts	Estimated useful life
Buildings	10 - 50 years	Security equipment	5 years
Structures	5 - 25 years	Security control equipment	5 years
Vehicles	5 years	Furniture and fixtures	5 years
Others	5 years		

The depreciation method, residual values and useful life of property, plant and equipment are reviewed at the end of each reporting period and, if appropriate, accounted for as changes in accounting estimates.

2.8 Government grants

Government grants are recognized at their fair values when there is reasonable assurance that the grant will be received and the Group will comply with the conditions attaching to it. Government grants related to assets are presented by deducting the grants in arriving at the carrying amount of the assets, and grants related to income are deferred and presented by deducting the related expenses for the purpose of the government grants.

2.9 Lease

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Lessee accounting

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

(1) Right-of-use assets

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

If ownership of the leased asset transfers to the Group at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset. The right-of-use assets are also subject to impairment, refer Note 2.11 Impairment of non-financial assets.

2.9 Leases (cont'd)

(2) Lease liabilities

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

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset. The Group classifies lease liabilities as interest-bearing debt.

(3) Short-term and low-value leases

The Group applies the short-term lease recognition exemption to its short-term leases of vehicles and computerized equipment (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). The Group also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low-value assets are recognized as expense on a straight-line basis over the lease term

Lessor accounting

Leases in which the Group does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. Rental income arising is accounted for on a straight-line basis over the lease terms and is included in revenue in the statement of profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned.

2.10 Intangible assets

2.10.1 Research and development

Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset when the Group can demonstrate:

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

Other development expenditures that do not meet these criteria are recognized as an expense as incurred. Development costs previously recognized as an expense are not recognized as an asset in a subsequent period. Capitalized development costs are recognized as intangible assets and the assets are amortized over their estimated useful life.

2.10 Intangible assets (Cont'd)

2.10.2 Membership rights

Membership rights are regarded as intangible assets with indefinite useful life and not amortized because there is no foreseeable limit to the period over which the asset is expected to be utilized.

2.10.3 Other intangible assets

Patents, trademarks and software for internal using are recognized at acquisition cost. Amortization is calculated using the straight-line method to allocate the cost over their estimated useful life of five to ten years. Where an indication of impairment exists, the carrying amounts of other intangible assets are assessed and if the carrying amount exceeds its recoverable amount, it is written down to its recoverable amount.

2.10.4 Contractual customer relationships and contractual value

The contractual customer relationships and contractual value acquired in a business combination are recognized at fair value on the acquisition date. The customer relationships and contractual value have a definite useful life and are recorded at cost less any accumulated amortization. Such customer relationships and contractual value are amortized on a straight-line basis over the estimated period of ten to fifteen years.

2.10.5 Goodwill

Goodwill is measured as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. Goodwill arising from the acquisition of subsidiaries and business is included in intangible assets. Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed. Gain (loss) on disposal of entities includes carrying amount of disposed entity's goodwill.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the acquirer's cash-generating units, or groups of cash-generating units, that is expected to benefit from the synergies of the combination, and the allocation is determined based on the operating segments.

Goodwill is tested for impairment annually or more frequently if there is any indication that it may be impaired. Goodwill is tested for impairment by comparing the carrying amount of the cash generating units or groups of cash-generating units with the recoverable amount, which is the higher of its fair value less costs to sell and its value in use. An impairment loss is immediately recognized and is not subsequently reversed.

2.11 Impairment of non-financial assets

Goodwill or intangible assets with an indefinite useful life are not subject to amortization and are tested annually for impairment. Assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Non-financial assets, other than goodwill, that suffered.

2.12 Financial instruments: Initial recognition and subsequent measurement

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

2.12 Financial instruments: Initial recognition and subsequent measurement (Cont'd)

2.12.1 Financial assets

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

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

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

2.12 Financial instruments: Initial recognition and subsequent measurement (Cont'd)

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

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

Subsequent measurement
For purposes of subsequent measurement, financial assets are classified in four categories:
- Financial assets at amortized cost (debt instruments)
- Financial assets at fair value through OCI with recycling of cumulative gains and losses (debt instruments)
- Financial assets designated at fair value through OCI with no recycling of cumulative gains and losses upon
- Financial assets at fair value through profit or loss

Financial assets at amortized cost (debt instruments)
This category is the most relevant to the Group. The Group measures financial assets at amortized cost if both of the following conditions are met:
- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

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

2.12 Financial instruments: Initial recognition and subsequent measurement (Cont'd)

Financial assets designated at fair value through OCI (equity instruments)

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

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

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

Financial assets at fair value through profit or loss

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

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

2.12 Financial instruments: Initial recognition and subsequent measurement (Cont'd)

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

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

2.12 Financial instruments: Initial recognition and subsequent measurement (Cont'd)

Derecognition

A financial asset (or, where applicable a part of a financial asset or part of a group of similar financial assets) is derecognized when:

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

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

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

Impairment of financial assets

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

- Disclosures for significant assumptions
- Debt instruments at fair value through OCI
- Trade receivables, including contract assets

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

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

2.12 Financial instruments: Initial recognition and subsequent measurement (Cont'd)

For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

2.12.2 Financial liabilities

Initial recognition and measurement
Financial liabilities within the scope of KIFRS 1039 are classified at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and in the case of loans and borrowings and payable, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables.

Subsequent measurement
The measurement of financial liabilities depends on their classification.

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

Financial liabilities are classified as held for trading if they are acquired for the purpose of selling in the near term. This category includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by KIFRS 1109. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments. Gains or losses on liabilities held for trading are recognized in the consolidated statement of profit or loss.

Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in KIFRS 1109 are satisfied. The Group has not designated any financial liability as of fair value through profit or loss.

Loans and borrowings
After initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest rate method. Gains and losses are recognized in the consolidated statement of income when the liabilities are derecognized as well as through the effective interest rate method (EIR) amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fee or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the consolidated statement of income.

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

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

2.13 Provisions

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation and the increase in the provision due to passage of time is recognized as interest expense.

2.14 Current and deferred tax

The tax expense for the period consists of current and deferred tax. Tax is recognized on the profit for the period in the statement of income, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively. The tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period.

Management periodically evaluates tax policies that are applied in tax returns in which applicable tax regulation is subject to interpretation. The Group recognizes current income tax on the basis of the amount expected to be paid to the tax authorities.

Deferred tax is recognized for temporary differences arising between the tax bases of assets and liabilities and their carrying amounts as expected tax consequences at the recovery or settlement of the carrying amounts of the assets and liabilities. However, deferred tax assets and liabilities are not recognized if they arise from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences can be utilized.

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

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

2.15 Employee benefits

The Group has both defined contribution and defined benefit plans.

A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The contributions are recognized as employee benefit expense when an employee has rendered service.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds and that have terms to maturity approximating to the terms of the related pension obligation. The remeasurements of the net defined benefit liability are recognized in other comprehensive income.

2.15 Employee benefits (Cont'd)

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

The Group provides long-term employee benefits to long-term employees. Other long-term employee benefits are accounted for in the same way as the defined benefit plans. The Group recognizes service costs, net interest expense and remeasurements of other long-term employee benefits liabilities in the statement of profit or loss. Such liabilities are evaluated annually by an independent actuary.

2.16 Share-based payments

Equity-settled share-based payments granted to employees are estimated at the grant date fair value of equity instruments and recognized as employee benefit expenses over the vesting period. The number of equity instruments expected to vest is remeasured with consideration to non-market vesting conditions at the end of the reporting period, with any changes from the original measurement recognized in the profit for the year and equity. When the options are exercised, the Group issues new shares. The proceeds received, net of any directly attributable transaction costs, are recognized as share capital (nominal value) and share premium.

2.17 Revenue from contracts with customers

The Group is mainly engaged in fire, crime and disaster prevention services. Revenue from contracts with customers is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The Group has generally concluded that it is the principal in its revenue arrangements, except for the agency services below, because it typically controls the goods or services before transferring them to the customer.
The disclosures of significant accounting judgements, estimates and assumptions relating to revenue from contracts with customers are provided in Note 3.

