Korea Aerospace Industries, Ltd. and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2018 and 2017
with the independent auditor's report

Korea Aerospace Industries, Ltd. and its subsidiaries

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Ernst & Young Han Young
Taeyoung Building, 111, Yeouigongwon-ro,
Yeongdeungpo-gu, Seoul 07241 Korea

Tel: +82 2 3787 6600
Fax: +82 2 783 5890
ey.com/kr

Independent auditor's report

The Shareholders and Board of Directors
Korea Aerospace Industries, Ltd.

Opinion

We have audited the accompanying consolidated financial statements of Korea Aerospace Industries, Ltd. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as of December 31, 2018, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year 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, 2018 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Korean International Financial Reporting Standards.

Basis for opinion

We conducted our audit 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 audit of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

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

Appropriateness of the revenue recognition criteria applied to the contract for delivery of finished equipment

As explained in Note 2 to the consolidated financial statements, the Group changed the application of KIFRS 1115 Revenue from Contracts with Customers during the current period to recognising revenue at a point in time when the control of goods is transferred to the customer with regards to the contract for delivery of finished equipment that had previously recognised revenue on a progress basis. As the revenue recognition criteria vary depending on the determination of the right of payment included in each contract for delivery of finished equipment, and the effect thereof on the consolidated financial statements is significant, we identified the appropriateness of the revenue recognition criteria applied to the contract for delivery of finished equipment as a significant risk.
The key audit procedures we conducted in this regard are as follows:

- Checking the results of work performed by experts hired by the management in relation to KIFRS 1115.
- Sampling for the contracts for delivery of finished equipment that are not completed in the current term and reviewing the revenue recognition criteria and basis of judgment reflected in the consolidated financial statements.
- Questioning the terms of the sampled contracts for delivery of finished equipment and inspecting the documents related to the contracts.
- Reviewing the documents received from customers and external legal opinions presented by the Group regarding the existence of the right to payment contained in the contract for delivery of finished equipment.
- Reviewing the adequacy of the notes that disclosed on the cumulative effect of initial application of KIFRS 1115.

Substantiality of inventory and the appropriateness of acquisition cost

As described in Note 2 to the consolidated financial statements, as the revenue recognition criteria for the contract for delivery of finished equipment changed, the expenditure incurred before control of the goods was transferred to the customer which used to be recognized as cost of sales before, will be recognized as inventory starting from the current period. Also, as described in Note 7 to the consolidated financial statements, the Group's inventory is valued at ₩1,290,888 million as of December 31, 2018, accounting for 34% of its total assets, which is significant in its consolidated financial statements. Accordingly, there is a risk of misstating inventories in the consolidated financial statements if the inventories recognized in the consolidated financial statements do not exist or the acquisition costs are not accurately recorded, and accordingly, we identified the substantiality of inventory and the appropriateness of acquisition cost as significant risks.

The audit procedures we conducted in this regard are as follows:

- Questioning and observing the management regarding the WBS (Work Breakdown Structure) and the progress of the work on the contract for delivery of finished equipment.
- Inspecting the sampled inventory.
- Inspecting and externally inquiring the sampled inventory stored elsewhere.
- Confirming the supporting documents by sampling the purchase of raw material and manufacturing expenses thereof.
- Reviewing the unit price of raw materials, components and storage as of December 31, 2018.
- Understanding the distribution structure of direct and indirect expenses by contract and reviewing the appropriateness of the distribution.

Other Matter

The consolidated statement of financial position of the Group as of December 31, 2017 and the related consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended were audited by Samil PricewaterhouseCoopers (in accordance with auditing standards generally accepted in the Republic of Korea) who expressed an unqualified opinion on those statements on March 21, 2018. The accompanying consolidated statement of financial position as of December 31, 2017 presented for comparative purposes is not different, in all material respects, from the above audited consolidated statement of financial position.

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 Korean International Financial Reporting Standards, 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 the 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 Korean Auditing Standards (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 Korean Auditing Standards (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 partner in charge of the audit resulting in this independent auditor’s report is Jung Chul Yun.

Ernst & Young Han Young

March 21, 2019

This audit report is effective as of March 21, 2019, the independent auditor’s report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor’s report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Korea Aerospace Industries, Ltd. and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2018 and 2017

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

Kim, Jo Won
Chief Executive Officer
Korea Aerospace Industries, Ltd.

Korea Aerospace Industries, Ltd. and its subsidiaries
Consolidated statements of financial position
as of December 31, 2018 and 2017

(In thousands of Korean won)

	Notes		2018		2017
Assets					
Current Assets					
Cash and cash equivalents	5	₩	143,831,970	₩	227,100,460
Short-term financial instruments	4,5		96,018,361		6,255,226
Trade receivables	5,6		204,213,552		421,847,670
Contract assets	15,23		76,603,731		-
Due from customers for contract work	5,23		-		409,964,541
Other short-term financial assets	5,6		29,379,393		17,167,642
Inventories, net	7		1,290,887,619		464,115,988
Other assets	11		568,609,327		455,253,403
Total current assets			2,409,543,953		2,001,704,930
Non-current assets					
Financial assets at fair value through profit or loss	5,8		31,110,359		-
Long-term available-for-sale financial assets	5,8		-		30,517,992
Other long-term financial assets	4,5,6		7,069,788		9,275,195
Investments in associates and joint venture	9		6,392,004		6,667,467
Property, plant and equipment, net	10		571,368,928		547,324,600
Intangible assets, net	10		450,580,456		359,958,939
Deferred tax assets	28		279,798,023		237,953,842
Total non-current assets			1,346,319,558		1,191,698,035
Total assets		₩	3,755,863,511	₩	3,193,402,965

(Continued)

Korea Aerospace Industries, Ltd. and its subsidiaries
Consolidated statements of financial position
as of December 31, 2018 and 2017

(Continued)

(In thousands of Korean won)

	Notes		2018		2017
Liabilities and Equity					
Current Liabilities					
Trade payables	5,12	₩	289,489,656	₩	133,631,740
Other short-term financial liabilities	5,12		131,280,971		248,578,595
Short-term borrowings	5,13		177,854,411		470,374,129
Current debentures payable	5,13		199,948,185		-
Contract liabilities	23		268,139,452		-
Due to customers for contract work	23		-		227,745,589
Income tax payable	12		2,236		15,364,060
Other short-term liabilities	14		601,092,890		112,101,201
Total current liabilities			1,667,807,801		1,207,795,312
Non-current liabilities					
Long-term borrowings	5,13		83,895,865		30,018,700
Long-term debentures payable	5,13		259,636,485		399,381,110
Other long-term financial liabilities	5,12		60,502,388		28,798,991
Net defined benefit liabilities	16		356,284,864		332,610,107
Other provisions	17,31		260,782,562		40,208,716
Other long-term liabilities			13,961,941		14,184,872
Deferred tax liabilities	28		85,512		-
Total non-current liabilities			1,035,149,617		845,202,496
Total liabilities			2,702,957,418		2,025,997,808
Equity attributable to owners of the parent					
Capital stock	1,19		487,375,535		487,375,535
Share premium			124,077,486		124,077,486
Retained earnings	20		415,992,596		517,210,256
Other components of equity	21		(18,023,188)		11,741,880
			1,009,422,429		1,140,405,157
Non-controlling interests	1		43,483,664		-
Total equity			1,052,906,093		1,140,405,157
Total liabilities and equity		₩	3,755,863,511	₩	3,193,402,965

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

Korea Aerospace Industries, Ltd. and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2018 and 2017

(In thousands of Korean won, except per share amounts)

	Notes	2018	2017
Sales	23	₩ 2,786,023,511	₩ 2,072,249,142
Cost of sales	24	2,411,539,106	2,097,187,494
Gross profit (loss)		374,484,405	(24,938,352)
Selling, general and administrative expenses	24,25	228,101,885	183,934,902
Operating income (loss)		146,382,520	(208,873,254)
Other income	26	7,378,248	3,691,946
Other expenses	26	55,955,168	26,225,490
Financial income	23,27	33,022,572	36,845,576
Financial expenses	27	50,878,515	125,950,588
Gain on valuation of equity-method investments	9	270,032	319,038
Loss on valuation of equity-method investments	9	559,194	89,567
Profit (Loss) before income tax		79,660,495	(320,282,339)
Income tax expense (benefit)	28	24,121,031	(85,096,486)
Profit (Loss) for the year		55,539,464	(235,185,853)
Profit (Loss) attributable to :			
Owners of the parent		57,188,120	(235,185,853)
Non-controlling interests		(1,648,656)	-
Other comprehensive income (loss)			
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of net defined benefit liabilities	15	(10,434,845)	(6,055,356)
Income tax effect of other comprehensive income		2,526,291	1,465,396
Items to be subsequently reclassifiable to profit or loss:			
Gain on valuation of long-term available-for-sale financial assets	8	-	105,063
Foreign currency translation differences		23,101	(50,856)
Share of other comprehensive income of associates		13,699	859,657
Income tax effect of other comprehensive income		-	(25,425)
		(7,871,754)	(3,701,521)
Total comprehensive income (loss) for the year		₩ 47,667,710	₩ (238,887,374)

(Continued)

(Continued)

(In thousands of Korean won, except per share amounts)

	Notes		2018		2017
Comprehensive income attributable to :					
Owners of the parent			49,328,051		(238,887,374)
Non-controlling interests			(1,660,341)		-
Earnings per share attributable to owners of the parent (in Korean won)					
Basic earnings(losses) per share	22	₩	587	₩	(2,413)
Diluted earnings(losses) per share	22	₩	587	₩	(2,413)

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

Korea Aerospace Industries, Ltd. and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2018 and 2017

(In thousands of Korean won)

	Equity attributable to owners of the parent					
	Capital stock	**Share Premium**	**Retained earnings**	**Other components of equity**	**Non-controlling interests**	**Total**
Balance at January 1, 2017	₩ 487,375,535	₩ 124,077,486	₩ 823,269,142	₩ 10,853,440	₩ -	₩ 1,445,575,603
Comprehensive income						
Loss for the year	-	-	(235,185,853)	-	-	(235,185,853)
Gains on valuation of available-for-sale financial assets	-	-	-	79,638	-	79,638
Foreign currency translation differences	-	-	-	(50,855)	-	(50,855)
Remeasurement of net defined benefit liabilities	-	-	(4,589,960)	-	-	(4,589,960)
Share of other comprehensive income of associates	-	-	-	859,657	-	859,657
Total comprehensive income (loss)	-	-	(239,775,813)	888,440	-	(238,887,373)
Transactions with owners						
Cash dividends	-	-	(66,283,073)	-	-	(66,283,073)
Total transactions with owners	-	-	(66,283,073)	-	-	(66,283,073)
Balance at December 31, 2017	₩ 487,375,535	₩ 124,077,486	₩ 517,210,256	₩ 11,741,880	₩ -	₩ 1,140,405,157

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Korea Aerospace Industries, Ltd. and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2018 and 2017

(Continued)

(In thousands of Korean won)

	Equity attributable to owners of the parent					
	Capital stock	**Share premium**	**Retained earnings**	**Other components of equity**	**Non-controlling interests**	**Total**
Balance at January 1, 2018	₩ 487,375,535	₩ 124,077,486	₩ 517,210,256	₩ 11,741,880	₩ -	₩ 1,140,405,157
Changes in accounting standards	-	-	(150,497,227)	(6,712,162)	-	(157,209,389)
Adjusted Balance at January 1, 2018	₩ 487,375,535	₩ 124,077,486	₩ 366,713,029	₩ 5,029,718	₩ -	₩ 983,195,768
Comprehensive income						
Profit for the year	-	-	57,188,120	-	(1,648,656)	55,539,464
Foreign currency translation differences	-	-	-	23,101	-	23,101
Remeasurement of net defined benefit liabilities	-	-	(7,908,553)	-	-	(7,908,553)
Share of other comprehensive income of associates	-	-	-	13,699	-	13,699
Total comprehensive income	-	-	49,279,567	36,800	(1,648,656)	47,667,711
Transactions with owners						
Changes in Non-controlling interests	-	-	-	(23,089,706)	-	(23,089,706)
Issuance of Non-controlling interests	-	-	-	-	45,132,320	45,132,320
Total transactions with owners				(23,089,706)	45,132,320	22,042,614
Balance at December 31, 2018	₩ 487,375,535	₩ 124,077,486	₩ 415,992,596	₩ (18,023,188)	₩ 43,483,664	₩ 1,052,906,093

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

Korea Aerospace Industries, Ltd. and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2018 and 2017

(In thousands of Korean won)