Sale of goods
Revenue from sale of goods is recognized at the point in time when control of the asset is transferred to the customer, generally on delivery of the goods. The normal credit term is 30 to 90 days upon delivery.
The Group considers whether there are other promises in the contract that are separate performance obligations to which a portion of the transaction price needs to be allocated (e.g., warranties, customer loyalty points). In determining the transaction price for the sale of goods, the Group considers the effects of variable consideration, the existence of significant financing components, noncash consideration, and consideration payable to the customer (if any).

Rendering of services
The Group mainly renders security services. This service is rendered on a fixed contract, and revenue is recognized according to the time passed. For certain services that are rendered, revenue is recognized according to the percentage of completion. The percentage of completion is measured as the costs to date over the total estimated costs.

Contract balances

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

(2) Trade receivables
A receivable represents the Group's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due). Refer to accounting policies of financial assets in the Note 2.12.

(3) Contract liabilities
A contract liability is the obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Group transfers goods or services to the customer, a contract liability is recognized when the payment is

2.17 Revenue from contracts with customers (Cont'd)

made or the payment is due (whichever is earlier). Contract liabilities are recognized as revenue when the Group performs under the contract.

2.18 Earnings per share

Basic earnings per share is calculated by dividing the profit attributable to equity holders of the Group by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares purchased by the Group and held as treasury shares. Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. The dilutive potential ordinary shares are applied when dilutive effects are recognized.

2.19 Approval of the financial statements

The issuance of the Group's consolidated financial statements as of December 31, 2019 and for the year then ended were approved by the Board of Directors on January 31, 2020, which are subject to change upon approval of the annual shareholders' meeting.

3. Critical accounting estimates and judgments

The Group makes estimates and assumptions concerning the future. The estimates and assumptions are continuously evaluated with consideration to factors such as events reasonably predictable in the foreseeable future within the present circumstance according to historical experience. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

3.1 Revenue recognition

Revenue from the rendering of services is recognized under the percentage-of-completion, under which revenue is generally recognized based on the costs incurred to date as a percentage of the total estimated costs to be incurred. The current revenue will be impacted in the period by factors such as variability of beginning projects, scope, costs and customer's plan.

3.2 Useful life of property and equipment

The Group determines estimated useful life of property and equipment and recognizes the amount of depreciation. These estimates are based on life cycle of products and can be affected according to competitors that correspond to change of technology and industry-life cycle. In case that newly estimated useful life decrease, management will increase the amount of depreciation. Also, the assets that are abandoned, set for held for sale and impaired in techniques can be removed or the value of assets will be reduced.

3.3 Estimated impairment of goodwill

The Group tests annually whether goodwill has suffered any impairment. The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations require the use of estimates (Note 13).

3.4 Expected credit losses allowance for trade receivables and contract assets.

The Group uses a provision set-up table to calculate the expected credit losses (ECLs) for its trade receivables and contract assets. The provisioning rate is based on the number of deadlines in bundles by various customer segments (e.g., regional location, product type, customer type and credit rating, collateral or transaction credit insurance) with similar loss patterns.

The provision matrix is based on the default rate observed in our past. The Group adjusts the setting rate table by reflecting the forward-looking information in the past credit loss experience. Adjust the default rate for each settlement date and analyze the changes in future expectations.

An assessment of the correlation between past default rates and future economic conditions and expected credit losses (ECLs) is a significant estimate. The magnitude of expected credit losses is sensitive to changes in the situation and the future economic environment. The Group's past credit loss experience and expectations of the economic environment do not represent future real-life defaults for customers. Information on sales receivables and expected credit losses for contract assets of the Group is disclosed in (Note 9).

3.5 Fair value of financial instruments

In principle, the fair value of financial instruments that are not traded in an active market is determined using valuation techniques. At the end of the reporting period, the Group makes a judgement on the choice and assumptions of various evaluation techniques based on important market conditions

3.6 Defined benefit liability

The present value of defined benefit liability depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 15)

3.7 Income taxes

The Group is operating in numerous countries and the income generated from these operations is subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain (Note 26).

Surtax on undistributed corporate earnings
The Group shall pay an additional surtax where the use of corporate earnings on qualifying investments, wage increase and supplier partnership fall below a certain portion of its taxable income for 3 years from 2018. As the Group considers the surtax on its undistributed earnings when computing its corporate income tax, the Group's income tax may change arising from changes arising from changes in investment, wage growth, or supplier partnership.
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4. Financial risk management

The Group's activities expose it to a variety of financial risks: market risk (including price risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Group's financial performance.

4.1 Market risk

4.1.1 Price risk

The Group is exposed to equity securities price risk because of investments held by the Group and classified on the statement of financial position as available-for-sale.

The table below summarizes the impact of increases (decreases) of the listed shares on the Group's comprehensive income for the year. The analysis is based on the assumption that the equity indexes had increased (decreased) by 30% with all other variables held constant (Korean won in thousands):

	Impact on comprehensive income			
	2019		2018	
Equity securities (listed)	₩	1,453,890	₩	1,392,759

4.1.2 Credit risk

Credit risk is managed on a Group basis. Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables and committed transactions. For banks and financial institutions, only independently rated parties with a minimum rating of 'A' are accepted. If customers are independently rated, these ratings are used. If there is no independent rating, the credit quality of the customer is evaluated taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the board. The utilization of credit limits is regularly monitored. Sales to retail customers are settled in cash or using major credit cards.

The Group's maximum exposures of financial assets to credit risk correspond with amount of financial assets excluding equity securities. Details of impaired receivables are described in Note 9.

4.1.3 Liquidity risk

The Group's finance team monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. Such forecasting takes into consideration the Group's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and, if applicable external regulatory or legal requirements – for example, currency restrictions.

The Group's finance team invests surplus cash in interest-bearing current accounts, time deposits, money market deposits and marketable securities, choosing instruments with appropriate maturities or sufficient liquidity to provide sufficient head-room as determined by the above- mentioned forecasts.

The followings are the contractual maturities of financial liabilities as at December 31, 2019 and 2018 (Korean won in thousands):

	2019			
	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	Over 5 years
Trade and other payables	₩ 217,488,064	₩ -	₩ -	₩ -
Lease liabilities	11,754,871			
Long-term trade and other payables	-	5,467,817	-	-
Long-term lease liabilities		8,174,226	5,417,823	1,505,030
Deposits received	34,979,136	5,955,007	-	-

	2018			
	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	Over 5 years
Trade and other payables	₩ 199,836,398	₩ -	₩ -	₩ -
Long-term trade and other payables	-	8,835,634	-	-
Deposits received	-	42,525,354	-	-

4.1.4 Capital management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. This ratio is calculated as total liabilities divided by total capital. The gearing ratios as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Total liabilities (A)	₩ 467,353,241	₩ 420,536,578
Total equity (B)	1,327,606,478	1,262,317,716
Debt ratio (A/B)	35.20%	33.31%

5. Fair value

There is no significant change in the business and economic environments that affects the fair value of financial assets and liabilities of the Group during 2019.

5.1 Fair value of financial instruments by category

Carrying amounts and fair values of financial instruments by category as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019		2018	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial instruments (*1):				
Financial assets at fair value through OCI	₩ 10,270,706	₩ 10,270,706	₩ 9,383,429	₩ 9,383,429
Financial assets at fair value through profit or loss	2,555,935	2,555,935	4,205,626	4,205,626
Lease liabilities (*2)	11,754,871	(*2)	-	-
Long-term lease liabilities (*2)	15,097,078	(*2)	-	-

(*1) Short-term trade receivables and payables whose carrying amount is a reasonable approximation of fair value are excluded from the fair value disclosures.
(*2) It was excluded from the fair value disclosure in accordance with KIFRS 1107, Financial Instruments: Disclosures.