	Notes	2018	2017
Cash Flows from operating activities			
Profit (Loss) for the year		₩ 55,539,464	₩ (235,185,853)
Adjustments	29	290,766,763	396,106,965
Changes in operating assets and liabilities	29	(168,551,270)	22,731,307
Interest received		2,382,800	1,220,622
Interest paid		(14,129,400)	(26,498,659)
Income tax paid		(28,345,454)	(53,732,708)
Net cash inflows provided by operating activities		137,662,903	104,641,674
Cash flows from investing activities			
Net proceeds from short-term financial instruments		(89,733,135)	9,835,045
Acquisition of financial assets at fair value through profit or loss		(5,668,230)	-
Net proceeds from long-term financial instruments		(853,190)	-
Acquisition of available-for-sale financial assets		-	(3,348,125)
Increase in other financial assets		(592,336)	-
Decrease in other financial assets		3,836,639	375,231
Proceeds from disposal of property, plant and equipment		207,770	50,712
Acquisition of property, plant and equipment		(51,438,263)	(78,906,533)
Acquisition of intangible assets		(23,038,148)	(195,396,338)
Receipt of governments grants		77,798,459	51,557,829
Cash inflows from business combinations		1,241,048	-
Net cash outflows used in investing activities		(88,239,387)	(215,832,179)

(Continued)

(Continued)

(In thousands of Korean won)

	Notes		2018		2017
Cash flows from financing activities					
Issuance of Non-controlling interests		₩	45,132,320	₩	-
Proceeds from short-term borrowings			(310,372,270)		353,510,110
Proceeds from long-term borrowings			70,819,417		-
Repayment of debentures			-		(200,000,000)
Proceeds from debentures			59,864,360		199,550,160
Payment of dividends			-		(66,282,665)
Net cash inflows provided by financial activities			(134,556,173)		286,777,605
Effects of exchange rate changes on cash and cash equivalents			1,864,167		(2,065,534)
Net increase in cash and cash equivalents			(83,268,490)		173,521,566
Beginning of the year			227,100,460		53,578,894
End of the year		₩	143,831,970	₩	227,100,460

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

1. General Information

Korea Aerospace Industries, Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group") have prepared the consolidated financial statements in accordance with Korean IFRS 1110, *'Consolidated financial statements'*. Its consolidated subsidiary is Korea Aerospace F.W. Inc. KAI-EC, S&K Aerospace Co., Ltd and Korea Surface Treatment Co., Ltd are accounted for using the equity method of accounting.

1.1 Company Overview

Korea Aerospace Industries, Ltd. was incorporated on October 1, 1999, under the laws of the Republic of Korea. The Company is engaged in the production and sale of aircraft and its spare parts. On June 30, 2011, the Company was listed on the Korea Stock Exchange. As of December 31, 2017, the share capital of the Company amounts to \ 487,376 million and the Company's major shareholder is The Export-Import Bank of Korea with 26.41% ownership (Note 19).

1.2 Consolidated Subsidiaries

(A) The Company's consolidated subsidiaries as of December 31, 2018 and 2017 are as the following:

Subsidiary	Location	Year end	Percentage of ownership (%)	
			2018	2017
Korea Aerospace F.W. Inc.	U.S.A.	December 31	100.00	100.00
TAAS Inc.[1]	KOR	December 31	100.00	-
KAEMS Inc.[2]	KOR	December 31	66.41	-

[1] The Company classified the entity as a subsidiary as it acquired 100% of the equity shares and obtained control of the subsidiary for the year ended December 31, 2018.

[2] The Company classified the entity as a subsidiary as it participated in incorporation and obtained control of the subsidiary for the year ended December 31, 2018. For the year ended 31, 2018, the Company invested \ 35,700 million of cash, \ 36,700 million of land, and \ 12,000 million of building, and \ 5,400 million of structures in the subsidiary.

1.2 Consolidated Subsidiaries (cont'd)

(B) A summary of financial data of the subsidiary as of and for the years ended December 31, 2018 and 2017, follows:

(*In thousands of Korean won*)

Name of subsidiary	**Korea Aerospace F.W. Inc.**	
	2018	**2017**
Assets	\ 605,394	\ 578,782
Liabilities	272,680	318,601
Equity	332,714	260,181
Sales	2,177,739	2,314,290
Profit for the year	49,431	55,998
Total comprehensive income for the year	49,431	55,998

(*In thousands of Korean won*)

Name of subsidiary	**TAAS Inc.**	
	2018	**2017**
Assets	\ 5,097,376	\ -
Liabilities	6,917,315	-
Equity	(1,819,939)	-
Sales	2,906,767	-
Profit for the year	782,692	-
Total comprehensive income for the year	820,229	-

(*In thousands of Korean won*)

Name of subsidiary	**KAEMS Inc.**	
	2018	**2017**
Assets	\ 132,373,029	\ -
Liabilities	2,315,610	-
Equity	130,057,419	-
Sales	-	-
Profit for the year	(4,259,795)	-
Total comprehensive income for the year	(4,294,581)	-

1.2 Consolidated Subsidiaries (cont'd)

(C) A summary of financial data of the subsidiary with non-controlling interests before intercompany transaction eliminations as of and for the years ended December 31, is as follows:

(*In thousands of Korean won*)

		KAEMS Inc.
Ownership (%)		33.59%
Assets	₩	132,373,029
Liabilities		2,315,610
Net Asset Value		130,057,419
Book Amount of Non-Controlling Interest		43,483,664

(D) To create synergy and enhance competitiveness of LAH(light armed helicopter) business, LCH(light civil helicopter) business, and KF-X(Korean fighter jet) business, the Company acquired 100% of the equity shares of TAAS Inc., which was established as a leading company in design, development and manufacturing of high technology Avionics and Military equipments for Aerospace and Defense industries in Korea on June 28, 2018.

- Identifiable Assets and Liabilities are as follow:

(*In thousands of Korean won*)

Cash and cash equivalents	\	1,241,048
Inventories		1,042,242
Property, plant and equipment		334,874
Intangible assets		1,275,413
Other assets		266,359
Total Assets	\	4,159,936
Trade payables	\	348,218
Short-term borrowings		300,000
Advances received		4,547,887
Other liabilities		1,603,999
Total Liabilities	\	6,800,104
Identifiable Net Asset Value	\	(2,640,168)

1.2 Consolidated Subsidiaries (cont'd)

- Goodwill from business combinations is as follows:

(*In thousands of Korean won*)

Total Payment Amounts		-
Identifiable Net Asset Value	\	(2,640,168)
Goodwill[1]		2,640,168

[1] The Company acquired 100% of the equity shares of TAAS Inc. which was impaired capital for \ 0. Accordingly, the Company recognized Absolute Value of Identifiable Net Asset as Goodwill.

- Cash inflow from Business Combination is as flows:

(*In thousands of Korean won*)

Total Payment Amounts		-
Cash and cash equivalents of Subsidiary Acquired	\	(1,242,048)
Cash Inflows from Business Combination		1,241,048

- Incidental expenses from business combination with TAAS Inc. were not incurred.