5.2 Fair value hierarchy

Assets measured at fair value or for which the fair value is disclosed are categorized within the fair value hierarchy, and the defined levels are as follows (Korean won in thousands):

Level 1 - The quoted prices in active markets for identical assets or liabilities
Level 2 - The inputs that are observable for the asset or liability, either directly or indirectly
Level 3 - The inputs for the asset or liability that are not based on observable market data

	2019			
	Level 1	Level 2	Level 3	Total
Recurring fair value measurements:				
Fair value through other comprehensive income	₩ 6,393,537	₩ -	₩ 3,877,169	₩ 10,270,706
Fair value through profit or loss	-	-	2,555,935	2,555,935

	2018			
	Level 1	Level 2	Level 3	Total
Recurring fair value measurements:				
Fair value through other comprehensive income	₩ 6,124,710	₩ -	₩ 3,258,719	₩ 9,383,429
Fair value through profit or loss	-	-	4,205,626	4,205,626

6. Category of financial instruments

Details of financial assets and liabilities by categories as at December 31, 2019 and 2018 are as follows (Korean won in thousands):

	2019			
Financial asset	Amortized cost	Fair value Through OCI	Fair value through profit or loss	Total
Cash and cash equivalents	₩ 200,582,006	₩ -	₩ -	₩ 200,582,006
Short-term financial assets	226,751,126	-	-	226,751,126
Trade and other receivables	143,839,685	-	-	143,839,685
Accrued income	1,553,808	-	-	1,553,808
Long-term financial assets	6,000	-	-	6,000
Financial assets at fair value through OCI	-	10,270,706	-	10,270,706
Financial assets at fair value through profit or loss	-	-	2,555,935	2,555,935
Loans and receivables, non-current	48,346,937	-	-	48,346,937
	₩ 621,079,562	₩ 10,270,706	₩ 2,555,935	₩ 633,906,203

	2019			
Financial asset	Amortized cost	Fair value Through OCI	Fair value through profit or loss	Total
Cash and cash equivalents	₩ 147,433,369	₩ -	₩ -	₩ 147,433,369
Short-term financial assets	252,836,136	-	-	252,836,136
Trade and other receivables	123,049,402	-	-	123,049,402
Accrued income	2,359,532	-	-	2,359,532
Long-term financial assets	6,000	-	-	6,000
Financial assets at fair value through OCI	-	9,383,429	-	9,383,429
Financial assets at fair value through profit or loss	-	-	4,205,626	4,205,626
Loans and receivables, non-current	52,417,738	-	-	52,417,738
	₩ 578,102,177	₩ 9,383,429	₩ 4,205,626	₩ 591,691,232

6. Category of financial instruments (cont'd)

	2019	
Financial liabilities	amortized cost	Total
Trade and other payables	₩ 217,488,064	₩ 217,488,064
Lease liabilities	11,754,871	11,754,871
Long-term trade and other payables	5,467,817	5,467,817
Long-term lease liabilities	15,097,078	15,097,078
Liquidity deposit received	34,979,136	34,979,136
Deposits received	5,955,007	5,955,007
	₩ 290,741,973	₩ 290,741,973

	2018	
Financial liabilities	amortized cost	Total
Trade and other payables	₩ 199,836,398	₩ 199,836,398
Long-term trade and other payables	8,835,634	8,835,634
Deposits received	42,525,354	42,525,354
	₩ 251,197,386	₩ 251,197,386

Details of gains or losses on financial instruments by category for the years ended December 31, 2019 and 2018 are as follows (Korean won in thousands):

	2019	2018
Financial assets at fair value through OCI:		
Gain on valuation (other comprehensive income) (*)	₩ 739,800	₩ 5,193
Dividend income	209,435	99,109
Fair value through profit or loss:		
Gain on valuation (profit or loss)	-	34,093
Dividend income	31,565	88,550
Financial assets at amortized cost:		
Interest income	6,170,796	6,194,453
Impairment (allowance for doubtful accounts)	(2,488,403)	(2,290,072)
Gain/loss on foreign currency transactions	(999,736)	(351,908)
Financial liabilities at amortized cost:		
Interest cost	694,358	-

(*) The amount does not include tax effect

7. Cash and cash equivalents

The book values of cash and cash equivalents as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Cash in bank and on hand	₩ 23,298,964	₩ 11,229,278
Short-term bank deposits (*1)	177,283,042	136,204,091
	₩ 200,582,006	₩ 147,433,369

(*1) Short-term bank deposits include ordinary deposits and time deposits maturing within three months from the acquisition date.

Restricted financial instruments

As of December 31, 2019, long-term and short-term financial instruments such as benefit sharing funds and deposits for checking accounts, which amount to ₩5,857 million, are restricted for use.

8. Fair value of financial instruments

Financial assets at fair value through OCI as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Equity instruments	₩ 10,270,706	₩ 9,383,429

The book values of Fair value through profit or loss as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Equity instruments	₩ 2,063,863	₩ 1,013,555
Debt instruments	492,071	3,192,071
	₩ 2,555,934	₩ 4,205,626

Changes in Fair value of financial instruments for the year ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Opening balance	₩ 13,589,055	₩ 6,291,807
Acquisition	1,147,477	7,257,962
Reclassification	(2,700,000)	-
Valuation	790,109	39,286
Closing balance	₩ 12,826,641	₩ 13,589,055

9. Trade and other receivables and Contract assets

Trade and other receivables as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Trade receivables	₩ 151,468,656	₩ 130,320,739
Provision for impairment of trade receivables	(10,682,241)	(11,036,752)
Non-trade receivables	3,175,116	3,942,706
Provision for impairment of non-trade receivables	(121,846)	(177,291)
	₩ 143,839,685	₩ 123,049,402

Contract assets as of December 31, 2019, is ₩53,324 million, less provision for impairment of contract assets of ₩1,015 million.

Movements on provision for impairment of trade and other receivables for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Beginning balance	₩ 11,828,231	₩ 12,026,947
Provision for receivables impairment	2,957,782	2,904,261
Written off and others	(2,967,124)	(3,102,976)
Ending balance	₩ 11,818,889	₩ 11,828,232

Information about credit risk exposure of Trade and other receivables as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019		
	Expected credit loss rate	Book Value	Expected credit loss
Contract assets	1.9%	₩ 54,248,914	₩ 1,014,802
Trade and other receivables			
Not overdue	-	141,271,544	-
Less than 1 year	23.1%	3,872,043	896,317
1 year ~ 2 years	73.7%	1,833,341	1,351,850
More than 2 years	100.0%	7,666,844	7,666,844
Total		₩ 208,892,686	₩ 10,929,813

The Group has established provision for impairment amounting to ₩ 889 million for individual receivables.

	2018		
	Expected credit loss rate	Book Value	Expected credit loss
Contract assets	1.7%	₩ 35,538,258	₩ 614,189
Trade and other receivables			
Not overdue	-	111,635,601	-
Less than 1 year	31.7%	3,411,430	1,082,516
1 year ~ 2 years	12.9%	11,536,689	1,488,912
More than 2 years	100.0%	7,679,725	7,679,725
Total		₩ 169,801,703	₩ 10,865,342

The Group has established provision for impairment amounting to ₩963 million for individual receivables.

10. Inventories

Inventories as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Supplies and merchandise	₩	24,006,850	₩	25,163,011
Security contracts-in-process		17,159,103		17,453,436
Goods in transit		242,164		329,413
	₩	41,408,117	₩	42,945,860

The cost of inventories recognized as expense and included in 'cost of sales' amounts to ₩171,944 million (2018: ₩164,210 million).

11. Joint venture investment shares

Joint venture investment shares as of December 31, 2019 are as follows (Korean won in thousands):

	2019						
	Portion of the Group's ownership		Acquisition Cost		Equity* ownership		Book Value
Koramco Investment Private REITs No.78(*)	4.11%	₩	2,700,000	₩	2,752,918	₩	2,561,156

(*) The Group classified the equity securities as joint venture investment shares because all investors' consent is required in determining the financial and operating policies based on the investor agreement.

Changes in joint venture investment shares for the year ended December 31, 2019 are as follows (Korean won in thousands):

		2019
Opening balance	₩	2,700,000
Acquisition		-
Share of profit of a joint venture		124,646
Dividend		(263,490)
Closing balance	₩	2,561,156

Summarized financial information of the Koramco Investment Private REITs No.78 as of December 31, 2019 is as follows (Korean won in thousands):

		2019
Total asset	₩	157,432,688
Total liabilities		93,568,554
Revenue		10,047,288
Profit for the year		3,116,614
Total comprehensive income		3,116,614

Details of adjustments of net assets of joint ventures to the carrying amounts of shares in joint ventures for the year ended December 31, 2019 are as follows (Korean won in thousands):

		2019
Total equities	₩	63,864,133
Ownership		4.11%
Net assets		2,624,816
Others		(63,660)
Book values	₩	2,561,156

12. Property, plant and equipment

Changes in property, plant and equipment for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

2019	Land	Buildings	Structures	Security equipment	Security control equipment	Vehicles	Furniture and fixtures	Construction in progress	Total
Opening acquisition cost	₩ 52,017,102	₩ 84,702,359	₩ 9,865,822	₩ 860,211,649	₩ 26,534,421	₩ 1,373,975	₩ 71,271,497	₩ 2,313,910	₩ 1,108,290,735
Opening accumulated depreciation	-	(28,460,657)	(6,746,043)	(527,092,472)	(24,686,910)	(1,071,580)	(60,824,522)	-	(649,062,186)
Opening net book value	52,017,102	56,241,702	3,119,779	333,119,177	1,667,511	302,395	10,446,975	2,313,910	459,228,549
Acquisitions	-	-	-	137,480,368	432,082	-	2,807,146	12,461,649	153,181,246
Disposals	-	-	-	(2,195,222)	-	(1)	(5,840)	-	(2,201,064)
Depreciation	-	(1,763,262)	(398,599)	(121,644,011)	(805,118)	(91,529)	(4,143,857)	-	(128,846,375)
Transfer	-	-	149,450	-	-	20,916	1,812,723	(13,151,449)	(11,168,360)
Exchange differences	-	-	-	-	36,551	2,140	1,645	-	40,336
Ending acquisition cost	52,017,102	84,702,359	10,015,272	910,327,592	27,030,682	1,347,434	73,362,413	1,624,110	1,160,426,964
Ending accumulated depreciation	-	(30,223,919)	(7,144,642)	(563,567,281)	(25,699,656)	(1,113,513)	(62,443,621)	-	(690,192,632)
Ending net book value	₩ 52,017,102	₩ 54,478,440	₩ 2,870,630	₩ 346,760,311	₩ 1,331,026	₩ 233,921	₩ 10,918,792	₩ 1,624,110	₩ 470,234,332

2018	Land	Buildings	Structures	Security equipment	Security control equipment	Vehicles	Furniture and fixtures	Construction in progress	Total
Opening acquisition cost	₩ 54,421,601	₩ 85,806,021	₩ 10,025,822	₩ 822,744,068	₩ 26,075,279	₩ 1,219,394	₩ 67,059,532	₩ 858,953	₩ 1,068,210,671
Opening accumulated depreciation	-	(27,256,642)	(6,512,425)	(489,769,785)	(24,126,233)	(1,047,866)	(57,071,396)	-	(605,784,347)
Opening net book value	54,421,601	58,549,379	3,513,397	332,974,283	1,949,046	171,528	9,988,136	858,953	462,426,324
Acquisitions	-	-	-	120,458,904	562,616	61,797	2,232,173	7,037,174	130,352,663
Disposals	(2,409,938)	(528,301)	(1)	(2,303,545)	(58)	(1)	(9,555)	-	(5,251,399)
Depreciation	-	(1,779,378)	(393,617)	(118,010,465)	(839,590)	(100,556)	(4,228,673)	-	(125,352,279)
Transfer	5,439	-	-	-	-	169,156	2,464,460	(5,582,217)	(2,943,162)
Exchange differences	-	-	-	-	(4,502)	470	435	-	(3,597)
Ending acquisition cost	52,017,102	84,702,359	9,865,822	860,211,649	26,534,421	1,373,975	71,271,497	2,313,910	1,108,290,735
Ending accumulated depreciation	-	(28,460,658)	(6,746,043)	(527,092,472)	(24,866,910)	(1,071,580)	(60,824,522)	-	(649,062,186)
Ending net book value	₩ 52,017,102	₩ 56,241,701	₩ 3,119,779	₩ 333,119,177	₩ 1,667,511	₩ 302,395	₩ 10,446,975	₩ 2,313,910	₩ 459,228,549

Depreciation expense of ₩125,731 million (2018: ₩122,217 million) has been charged to 'cost of sales' and ₩3,115 million (2018: ₩3,135 million) to selling and administrative expenses.

13. Leases

The Group has lease contracts for various items of buildings, vehicles and computerized equipment used in its operations. The lease term for the Group’s right-of-use assets is generally 1 to 5 years. The Group's obligations under the lease agreement are guaranteed by the lessor's rights to the leased asset. In general, the Group is restricted from distributing the lease assets and sub-leasing.

The Group also has certain leases of vehicles and computerized equipment with lease terms of 12 months or less and leases of office equipment with low value. The Group applies the ‘short-term lease’ and ‘lease of low-value assets’ recognition exemptions for these leases.

Details of right-of-use assets as of December 31, 2019 are as follows (Korean won in thousands):

	Acquisition cost	Accumulated depreciation	Book value
Building	₩ 14,882,877	₩ (8,273,980)	₩ 6,608,897
Vehicles	26,356,999	(8,658,592)	17,698,407
Computerized equipment	3,073,110	(646,260)	2,426,850
	₩ 44,312,986	₩ (17,578,832)	₩ 26,734,154

Changes in the right-of-use assets for the year ended December 31, 2019 are as follows (Korean won in thousands):

	2019			
	Building	Vehicles	Computerized equipment	Total
Opening balance	₩ -	₩ -	₩ -	₩ -
Adoption of KIFRS 1116	12,518,089	19,354,160	1,353,509	33,225,758
Increase	3,981,495	8,777,458	1,719,601	14,478,554
Decrease (Termination of contract)	(1,339,057)	(875,029)	-	(2,214,085)
Depreciation	(8,551,630)	(9,558,183)	(646,260)	(18,756,072)
Ending Balance	6,608,897	17,698,406	2,426,850	26,734,155

Changes in lease liabilities for the year ended December 31, 2019 are as follows (Korean won in thousands):

	2019
Opening balance	₩ -
Adoption of KIFRS 1116	33,225,758
Increase	14,478,554
Decrease (Termination of contract)	(177,291)
Interest expense	694,358
Payment of lease liabilities.	(19,330,130)
Foreign currency translation.	415
Ending balance	₩ 26,851,949

Maturity profiles of lease liabilities recognized by the Group as of December 31, 2019 are as follows (Korean won in thousands):

	2019
Within one year	₩ 11,754,871
After one year but not more than five years	13,592,048
More than five years	1,505,030
	₩ 26,851,949

13. Leases (Cont'd)

The following are the amounts recognized in profit or loss (Korean won in thousands):

		2019
Expense relating to short-term leases	₩	8,965,502
Expense relating to leases of low-value assets		3,380,615
Depreciation expense of right-of-use assets		18,756,072
Interest expense on lease liabilities		694,358

14. Intangible assets

Changes in intangible assets for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019									
		Goodwill		Industrial property		Development costs		Other		Total
As of January, 1	₩	328,092,729	₩	351,724	₩	18	₩	114,817,263	₩	443,261,734
Increase (*1)		-		45,842		-		11,690,122		11,735,965
Disposal								(669,160)		(669,160)
Amortization		-		(59,224)		-		(14,347,149)		(14,406,374)
Exchange differences		-		-		-		4,125		4,125
As of December, 31	₩	328,092,729	₩	338,342	₩	18	₩	111,495,201	₩	439,926,290

(*1) Includes amounts reclassified from construction in progress.

	2018									
		Goodwill		Industrial property		Development costs		Other		Total
As of January, 1	₩	328,092,729	₩	361,615	₩	18	₩	130,422,628	₩	458,876,990
Increase (*1)		-		48,187		-		3,267,548		3,315,734
Amortization		-		(58,078)		-		(18,874,936)		(18,933,013)
Exchange differences		-		-		-		2,023		2,023
As of December, 31	₩	328,092,729	₩	351,724	₩	18	₩	114,817,263	₩	443,261,734

(*1) Includes amounts reclassified from construction in progress.