- If the amount listed above, which was recognized at the date of acquisition is required to be adjusted due to other new information related to facts and circumstances presented at one year or less from the acquisition date or to recognize additional provisions at the date of acquisition, the accounting for the business combination will be adjusted.

2. Significant Accounting Policies

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

2.1 Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated 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 consolidated financial statements.

2.1 Basis of Preparation (cont'd)

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. 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 financial statements requires the use of critical accounting estimates. Management also needs to exercise judgment in 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 consolidated financial statements are disclosed in Note 3.

2.2 Changes in Accounting Policies and Disclosures

(a) New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for annual reporting period commencing January 1, 2018.

- Enactments to Korean IFRS 1109 *Financial Instruments*

The enactments to K-IFRS 1109 contain the requirements for the classification and measurement of financial assets and financial liabilities based on a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets and based on the contractual terms that give rise on specified dates to cash flows, impairment methodology based on the expected credit losses, and broadened types of instruments that qualify as hedging instruments and the types of risk components of non-financial items that are eligible for hedge accounting and the change of the hedge effectiveness test. This enactment supersedes K-IFRS 1039 - Financial Instruments: Recognition and Measurement.

The Group elected not to restate comparative information for the prior period when applying this enactment for the first time.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

The effects that are attributable to this enactment as of the date of initial application are as follows:

(In thousands of Korean won)

Description	Notes	Amount after application of Korean IFRS 1109	Adjustments	Amount Before application of Korean IFRS 1109[1]
Assets				
Trade receivables	a	\ 229,602,044	\ (2,086,313)	\ 231,588,357
Other short-term financial assets	a	16,314,152	(853,490)	17,167,642
Deferred tax assets	a	288,144,702	711,432	287,433,270
Total		\ 3,945,925,200	\ (2,228,371)	\ 3,948,153,571
liabilities				
Total		\ 2,962,729,432	-	\ 2,962,729,432
Equity				
Retained earnings	a	\ 366,713,029	\ 4,483,791	\ 362,229,238
Other components of equity	a	5,029,718	5,029,718	11,741,880
Total		\ 983,195,768	\ (2,228,371)	\ 985,424,139

[1] The amount reflects the effect of application of Korean IFRS 1115.

The application of Korean IFRS 1109 has the following impacts on the consolidated statements of financial position as of December 31, 2018. The impacts on the consolidated statements of comprehensive income, consolidated statements of cash flows and earnings per share for the year then ended are not significant.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

(In thousands of Korean won)

Description	Notes	Amount after application of Korean IFRS 1109	Adjustments	Amount Before application of Korean IFRS 1109[1]
Assets				
Trade receivables	a	\ 204,213,552	\ (3,685,402)	\ 207,898,954
Other short-term financial assets	a	29,379,393	(853,490)	30,232,883
Deferred tax assets	a	279,798,024	711,432	279,086,592
Total		\ 3,755,863,511	\ (2,228,371)	\ 3,758,091,882
liabilities				
Total		\ 2,702,957,418	-	\ 2,702,957,418
Equity				
Retained earnings	a	\ 415,992,596	\ 4,483,791	\ 411,508,805
Other components of equity	a	(18,023,187)	(6,712,162)	(11,311,025)
Total		\ 1,052,906,093	\ (2,228,371)	\ 1,055,134,464

[1] The amount reflects the effect of application of Korean IFRS 1115.

(a) Classification and measurement

Debt instruments amounting to \30,518 million were reclassified from available for sale to financial assets at fair value through profit and loss. They do not meet the criteria to be classified as financial assets at amortized cost in accordance with Korean IFRS 1109, because their cash flows do not represent solely payments of principal and interest. Related accumulated other comprehensive income amounting to \6,712 million were reclassified as retained earnings on the date of initial application, January 1, 2018.

(b) Impairment

Adoption of K-IFRS 1109 changed fundamental accounting process by reflecting expected credit losses approach as opposed to incurred credit losses under K-IFRS 1039. K-IFRS requires the Group to measure the lifetime expected credit loss allowance for all debt instruments and contract assets which are not measured at fair value through profit or loss.

Due to application of K-IFRS 1109, the Group recognized additional impairment for debt instruments measured at amortized cost and thus \2,228 million reduction in the opening balance of retained earnings at the date of initial application.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

1) Classification of financial assets and liabilities

Accounting standard for classification and measurement of financial assets and liabilities under K-IFRS 1109 did not change significantly from K-IFRS 1039. However, previous classifications of Held to maturity, Loans and receivables, and Available for sale financial assets were removed from K-IFRS 1109. Under K-IFRS 1109, financial assets are classified based on the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial asset: as measured at amortized cost, fair value through other comprehensive income("FVOCI") or fair value through profit or loss("FVPL"). If the host contract is determined in a hybrid contract, an entity may classify the entire hybrid contract as a financial asset rather than separating the embedded derivative from the host contract.

If financial assets meet the following two conditions and if not designated as FVPL measurement, they are measured at amortized cost.
-it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
-its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

If debt instruments meet the following two conditions and if not designated as FVPL measurement, they are measured as FVOCI.
-it is held within a business model whose objective is achieved by both collecting contractual cash flows; and
-its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

On initial recognition of an investment in equity instrument that is not held for short-term trading, the Company may irrevocably elect to present subsequent changes in the fair value of the investment in other comprehensive income. The Company cannot cancel it once it is selected. This election is made on a financial asset-by-financial asset basis.

Financial assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. Also, financial assets that meet the criteria for being measured at include all derivative financial assets. At initial recognition, financial assets at amortized cost or FVOCI may be irrevocably designated as financial assets at fair value through profit or loss mandatorily measured at fair value if doing so eliminates or significantly reduces a measurement or recognition inconsistency.

Financial assets that are not trade receivables and without significant financing component and initially measured at transaction cost and that do not meet the criteria for being measured at FVPL are initially measured at fair value plus transaction costs.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

Following accounting policies are applied in the subsequent measurement of financial assets.

Financial assets at FVPL	Financial assets at FVPL are measured at fair value, and dividends and interest income from the financial assets are recognized in net income.
Financial assets at amortized cost	Financial assets at amortized cost is presented at amortized cost using effective interest method, less any loss allowance. Interest income, foreign exchange gains and losses and impairment loss are recognized in net income. Gain or loss from derecognization is also recognized in net income.
Debt instruments classified as at FVOCI	Financial assets are measured at fair value through other comprehensive income. Impairment loss, interest income and foreign exchange gains and losses are recognized in net income. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to net income.
Equity instruments designated as at FVOCI	Financial assets are measured at fair value through other comprehensive income. Dividends from such investments continue to be recognized in net income when the Group's right to receive payments is established. Other gains and losses are recognized in other comprehensive income and there is no subsequent reclassification to net income following the derecognition of the investment.

2) Impairment

Under K-IFRS 1039, the impairment is recognized only when there is an objective evidence of impairment based on an incurred loss model, but under K-IFRS 1109, impairment is recognized based on expected credit loss model for financial assets at amortized cost, contract asset and debt instruments classified as at FVOCI. Credit losses will be recognized earlier than under the incurred loss model of K-IFRS 1039.

3) Hedge Accounting

Although this enactment retains the mechanics of hedge accounting (fair value hedges, cash flow hedges, and hedges of a net investment in a foreign operation) in K-IFRS 1039, the Group eliminated the complex and rule-based requirements for hedge accounting in K-IFRS 1039 and changed to principle-based approach focusing on risk management activities. This new approach broadened the types of hedging instrument and hedged items, and it provided relief for the Group by eliminating consequent assessment to evaluate hedge effectiveness (80 - 125%) test and quantitative assessment.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

4) Transition Guidance

In principle, accounting policy change from adoption of K-IFRS 1109 is applied retrospectively except for cases below explained.

Retrospective restatement for impairment, changes in classification and measurement are not required by applying transition guidance under K-IFRS 1109. Accordingly, the Group has not retroactively restated the comparative consolidated financial statements presented herein.

- Enactments to Korean IFRS 1115 *Revenue from Contracts with Customer*

K-IFRS 1115 is comprehensive accounting standard for timing and amount of revenue recognition. This standard supersedes K-IFRS 1011 - Construction Contracts, K-IFRS 1018 - Revenue, K-IFRS 2113 - Customer Loyalty Programmes, K-IFRS 2115 - Agreements for the Construction of Real Estate, K-IFRS 2118 - Transfers of Assets from Customers, and K-IFRS 2031 - Revenue-Barter Transactions Involving Advertising Services.

In accordance with transition in this enactment, the Group applies this enactment retrospectively with the cumulative effect of initially applying this standard as of January 1, 2018. The Group elects to apply this standard retrospectively only to contracts that are not completed at the date of initial application.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

▶The following adjustments were made to the amounts recognized at the date of initial application of Korean IFRS 1115 (January 1, 2018):

(In thousands of Korean won)

Description	Notes	Amount after application of Korean IFRS 1115	Adjustments	Amount Before application of Korean IFRS 1115[1]
Assets				
Trade receivables	a	\ 229,602,044	\ (190,159,313)	\ 419,761,358
Due from customers for contract work	a	-	(409,964,541)	409,964,541
Inventories	a	1,492,698,681	1,028,582,693	464,115,988
Other assets	a	636,732,184	181,478,781	455,253,403
Contract assets	a	95,333,558	95,333,558	-
Deferred tax assets	a,b	288,144,702	49,479,428	238,665,275
Total		\ 3,945,925,200	\ 754,750,606	\ 3,191,174,595
liabilities				
Other financial liabilities	a	\ 233,453,013	\ (15,125,581)	\ 248,578,595
Due to customers for contract work	a	-	(227,745,589)	227,745,589
Other liabilities	a,b	882,373,711	770,272,510	112,101,201
Contract liabilities	a	212,750,824	212,750,824	-
Other provisions	a	209,788,176	169,579,460	40,208,716
Total		\ 2,962,729,432	\ 909,731,624	\ 2,052,997,808
Equity				
Retained earnings	a,b	\ 366,713,029	\ (154,981,018)	\ 521,694,047
Total		\ 983,195,768	\ (154,981,018)	\ 1,138,176,786

[1] The amount reflects the effect of application of Korean IFRS 1109.

The impact of application of Korean IFRS 1115 on the consolidated statements of comprehensive income and earnings per share as of December 31, 2018 is as follows. The adjustment does not have a significant impact on the consolidated statements of cash flows for the year ended December 31, 2018 because most adjustments are from cash generated from operations.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

(In thousands of Korean won)

Description	Notes	Amount after application of Korean IFRS 1115	Adjustments	Amount Before application of Korean IFRS 1115[1]
Assets				
Trade receivables	a	\ 204,213,552	\ 93,118,754	\ 111,094,798
Other assets	a	568,609,326	8,179,176	560,430,150
Contract assets	a	76,603,731	71,188,817	5,414,914
Inventories	a	1,290,887,619	555,050,483	735,837,136
Due from customers for contract work	a	-	(722,039,103)	722,039,103
Deferred tax assets	a,b	279,798,024	49,479,428	230,318,596
Total		\ 3,755,863,511	\ 54,977,555	\ 3,700,885,956
liabilities				
Trade payables	a	\ 289,489,656	\ (234,938,648)	\ 524,428,304
Other financial liabilities	a	191,783,359	(6,869,152)	198,652,511
Other liabilities	a	615,054,830	424,264,222	190,790,608
Contract liabilities	a,b	268,139,452	6,438,993	261,700,459
Due to customers for contract work	a	-	(72,496,341)	72,496,341
Other provisions	a	260,782,562	9,840,923	250,941,639
Total		\ 2,702,957,418	\ 126,239,997	\ 2,576,717,421
Equity				
Retained earnings	a,b	\ 415,992,596	\ (71,262,442)	\ 487,255,038
Total		\ 1,052,906,093	\ (71,262,442)	\ 1,124,168,535

[1] The amount reflects the effect of application of Korean IFRS 1109.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

(In thousands of Korean won)

Description	Notes	Amount after application of Korean IFRS 1115	Adjustments	Amount Before application of Korean IFRS 1115
Sales	a,b	\ 2,786,023,511	\ 558,313,552	\ 2,227,709,959
Cost of sales	a	2,411,539,106	419,253,045	1,992,286,061
Selling, general and administrative expense	a	228,101,885	-	228,101,885
Financial income	a	33,022,572	(12,872,645)	45,895,217
Financial expense	a,b	50,878,515	15,741,192	35,137,323
Income tax expense	a,b	24,121,031	26,728,094	(2,607,063)
Profit for the year		\ 55,539,464	\ 83,718,576	\ (28,179,112)

[1] The amount reflects the effect of application of Korean IFRS 1109.

(In Korean won)

Description	Notes	Amount after application of Korean IFRS 1115	Adjustments	Amount Before application of Korean IFRS 1115
Earnings per share attributable to owners of the parent				
Basic earnings per share	a,b	\ 587	\ 859	\ (272)
Diluted earnings per share	a,b	587	859	(272)

[1] The amount reflects the effect of application of Korean IFRS 1109.