Amortization of ₩321 million (2018: ₩377 million) is included in the 'cost of sales' and ₩14,084 million (2018: ₩18,556 million) in the 'selling and administrative expenses'.

Total research and development costs that the Group recognized as expenses are ₩12,522 million (2018: ₩14,515 million).

Impairment tests for goodwill

As of December 31, 2019, the Group has goodwill which arose from the acquisition of a business in 2014. Details of goodwill allocated to groups of cash generating units under the management's control are as follows (Korean won in thousands):

	2019
Building management	₩328,092,729

14. Intangible assets (Cont'd)

The Group tests annually for impairment. The recoverable amount of the groups of cash generating units is estimated using the calculation of value in use. The calculation of value in use, based on a five-year financial budget approved by management, used pre-tax cash flow estimation. Cash flows beyond the five-year period are extrapolated using the estimated growth rates stated below. The growth rate does not exceed the long-term average growth rate for the business in which the cash generating units operate. In addition, a constant growth rate assumption is used for the perpetual cash flow calculation. The key assumptions used for value-in-use calculations in 2018 are as follows:

	2019
Operating profit rate of cash sales to total sales	7.2 ~ 10.1%
Revenue growth rate (*1)	3.6 ~ 13.3%
Perpetual growth rate	1.00%
Discount rate before tax (*2)	9.27%

(*1) Revenue growth rate used to extrapolate cash flows for the next five years is measured based on the historical growth rate.
(*2) Pre-tax discount rate applied to the cash flow projections

The Group determined budgeted sales growth rate based on past performances and its expectations of the market development.

The impairment test suggests that the carrying value of cash generating units does not exceed the recoverable amount.

15. Trade and other payables

Trade and other payables as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019		2018	
	Current	Non-current	Current	Non-current
Trade payables	₩ 114,123,242	₩ -	₩ 98,981,298	₩ -
Non-trade payables	55,243,483	-	29,093,096	-
Accrued expenses	48,121,340	5,467,817	71,762,004	8,835,634
	₩ 217,488,064	₩ 5,467,817	₩ 199,836,398	₩ 8,835,634

16. Net defined benefit liabilities (assets)

Defined benefit plans that the Group operates are pension plans based on the final salary of employees, and provide a guaranteed amount of pensions to employees. The level of benefits provided depends on the length of service and the final salary of employees. The benefit payments are from separately administered funds.

Net defined benefit liabilities (assets) recognized in the statements of financial position as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Present value of defined benefit liabilities	₩ 322,460,913	₩ 303,092,941
Fair value of plan assets (*1)	(319,361,592)	(289,794,836)
Subtotal	3,099,321	13,298,105
Net defined benefit asset	(784,390)	-
Net defined benefit liability	3,883,712	-
Liabilities (asset) in the statements of financial position	₩ 3,099,322	₩ 13,298,105

(*1) Contribution to the National Pension Fund of ₩346 million (2018: ₩355 million), is included in the fair value of plan assets.

Changes in the carrying amount of defined benefit obligations for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Beginning balance	₩ 303,092,941	₩ 273,540,169
Current service cost	36,167,979	34,478,489
Interest expense	6,748,921	7,646,478
Remeasurements:		
Actuarial gains and losses arising from changes in demographic assumptions	1,024,103	-
Actuarial gains and losses arising from changes in financial assumptions	(12,462,527)	16,221,895
Actuarial gains arising from experience adjustments	7,197,533	2,624,402
Payments from plans:		
Benefit payments	(19,308,036)	(31,418,491)
Ending balance	₩ 322,460,914	₩ 303,092,942

Changes in the fair value of plan assets for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019	2018
Beginning balance	₩ 289,794,836	₩ 284,452,666
Interest income	5,924,339	7,458,407
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	(843,185)	(3,119,071)
Contributions: Employers	44,399,395	31,482,958
Payments from plans: Benefit payments	(19,913,794)	(30,480,124)
Ending balance	₩ 319,361,591	₩ 289,794,836

16. Net defined benefit liabilities (assets) (cont'd)

Plan assets as of December 31, 2019 and 2018, consist of the following (Korean won in thousands):

	2019			
	Quoted price	Unquoted price	Total	Composition
Cash and cash equivalents	₩ 319,015,908	₩ -	₩ 319,015,908	99.89%
Others	-	345,684	345,684	0.11%
	₩ 319,015,908	₩ 345,684	₩ 319,361,592	100.00%

	2018			
	Quoted price	Unquoted price	Total	Composition
Cash and cash equivalents	₩ 289,440,290	₩ -	₩ 289,440,290	99.88%
Others	-	354,547	354,547	0.12%
	₩ 289,440,290	₩ 354,547	₩ 289,794,836	100.00%

The principal actuarial assumptions as of December 31, 2019 and 2018, are as follows:

	2019	2018
Discount rate	2.00%	2.30%
Salary growth rate	3.36% ~ 5.00%	4.21% ~ 5.00%

The sensitivity of the defined benefit obligations as of December 31, 2019, to changes in the weighted principal assumptions is as follows (in percentage, %):

	Effect on defined benefit obligation		
	Changes in principal assumption	Increase in principal assumption	Decrease in principal assumption
Discount rate	1.00%	9% decrease	10% increase
Salary growth rate	1.00%	10% increase	9% decrease

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the previous period.

Expected contributions to post-employment benefit plans for the year ended December 31, 2019 are ₩38,761 million.

Expected maturity analysis of undiscounted pension benefits as of December 31, 2019, is as follows (Korean won in thousands):

	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Between 5 and 10 years	Total
Pension benefits	₩ 20,966,403	₩ 25,993,194	₩ 78,357,888	₩ 153,392,007	₩ 278,739,492

The weighted average duration of the defined benefit obligations is 9.31 years.

Recognized expense related to the defined contribution plan for the year ended December 31, 2019, is ₩9,490 million (2018: ₩6,861 million).

17. Commitments and contingencies

(a) As of December 31, 2019, fifteen civil suits with claims totaling ₩93,421 million are filed against the Group relating to the compensation for damages from security services and unjust enrichment. Regarding certain suits, provisions are included in the consolidated financial statements. The Group reversed its provisions for ₩2,480 million based on the suit, and recognized them as other income in the income statement. The management believes the outcome of civil suits will not impact the financial position of the Group.

(b) The Group has a technical assistance agreement with Secom Co., Ltd. in Japan for licensing and technical assistance on the security business. Under the agreement, the Group pays royalties to Secom Co., Ltd. in Japan amounting to 0.65% of a portion of sales from system security services.

(c) As of December 31, 2019, the Group has a purchasing loan agreement with the maximum limit of ₩72 billion with Hana Bank and B2B plus agreement with the maximum limit of ₩10 billion with Woori Bank

(d) The Group is provided with performance guarantees and construction warranty guarantees amounting to ₩105.1 billion by Seoul Guarantee Insurance and others as at December 31, 2019.

18. Issued capital and share premium

The number of authorized shares in accordance with the Group's article of incorporation is 80 million shares and the par value per share is ₩500. As of December 31, 2019, the total number of common shares issued is 37,999,178 shares.

Details of issued capital and share premium as of December 31, 2018, are as follows (Korean won in thousands, except for number of shares):

Number of common shares outstanding (*1)		Issued capital		Share premium		Total
33,810,239	₩	18,999,589	₩	192,913,601	₩	211,913,190

(*1) The difference between the number of common shares outstanding and the number of common shares issued is due to 4,188,939 shares of treasury stock.

19. Retained earnings

Retained earnings as of December 31, 2019 and 2018, consist of the followings (Korean won in thousands):

		2019		2018
Legal reserves (*1)	₩	9,799,800	₩	9,799,800
Discretionary reserves		1,048,954,333		978,954,333
Unappropriated retained earnings		208,844,774		214,247,023
	₩	1267,598,907	₩	1,203,001,156

(*1) In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends is required to be appropriated as a legal reserve until the reserve equals 50% of paid-in capital. The legal reserve may not be utilized for cash dividends but may only be used to offset a deficit, if any, or be transferred to capital.