(a) Sales activities

Contracts with customers to deliver aircraft include a single or multiple performance obligation. The Group concluded that the performance obligation is satisfied at a point in time and revenue is recognized upon delivery. Accordingly, the timing of recognition has been changed related to the effect of application of Korean IFRS 1115.

(b) Recognition of significant financing component

The Group concluded that significant financing components are generally included in advances received at the date of the contract. Accordingly, the contract amount equivalent to significant financing component related to the effect of application of Korean IFRS 1115 has been changed.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

- Enactments to Interpretation 2122 *Foreign Currency Transaction and Advance Consideration*

The enactment addresses how to determine the 'date of transaction' for the purpose of determining the exchange rate to use on initial recognition of an asset, expense or income, when consideration for that item has been paid or received in advance in a foreign currency which resulted in the recognition of a non-monetary asset or non-monetary liability. If there are multiple payments or receipts in advance ,the enactment requires an entity to determine the date of transaction for each payment or receipt of advance consideration. The enactment does not have a significant impact on the financial statements.

- Amendment to Korean IFRS 1040 *Transfers of Investment Property*

The amendments clarify that a transfer to, or from, investment property necessitates an assessment of whether a property meets, or has ceased to meet, the definition of investment property, the definition of investment property, supported by observable evidence that a change in use has occurred. Management's intention changes to real estate are not evidence of a change in use. The amendment does not have a significant impact on the financial statements.

- Amendments to Korean IFRS 1102 *Share-based Payment*

Amendments to Korean IFRS 1102 clarify accounting for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. Amendments also clarify that the measurement approach should treat the terms and conditions of a cash-settled award in the same way as for an equity-settled award. The amendment does not have a significant impact on the financial statements.

- Amendments to Korean IFRS 1028 *Investments in Associates and Joint Ventures*

The amendments clarify that:

- An entity that is a venture capital organisation, or other qualifying entity, may elect, at initial recognition on an investment-by-investment basis, to measure its investments in associates and joint ventures at fair value through profit or loss.
- If an entity, that is not itself an investment entity, has an interest in an associate or joint venture that is an investment entity, the entity may, when applying the equity method, elect to retain the fair value measurement applied by that investment entity associate or joint venture to the investment entity associate's or joint venture's interests in subsidiaries. This election is made separately for each investment entity associate or joint venture, at the later of the date on which: (a) the investment entity associate or joint venture is initially recognised; (b) the associate or joint venture becomes an investment entity; and (c) the investment entity associate or joint venture first becomes a parent.

The amendments have no effect on the Group's consolidated financial statements.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

-Amendments to KIFRS 1101 *First-time Adoption of International Financial Reporting Standards -Deletion of short-term exemptions for first-time adopters*

Short-term exemptions in paragraphs E3–E7 of KIFRS 1101 were deleted because they have now served their intended purpose. This amendment is not applicable to the Group.

(b) New standards and interpretations not yet adopted by the Group

Certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2018 and have not been early adopted by the Group are set out below.

- Enactment of Korean IFRS 1116 *Leases*

Korean IFRS 1116 *Leases* issued on May 22, 2017 is effective for annual periods beginning on or after January 1, 2019, with early adoption permitted. This standard will replace Korean IFRS 1017 *Leases*, Interpretation 2104 *Determining whether an Arrangement contains a Lease*, Interpretation 2015 *Operating Leases-Incentives*, and Interpretation 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*.

At inception of a contract, the entity shall assess whether the contract is, or contains, a lease. Also, at the date of initial application, the entity shall assess whether the contract is, or contains, a lease in accordance with the standard. However, the entity will not need to reassess all contracts with applying the practical expedient because the entity elected to apply the practical expedient only to contracts entered before the date of initial application. For a contract that is, or contains, a lease, the entity shall account for each lease component within the contract as a lease separately from non-lease components of the contract. A lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. The lessee may elect not to apply the requirements to short-term lease (a lease term of 12 months or less at the commencement date) and low value assets (e.g. underlying assets below $ 5,000). In addition, as a practical expedient, the lessee may elect, by class of underlying asset, not to separate non-lease components from lease components, and instead account for each lease component and any associated non-lease components as a single lease component.

Lessee accounting

A lessee shall apply this standard to its leases either:

· retrospectively to each prior reporting period presented applying Korean IFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* (Full retrospective application); or

· retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application.

The Group has not yet elected the application method.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

The Group performed an impact assessment to identify potential financial effects of applying Korean IFRS 1116. The assessment was performed based on available information as of December 31, 2018 to identify effects on 2018 financial statements. The Group is analyzing the effects on the financial statements; however, it is difficult to provide reasonable estimates of financial effects until the analyses is complete.

Lessor accounting

The Group expects the effect on the financial statements applying the new standard will not be significant as accounting for the Group, as a lessor, will not significantly change.

- Amendment of Korean IFRS 1109 *Prepayment Features with Negative Compensation*

Under KIFRS 1109, a debt instrument can be measured at amortised 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 the 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. The amendments should be applied retrospectively and are effective from January 1, 2019, with earlier application permitted. These amendments have no impact on the consolidated financial statements of the Group.

Amendments to KIFRS 1110 and KIFRS 1028: *Sale or Contribution of Assets between an Investor and its Associate or Joint Venture.*

The amendments address the conflict between KIFRS 1110 and KIFRS 1028 in dealing with the loss of control of a subsidiary that is sold or contributed to an associate or joint venture. The amendments clarify that the gain or loss resulting from the sale or contribution of assets that constitute a business, as defined in KIFRS 1103, between an investor and its associate or joint venture, is recognised in full. Any gain or loss resulting from the sale or contribution of assets that do not constitute a business, however, is recognised only to the extent of unrelated investors' interests in the associate or joint venture. The KASB has deferred the effective date of these amendments indefinitely, but an entity that early adopts the amendments must apply them prospectively. The Group will apply these amendments when they become effective.

-Amendment 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:

2.2 Changes in Accounting Policies and Disclosures (cont'd)

- Determine 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

- Determine 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 also clarify that an entity first determines any past service cost, or a gain or loss on settlement, without considering the effect of the asset ceiling. This amount is recognised in profit or loss. An entity the determines the effect of the asset ceiling after the plan amendment, curtailment or settlement. Any change in that effect, excluding amounts included in the net interest, is recognised in other comprehensive income. The amendments apply to plan amendments, curtailments, or settlements occurring on or after the beginning of the first annual reporting period that begins on or after January 1, 2019, with early application permitted. These amendments will apply only to any future plan amendments, curtailments, or settlements of the Group.