20. Other components of equity

Other components of equity as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Accumulated other comprehensive income:				
Net gain on valuation of fair value through OCI	₩	4,385,796	₩	3,825,027
Currency translation differences		(274,133)		(395,550)
Other:				
Treasury share		(155,751,107)		(155,751,107)
Others		(292,148)		(292,148)
	₩	(151,931,592)	₩	(152,613,778)

21. Revenue from contracts with customers

The details of revenue from contracts with customers are as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

2019	Security system service	Building management service	Call center & telemarketing	Consolidated adjustments	Total
Time of transfer of goods or services					
Goods or services transferred at a point in time	₩ 5,426,454	₩ -	₩ -	₩ -	₩ -
Goods or services transferred over time	1,740,663,828	560,943,157	13,177,649	(170,765,420)	2,144,019,213
Total revenue from contracts with customers	1,746,090,282	560,943,157	13,177,649	(170,765,420)	2,149,445,667
Profit from other sources	2,075,849	-	-	-	2,075,849
Total	₩ 1,748,166,131	₩ 560,943,157	₩ 13,177,649	₩ (170,765,420)	₩ 2,151,521,516

2018	Security system service	Building management service	Call center & telemarketing	Consolidated adjustments	Total
Time of transfer of goods or services					
Goods or services transferred at a point in time	₩ 4,379,655	₩ -	₩ -	₩ -	₩ 4,379,655
Goods or services transferred over time	1,659,382,401	491,355,599	11,491,085	(150,738,312)	2,011,490,773
Total revenue from contracts with customers	1,663,762,056	491,355,599	11,491,085	(150,738,312)	2,015,870,427
Profit from other sources	2,468,843	-	-	-	2,468,843
Total	₩ 1,666,230,899	₩ 491,355,599	₩ 11,491,085	₩ (150,738,312)	₩ 2,018,339,270

21. Revenue from contracts with customers (Cont'd)

Details of the Group's contract balance as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Trade receivables	₩	140,786,415	₩	119,283,987
Contract assets		53,234,112		34,924,069
Advances received		48,108,857		41,784,796
Unearned revenue		31,097,494		31,915,784

Trade receivables are non-interest-free and the usual payment date is 30 to 90 days. Based on expected credit losses, the provision was recognized at ₩10,682 million as of the end of the current period.

Service contract assets are recognized for the first time when consideration is received on the condition that installation is complete in respect of revenue from security services. ₩1,015 million was recognized for expected credit loss provision relating to contract assets.

Contract liabilities include advanced receipts and income received in advance relating to revenue from customized security facilities and security services. Contract liabilities are recognized as revenue in accordance with each contract, depending on the time-period or progress rate.

Service contract assets are recognized for the first time when consideration is received on the condition that installation is complete in respect of revenue from security services. ₩ 1,015 million was recognized for expected credit loss provision relating to contract assets.

Contract liabilities include advanced receipts and income relating to revenue from customized security facilities and security services. Contract liabilities are recognized as revenue in accordance with each contract, depending on the time-period or progress rate.

Details of the Group's contract liabilities and related revenue as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Amounts included in contract liabilities at the beginning of the year	₩	31,097,494	₩	31,915,784
Performance obligations satisfied in previous years		27,107,789		27,580,780

22. Revenue from contracts with customers

There is no contract applying the percentage-of-completion method with total revenue accounting for more than 5% of sales of the preceding year as of December 31, 2019.

Changes in contract revenues and costs due to changes in accounting estimates in relation to the contracts that recognize revenue over a period of time based on the percentage-of-completion method, for the year ended December 31, 2019 are as follows (Korean won in thousands):

		Changes in total contract revenues		Changes in total contract costs		Effect on net income
Security system service	₩	5,678,498	₩	4,630,897	₩	1,047,601

23. Expenses by nature

Expenses by nature for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Purchase of merchandise	₩	171,944,135	₩	164,210,182
Labor expenses		721,001,124		662,371,933
Depreciation and amortization		162,008,821		144,285,293
Outsourcing expenses		547,436,904		493,054,710
Commission expenses and royalties		41,204,628		29,289,970
Advertising expenses and sales commission expenses		28,155,273		28,281,298
Communication expenses		32,375,025		35,647,402
Transportation expenses		10,563,415		19,314,594
Others		240,010,185		242,755,759
	₩	1,954,699,510	₩	1,819,211,141

24. Selling and administrative expenses

Selling and administrative expenses for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Labor expenses	₩	194,453,380	₩	181,969,730
Development costs (*1)		12,522,876		14,520,898
Depreciation and amortization		24,806,586		21,235,486
Commission expenses and royalties		21,239,264		18,937,799
Advertising expenses and sales commission expenses		24,516,734		25,280,384
Communication expenses		2,757,265		3,951,297
Insurance expenses		6,074,880		6,740,106
Transportation expenses		8,797,852		8,976,589
Rental expenses		4,845,505		12,507,340
Bad debts expenses		2,957,782		2,904,261
Others		43,945,153		50,960,538
	₩	346,917,277	₩	347,984,429

(*1) Depreciation and amortization costs of ₩468 million (2018: ₩455 million) are included in development costs.

25. Other non-operating income and expenses

Details of other non-operating income and other non-operating expenses for the years ended December 31, 2019 and 2018 are as follows (Korean won in thousands):

		2019		2018
Other non-operating income:				
Dividend income	₩	241,000	₩	186,660
Gain on disposal of property and equipment		68,324		3,963,376
Gain on foreign currency transactions		2,215,670		1,870,703
Gain on foreign currency translation		21,123		145,284
Gain on valuation of Fair value through profit or loss		-		34,093
Others		7,134,687		7,982,392
Income of equity-method		124,646		-
	₩	9,805,450	₩	14,182,508
Other non-operating expenses:				
Donations	₩	1,668,081	₩	1,923,996
Loss on obsolescence of inventories		11,467,909		13,483,679
Loss on disposal of property, plant and equipment		2,201,689		2,322,633
Loss on foreign currency transactions		3,170,908		2,074,706
Loss on foreign currency translation		12,646		176,276
Others		1,075,729		844,969
	₩	19,596,961	₩	20,826,258

26. Finance income and costs

Finance income and costs for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Finance income:				
Interest income	₩	6,170,796	₩	6,194,453
Foreign currency translation profit		51		-
Gain on foreign currency transactions		111,910		79,834
	₩	6,282,757	₩	6,274,287
Finance costs:				
Interest expense	₩	694,358	₩	-
Foreign exchange translation loss		467		-
Loss on foreign currency transactions		164,419		196,748
	₩	859,244	₩	196,748

27. Income tax

Income tax expense for the years ended December 31, 2019 and 2018, consists of the following (Korean won in thousands):

		2019		2018
Current income tax:				
Current tax on profits for the year	₩	44,035,138	₩	43,556,427
Adjustments in respect of prior years		346,352		50,248,314
Total current tax		44,381,490		93,804,741
Deferred income tax due to temporary differences		2,527,084		13,366,825
Deferred income tax charged to equity		(1,095,846)		(11,578,421)
Income tax expenses from continuing operations	₩	45,812,728	₩	95,593,145

The reconciliation between income tax expense at the effective income tax rate and accounting profit before income tax at the Korea statutory rate for the years ended December 31, 2019 and 2018 is as follows (Korean won in thousands):

		2019		2018
Profit before tax	₩	192,454,010	₩	198,561,919
Tax calculated at statutory tax rates		45,708,950		48,364,253
Tax effects of:				
Non-taxable income		(12,337)		(732,477)
Non-deductible expenses		788,641		1,144,208
Tax credit		(1,288,610)		(86,391)
Adjustment in respect of prior years		616,085		46,903,552
Income tax expenses	₩	45,812,729	₩	95,593,144
Effective tax rate (*)		23.80%		48.14%

(*) Income tax expense divided by net income before tax

27. Income tax (cont'd)

Changes in the temporary differences and related deferred tax assets and liabilities are as follows (Korean won in thousands):