- 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, recognised as adjustments to the net investment in the associate or joint venture that arise from applying KIFRS 1028 Investments in Associates and Joint Ventures. The amendments should be applied retrospectively and are effective from January 1, 2019, with early application permitted. Since the Group does not have such long-term interests in its associate and joint venture, the amendments will not have an impact on its consolidated financial statements.

- Enactment IFRIC Interpretation 23 *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 and 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

2.2 Changes in Accounting Policies and Disclosures (cont'd)

- 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 has to determine whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments. The approach that better predicts the resolution of the uncertainty should be followed. The interpretation is effective for annual reporting periods beginning on or after January 1, 2019, but certain transition reliefs are available. The Group will apply the interpretation from its effective date. Since the Group operates in a complex multinational tax environment, applying the Interpretation may affect its consolidated financial statements. In addition, the Group may need to establish processes and procedures to obtain information that is necessary to apply the Interpretation on a timely basis.

Annual Improvements 2015-2017 Cycle (issued in December 2017)

These improvements include:

- **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 will apply on future business combinations of the Group.

- **KIFRS 1111 *Joint Arrangements***

A party 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 are currently not applicable to the Group but may apply to future transactions.

- **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 recognises the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognised those past transactions or events.

2.2 Changes in Accounting Policies and Disclosures (cont'd)

An entity applies those amendments for annual reporting periods beginning on or after January 1, 2019, with early application is permitted. When an entity first applies those amendments, it applies them to the income tax consequences of dividends recognised on or after the beginning of the earliest comparative period. Since the Group's current practice is in line with these amendments, the Group does not expect any effect on its consolidated financial statements.

- **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. An entity applies those 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, the Group does not expect any effect on its consolidated financial statements.

2.3 Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110 *Consolidated Financial Statements*.

(a) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The acquisition method of accounting is used to account for business combinations by the Group. 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 measured initially at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquired entity on an acquisition-by-acquisition basis either at fair value or at the non-controlling interest's proportionate share of the acquired entity's net identifiable assets. All other non-controlling interests are measured at fair values, unless otherwise required by other standards. Acquisition-related costs are expensed as incurred.

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recoded as goodwill. If those amounts are less than the fair value of the net identifiable assets of the business acquired, the difference is recognized directly in the profit or loss as a bargain purchase.

2.3 Consolidation (cont'd)

- Elimination of intercompany transaction

Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

- Non-controlling interests

Non-controlling interests are measured as a proportionate share of the current equity instruments of the acquiree's recognized net identifiable assets at the acquisition date. It accounts for changes in the parent's ownership interest in subsidiaries that do not lose control are accounted as equity transactions.

- Changes in ownership interests in subsidiaries without change of control

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A change in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interest to reflect their relative interest in the subsidiary. Any difference between the amount of the adjustment to non-controlling interest and any consideration paid or received is recognized in a separate reserve within equity attributable to owners of the Parent Company.

- Disposal of subsidiaries and loss of control

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value with the changed in carrying amount recognized in profit or loss.

(b) Associates

Associates are entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. If there is objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss.

(c) Joint Arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. Interests in joint ventures are accounted for using the equity method, after initially being recognized at cost in the consolidated statement of financial position.

2.4 Foreign Currency Translation

(a) 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 each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

(b) Transactions and balances

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

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

2.5 Cash Flow Statements

Cash flow statements are prepared using the indirect method and foreign currency cash flows are translated at average exchange rates.

2.6 Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits held at call with banks, and other short-term highly liquid investments with original maturities of three months or less. Bank overdrafts are considered as short-term borrowings in the statements of financial position.

2.7 Financial assets

(a) Classification and measurement

At initial recognition, financial assets classified to be measured as amortized cost, investments in debt instruments at FVOCI, investments in equity instruments at FVOCI or FVPL.
Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period after the change in the business model.

2.7 Financial assets (cont'd)

If financial assets meet the following two conditions and if not designated as FVPL measurement, they are measured at amortized cost.
-it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
-its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

If debt instruments meet the following two conditions and if not designated as FVPL measurement, they are measured as FVOCI.
-it is held within a business model whose objective is achieved by both collecting contractual cash flows; and
-its contractual terms give rise on specified dates to cash flows that are solely payments of principal on the principal amount outstanding.

On initial recognition of an investment in equity instrument that is not held for short-term trading, the Company may irrevocably elect to present subsequent changes in the fair value of the investment in other comprehensive income. The Company cannot cancel it once it is selected. This election is made on an investment-by-investment basis.

Financial assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. Also, financial assets that meet the criteria for being measured at include all derivative financial assets. At initial recognition, financial assets at amortized cost or FVTOCI may be irrevocably designated as financial assets at fair value through profit or loss mandatorily measured at fair value if doing so eliminates or significantly reduces a measurement or recognition inconsistency.

(b) Impairment

The Company recognizes a loss allowance for expected credit losses on the following assets:
- Financial assets measured at amortized cost
- Financial assets at fair value through profit or loss
- Contract asseets under K-IFRS 1115

When determining whether the credit risk of a financial asset has increased significantly since the initial recognition and when estimating the expected credit loss, the Group considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on the Group's past experience and known credit ratings, including forward-looking information.
At the end of each reporting period, the Group assesses whether the credit quality of financial assets measured at amortized cost is impaired. If there is more than one event that adversely affects the estimated future cash flows of a financial asset, the financial asset is impaired.

2.7 Financial assets (cont'd)

Evidence that the credit of a financial asset is impaired includes the following observable information:
-Significant financial difficulties of issuer or borrower
-Breach of contract, such as default or overdue over certain days
-Inevitable mitigation of initial borrowing conditions for economic or contractual reasons related to the borrower's financial difficulties
-Possibility of bankruptcy of borrowers or other possibility of financial restructuring
-Due to financial difficulties, the active market for the financial assets is extinguished

The loss allowance on financial assets and contract assets measured at amortized cost is deducted from the carrying amount of the asset. The loss allowance on financial assets at fair value through profit or loss are included the profit or loss.

(c) Derecognition

In the event that the contractual rights to cash flows of financial assets have ceased, or the Group transfers the contractual rights to receive the cash flows of the financial assets and substantially transfers the risks and rewards of ownership of the transferred financial assets, Or if the Group is not in control of a financial asset without retaining or transferring most of the risks and rewards of ownership, the Group de-recognizes a financial asset.
If the Group transacts a recognized asset in its financial statement but holds most of the risks and rewards of ownership of the transferred asset, the transferred asset is not removed.

(d) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated statements of financial position where there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

2.8 Trade Receivables

Trade Receivables and debt securities are recognized initially at the date of issuance. Other financial assets and liabilities are recognized only if the Group is a party to a contract.