	2019				
	Temporary differences			Deferred tax assets (liabilities)	
	Beginning	Increase (decrease)	Ending	Beginning	Ending
Allowance for doubtful accounts	₩ 8,624,418	₩ (1,431,497)	₩ 7,192,921	₩ 2,087,109	₩ 1,740,687
Accrued income	(2,359,532)	805,725	(1,553,808)	(570,770)	(375,874)
Accrued expenses	32,973,043	2,066,095	35,039,138	7,882,131	8,353,846
Defined benefit liability	288,102,862	19,367,972	307,470,834	68,971,134	73,503,630
Pension plan assets	(283,038,711)	(20,548,412)	(303,587,123)	(67,857,020)	(72,649,214)
Depreciation	(123,436)	2,037	(121,399)	(453)	(4)
Impairment of available-for sale securities	2,526,720	-	2,526,720	611,466	611,466
Gain on valuation of Financial assets at fair value through OCI	(5,046,210)	(739,800)	(5,786,011)	(1,221,183)	(1,400,215)
Payables for donations	380,000	-	380,000	91,960	91,960
Other non-current liabilities	27,831,908	4,921,379	32,753,287	6,676,523	7,837,291
Provision	5,820,000	(3,340,000)	2,480,000	1,408,440	600,160
Penalty	10,516,102	(28,822)	10,487,280	2,544,897	2,537,922
Loss on obsolescence of intangible assets	478,572	(444,590)	33,982	115,815	8,224
Repair costs	1,414,802	(795,430)	619,372	342,382	149,888
Long-term unearned revenue (Construction revenue)	31,915,784	(10,339,404)	21,576,379	7,723,620	5,221,484
Long-term prepaid expenses	(101,384,733)	-	(101,384,733)	(24,535,105)	(24,535,105)
Long-term trade receivables (Unbilled Subsidy)	(3,756,793)	-	(3,756,793)	(909,144)	(909,144)
Tax and utility (acquisition tax)	-	25,965	25,965	-	6,189
Right of Use assets	-	117,794	117,794	-	28,250
Construction loss allowance	-	2,570	2,570	-	622
Carried forward	-	210,246	210,246	-	46,254
Other	(1,600,394)	(138,844)	(1,739,238)	(416,669)	(450,269)
Total	₩ 13,274,403	₩ (10,287,016)	₩ 2,987,387	₩ 2,945,132	₩ 418,048

27. Income tax (cont'd)

	2018				
	Temporary differences			Deferred tax assets (liabilities)	
	Beginning	Increase (decrease)	Ending	Beginning	Ending
Allowance for doubtful accounts	₩ 10,091,203	₩ (1,466,785)	₩ 8,624,418	₩ 2,442,071	₩ 2,087,109
Accrued income	(1,608,465)	(751,067)	(2,359,532)	(389,169)	(570,770)
Accrued expenses	29,622,105	3,350,939	32,973,043	7,102,099	7,882,131
Defined benefit liability	257,944,739	30,158,123	288,102,862	61,828,408	68,971,134
Pension plan assets	(254,223,124)	(28,815,587)	(283,038,711)	(61,002,777)	(67,857,020)
Depreciation	(123,188)	(248)	(123,436)	(438)	(453)
Impairment of available-for sale securities	2,526,720	-	2,526,720	611,466	611,466
Gain on valuation of Financial assets at fair value through OCI	(5,041,017)	(5,193)	(5,046,210)	(1,219,926)	(1,221,183)
Payables for donations	380,000	-	380,000	91,960	91,960
Other non-current liabilities	24,378,727	3,453,181	27,831,908	5,856,491	6,676,523
Provision	5,820,000	-	5,820,000	1,408,440	1,408,440
Penalty	-	10,516,102	10,516,102	-	2,544,897
Loss on obsolescence of intangible assets	-	478,572	478,572	-	115,815
Repair costs	-	1,414,802	1,414,802	-	342,382
Long-term unearned revenue (Construction revenue)	-	31,915,784	31,915,784	-	7,723,620
Long-term prepaid expenses	-	(101,384,733)	(101,384,733)	-	(24,535,105)
Long-term trade receivables (Unbilled Subsidy)	-	(3,756,793)	(3,756,793)	-	(909,144)
Other	(1,600,394)	-	(1,600,394)	(416,669)	(416,669)
Total	₩ 68,167,306	₩ (54,892,903)	₩ 13,274,402	₩ 16,311,956	₩ 2,945,133

(*1) The Group has not recognized deferred tax assets arising from investments in subsidiaries as the related temporary difference will not reverse due to the low possibilities of dividend payouts and disposal of investments in the foreseeable future. As of December 31, 2019, the total temporary difference which is not recognized as deferred tax liabilities is ₩6,476 million.

27. Income tax (cont'd)

The analysis of deferred tax assets and deferred tax liabilities as of December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Deferred tax assets:				
Deferred tax asset to be recovered after more than 12 months	₩	89,157,785	₩	72,612,826
Deferred tax asset to be recovered within 12 months		11,840,337		12,143,514
	₩	100,998,122	₩	84,756,340
Deferred tax liabilities:				
Deferred tax liability to be recovered after more than 12 months	₩	(100,204,581)	₩	(81,241,578)
Deferred tax liability to be recovered within 12 months		(375,494)		(569,629)
		(100,580,075)		(81,811,207)
Deferred tax assets, net	₩	418,047	₩	2,945,133

Details of deferred tax charged directly to equity are as follows (Korean won in thousands):

		2019		2018
Gain(loss) on valuation of OCI	₩	(179,032)	₩	(1,257)
Remeasurement of net defined benefit liabilities		(916,814)		5,260,444
Retained earnings(KIFRS1115)		-		(16,837,608)
	₩	(1,095,846)	₩	(11,578,421)

28. Earnings per share

Basic earnings per ordinary share for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Profit attributable to owners of the parent Group	₩	146,642,457	₩	102,970,864
Weighted average number of ordinary shares outstanding (*1)		33,810,239		33,810,239
Basic earnings per share (Korean won)	₩	4,337	₩	3,046

(*1) Weighted average number of ordinary shares outstanding = Total issued shares – weighted average number of treasury shares

	2019	2018
Issued shares	37,999,178	37,999,178
Treasury shares	4,188,939	4,188,939
Weighted average number of ordinary shares outstanding	33,810,239	33,810,239

Because there is no diluted potential common stock, diluted earnings per share are the same as basic earnings per share.

29. Cash generated from operations

Cash generated from operations for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

		2019		2018
Adjustments for:				
Depreciation, amortization	₩	162,008,821	₩	144,285,293
Loss on obsolescence of inventories		10,990,732		12,670,863
Severance benefits		36,992,561		34,666,560
Loss on foreign currency translation		13,113		176,276
Gain on foreign currency translation		(21,175)		(145,284)
Loss on disposal of property, plant and equipment		2,201,689		2,322,633
Gain on disposal of property, plant and equipment		(68,324)		(3,963,376)
Bad debt expenses		2,957,782		2,904,261
Gain of valuation of FVPL		-		(34,093)
Interest expenses		694,358		-
Interest income		(6,170,796)		(6,194,453)
Dividend		(153,010)		(186,660)
Income taxes		45,812,728		95,593,144
Miscellaneous profit		(3,340,000)		-
Loss of lease		31,476		-
Profit from lease		(34,398)		-
Amount of debt transferred to cover construction losses		2,570		-
Profit from equity method		(124,646)		-
Others		(648)		-
	₩	251,792,834	₩	282,095,164

		2019		2018
Changes in operating assets and liabilities:				
Trade receivables	₩	(23,829,864)	₩	(7,763,086)
Contract assets		(17,191,334)		(1,239,620)
Other receivables		753,587		(138,523)
Advance payments		(6,278,982)		(518,983)
Prepaid expenses		(5,281,560)		5,433,388
Value added tax prepaid		(1,619,140)		(208,604)
Long-term contract assets		(1,588,088)		(437,636)
Inventories, net		(9,413,618)		(14,474,403)
Other non-current assets		(1,821,918)		(7,794,934)
Trade payables		14,943,241		15,440,978
Other payables		2,040,478		(3,723,720)
Advance		6,333,375		(9,425,052)
Unearned revenue		695,447		(775,117)
Value added tax withheld		2,767,680		(1,364,534)
Withholdings		587,907		694,703
Net employee defined benefit liabilities		(43,793,638)		(32,421,324)
Deposits received		(1,591,211)		(949,995)
Long-term unearned revenue		(1,513,736)		(833,512)
Long-term other payables		1,501,604		4,932,228
	₩	(84,299,769)	₩	(55,567,746)

30. Related party transaction

The related parties of the Group as of December 31, 2019 and 2018, are as follows:

	2019	2018
Entity with significant influence over the Group	Secom Co., Ltd. in Japan	Secom Co., Ltd. in Japan
Joint venture	Koramco Investment Private REITs No.78	-
Others	Affiliates of the Samsung group	Affiliates of the Samsung group

Sales and purchases with subsidiaries and others for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

2019	Sales	Purchases	Other income	Other expense
Entity with significant influence over the Group:				
Secom Co., Ltd. In Japan	₩ -	₩ -	₩ -	₩ 4,651,629
Others:				
Samsung Electronics Co., Ltd.	363,134,156	10,129,633	-	-
Samsung Life Insurance Co., Ltd.	68,032,950	9,372,086	6,331,884	1,428,153
Samsung Display Co., Ltd.	53,622,824	29,567	-	-
Other affiliates	247,211,357	65,197,836	22,431	11,008,806
	₩ 732,001,287	₩ 84,729,122	₩ 6,354,315	₩ 17,088,588

2018	Sales	Purchases	Other income	Other expense
Entity with significant influence over the Group:				
Secom Co., Ltd. In Japan	₩ -	₩ -	₩ -	₩ 4,617,305
Others:				
Samsung Electronics Co., Ltd.	325,793,853	25,085,300	-	-
Samsung Life Insurance Co., Ltd.	73,112,516	8,755,935	5,688,039	1,544,902
Samsung Display Co., Ltd	54,747,688	45,950	-	-
Other affiliates	261,610,896	64,184,897	58,514	10,586,354
	₩ 715,264,953	₩ 98,072,082	₩ 5,746,553	₩ 16,748,561

30. Related party transaction (Cont'd)

Outstanding balances with related parties as at December 31, 2019 and 2018 are as follows (Korean won in thousands):

	2019					
	Receivables			Payables		
	Trade receivables	Loans	Other Receivables (*)	Trade payables	Borrowings	Other payables
Entity with significant influence over the Group:						
Secom Co., Ltd. In Japan	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 2,332,643
Others:						
Samsung Electronics Co., Ltd.	42,354,812	-	87,792	555,346	-	230,476
Samsung Life Insurance Co., Ltd.	144,531	-	334,495,897	-	-	265,110
Samsung Display Co., Ltd.	5,416,441	-	-	3,670	-	78,846
Other affiliates	27,144,254	-	7,953,475	22,063,911	-	1,244,952
	₩ 75,060,038	₩ -	₩ 342,537,164	₩ 22,622,927	₩ -	₩ 4,152,027

(*) Other receivables from other affiliates comprise plan assets of ₩319,016 million in Samsung Life Insurance Co., Ltd. and leasehold deposits of ₩15,480 million.

	2018					
	Receivables			Payables		
	Trade receivables	Loans	Other Receivables (*)	Trade payables	Borrowings	Other payables
Entity with significant influence over the Group:						
Secom Co., Ltd. In Japan	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 2,315,205
Others:						
Samsung Electronics Co., Ltd.	29,202,342	-	96,456	2,170,175	-	284,219
Samsung Life Insurance Co., Ltd.	631,073	-	310,167,427	-	-	317,882
Samsung Display Co., Ltd.	6,451,464	-	-	-	-	3,670
Other affiliates	22,027,608	-	8,144,626	12,733,353	-	4,835,223
	₩ 58,312,487	₩ -	₩ 318,408,509	₩ 14,903,528	₩ -	₩ 7,756,199

(*) Other receivables from other affiliates comprise plan assets of ₩289,440 million in Samsung Life Insurance Co., Ltd. and leasehold deposits of ₩20,727 million.

Dividends paid to Secom Co., Ltd. in Japan, a related party of the Group, amounts to ₩24,368 million for the year ended December 31, 2019 (2018: ₩24,368 million). Dividends paid to other related parties amount to ₩19,539 million (2018: ₩19,539 million). Dividends received from Koramco Investment Private REITs No.78 amount to ₩17.5 million for the year ended December 31, 2019 (2018: ₩ 88 million). There are no other fund transactions with other related parties for the years ended December 31, 2019 and 2018.

30. Related party transaction (Cont'd)

The Group entered into a technical assistance agreement with Secom Co., Ltd. in Japan, which has significant influence over the Group.

	Related product	Provided by	Fee
Technical assistance	Security system	Secom Co., Ltd. in Japan	0.65% of a portion of sales

As of December 31, 2019, there are no payment guarantees and collaterals provided by the Group to the related parties.

Key management consists of registered executive officers who have authority and responsibility in the planning, operations and control of the business of the Group. The compensation paid or payable to key management for employee services for the years ended December 31, 2019 and 2018, consists of (Korean won in millions):

	2019	2018
Salaries and other short-term employee benefits	₩ 3,824	₩ 3,818
Post-employment benefits	367	399
Other long-term benefits	878	1,776
	₩ 5,069	₩ 5,993

31. Segment information

According to the management of the Group who oversees the strategic decision making process and determines the operating segment, the Group has three operating segments.

The following table presents the revenue by segment from external customers for the years ended December 31, 2019 and 2018 (Korean won in thousands):

	2019									
	Security system service		Building management service		Call center & telemarketing		Consolidated adjustments		Total	
Sales Total	₩	1,748,166,132	₩	560,943,157	₩	13,177,649	₩	(170,765,420)	₩	2,151,521,517
Internal		157,587,772		-		13,177,649		(170,765,420)		-
External		1,590,578,360		560,943,157		-		-		2,151,521,516
Operating profit		152,450,625		44,085,190		286,192		-		196,822,007
Total assets		1,264,683,282		539,665,473		3,990,889		(13,379,925)		1,794,959,719
Non-current assets		-		-		-				-
Property, plant and equipment and intangible assets		523,740,735		412,736,564		417,478		-		936,894,777
Increase and decrease in property, plant and equipment and intangible assets		41,443,189		(7,238,328)		199,632		-		34,404,493
Depreciation and amortization		148,468,824		13,459,978		80,019		-		162,008,821

	2018									
	Security system service		Building management service		Call center & telemarketing		Consolidated adjustments		Total	
Sales Total	₩	1,666,230,899	₩	491,355,599	₩	11,491,085	₩	(150,738,312)	₩	2,018,339,271
Internal		139,247,227		-		11,491,085		(150,738,312)		-
External		1,526,983,672		491,355,599		-		-		2,018,339,271
Operating profit		162,925,119		36,217,769		(14,759)		-		199,128,129
Total assets		1,188,173,929		504,253,071		3,193,243		(12,765,949)		1,682,854,294
Non-current assets		-		-		-		-		-
Property, plant and equipment and intangible assets		482,297,546		419,974,892		217,846		-		902,490,284
Increase and decrease in property, plant and equipment and intangible assets		(9,256,064)		(9,578,576)		21,610		-		(18,813,030)
Depreciation and amortization		131,087,324		13,150,212		47,756		-		144,285,292

Revenues from major customers accounting for more than 10% of the Group's revenue amount to ₩363,134 million and ₩325,794 million for the years ended December 31, 2019 and 2018, respectively.

32. Information about non-controlling interests

The profit or loss allocated to non-controlling interests and accumulated non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2019 and 2018, are as follows (Korean won in thousands):

	2019				
	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Others	Accumulated non-controlling interests at the end of the year
SVIC35	₩ 17,148	₩ (1,176)	₩ -	₩ 10,000	₩ 25,972

	2018				
	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Others	Accumulated non-controlling interests at the end of the year
SVIC35	₩ 9,037	₩ (2,089)	₩ -	₩ 10,200	₩ 17,148

33. Events after the reporting period

The Group decided to liquidate SOCM LLC, a subsidiary, by the resolution of the Board of Directors on January 31, 2020.