Except for Trade Receivables that do not include significant financing component, the Group measures a financial asset and liability at fair value, in the case of a financial asset or liability not at fair value through profit or loss, at its fair value plus or minus transaction costs that are directly attributable to the acquisition of the financial asset or the issuance of the financial liabilities. Trade Receivables that do not include significant financing component are measured at the initial transaction costs.

2.9 Inventories

Inventories are stated at the lower of cost and net realizable value. The cost of inventories are determined by the specific identification, except for raw materials, sub-materials and supplies on which FIFO method is applied.

2.10 Property, Plant and Equipment

Property, plant and equipment are 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 lives, as follows:

	Estimated useful lives
Buildings and Structures	30 years
Machinery	8 years
Tools and equipment	4 years
Vehicles	4 years

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

2.11 Borrowing Costs

Borrowing costs incurred in the acquisition or construction of a qualifying asset are capitalized in the period when it is prepared for its intended use, and investment income earned on the temporary investment of borrowings made specifically for the purpose obtaining a qualifying asset is deducted from the borrowing costs eligible for capitalization during the period. Other borrowing costs are recognized as expenses for the period in which they are incurred.

2.12 Intangible Assets

(a) Development costs and Long-term development projects

The Group capitalizes certain development costs when the outcome of development plan is for practical enhancement, the probability of technical and commercial achievement for the development plans are high, and the necessary cost is reliably estimable. Capitalized costs, comprising raw materials, direct labor and related overhead, are amortized using the straight-line method and unit of production method over their useful lives. In the presentation, the accumulated amortization amount and accumulated impairment amount are deducted from capitalized costs associated with development activities. The Group recognizes other development costs as an expense in the period in which they are incurred.

2.12 Intangible Assets (cont'd)

(b) 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 generate net cash flows for the entity. All membership rights are tested annually for impairment and stated at cost less accumulated impairment.

(c) Industrial property rights and Facility usage rights

Industrial property rights and facility usage rights are shown at historical cost. Industrial property rights and facility usage rights have a finite useful life and are carried at cost less accumulated amortization. Amortization is calculated using the straight-line method to allocate the cost of industrial property rights and facility usage rights over their estimated useful lives.

(d) Other intangible assets

Other intangible assets, such as software which meet the definition of an intangible asset, are amortized using the straight-line method over their estimated useful lives when the asset is available for use. Other intangible assets are tested 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 carrying amount exceeds its recoverable amount.

(e) Amortization method and estimated useful lives of intangible assets

	Amortization method	Estimated useful lives
Development costs	Straight-line method	5 ~ 20 years
Long-term development projects	Unit of production method	-
Industrial property rights	Straight-line method	5 ~ 20 years
Other intangible assets	Straight-line method	5 ~ 20 years

2.13 Impairment of Non-financial Assets

Intangible assets with indefinite useful lives 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. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets that suffered an impairment are reviewed for possible reversal of the impairment at each reporting date.

2.14 Financial Liabilities

(a) Classification and measurement

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

1) Financial liabilities at fair value through profit or loss

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

2) Other financial liabilities

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

(b) Derecognition

The Group derecognizes a financial liability from the statements of financial position when it is extinguished (i.e. when the obligation specified in the contract is discharged, cancelled or expires). When the terms of an existing liability are substantially modified and the cash flows are substantially changed, the original liability is derecognized and a new liability is recognized. When the liability is derecognized, the difference in the respective carrying amounts is recognized in the statement of profit or loss.

2.15 Borrowings

Borrowings are recognized initially at fair value, net of transaction costs incurred. Borrowings are subsequently carried at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the comprehensive income statement over the period of the borrowings using the effective interest method. The Group classifies the liability as current unless it has an unconditional right to delay the settlement of the borrowing.

2.16 Employee Benefits

(a) Net defined benefit liabilities

The Group operates retirement benefit plans. A retirement 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.

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.

(b) 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 Provisions and Contingent Liabilities

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.

A contingent liability is recognized when the Group has a possible obligation arising from past events whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or the Group has a present obligation as a result of past events but it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation or the amount of the obligation cannot be measured with sufficient liability.

2.18 Dividend Distribution

Dividend distribution to the Company’s shareholders is recognized as a liability in the Company’s financial statements in the period in which the dividends are declared.

2.19 Revenue Recognition

(a) Revenue from Contracts with Customers

The Group applied Korean IFRS 1115 to the annual period beginning January 1, 2018. The impacts and significant accounting policies related to Korean IFRS 1115, Revenue from contracts with Customers, are summarized in the Note 2.2-(d).

The Group is primarily engaged in the designs, manufactures, sales, and maintenances & repairs of aircraft, spacecraft, satellites, and parts thereof. The Group recognizes revenue to depict the transfer of promised goods or services to customers in an amount that predicts the amount of consideration to which the Group expects to be entitled in exchange for those goods or services.

In addition, the Group recognizes revenue over time on the basis that the Group's performance does not create an asset with an alternative use to the Group and the Group's development performance creates or enhances an intellectual property rights that the customer controls as the asset is created or enhanced.

- Sales of goods and services

Revenue is recognized at the transfer of control of asset to customers. The general recovery date is from 30 days to 90 days from the date of delivery. There are contracts that recognize revenue over time and collect receivables two to four times a year.

The Group considers variable consideration and significant financing component in determining the transaction price, considering whether other performance obligation in the contract is a separate performance obligation, which needs to allocate a portion of the transaction price.

i) Variable consideration

For some of the Group's contracts, the amounts are confirmed upon termination of contracts. In addition, the Group may experience variable consideration due to liquidated damage and change in order caused by the delays in delivery, etc. The following is the summary of the Group's significant variable consideration.

• Contract of approximates

In case of contract of approximates, contract price can be changed after the fulfillment of contract. The Group recognizes revenue by assuming optimal estimation of variable consideration at the point of signing the contract and settlement.

• Liquidated damages

The Group recognizes revenue with transaction price including variable consideration when expecting liquidated damages according to the contract clause.

2.19 Revenue Recognition (cont'd)

• Incentive payment

Some contracts include providing incentives based on agreements with customers such as delivery on time. When the Group is expected to satisfy the performance standard according to the contract clause, variable consideration is reflected in the contract revenue at the end of reporting date.

ii) Significant financing component

The Group adjusts the promised amount of consideration for the effects of the significant financial benefit caused by the timing of payments when good or service is transferred to customer. The Group uses judgment in considering significant financing component based on the timing difference between payment date and fulfillment date of contract, impact on the contract price in relation with payment date as well as customer's discretion on transfer time of good or service. When the significant financing component is identified, finance income from advance received are recognized until the fulfillment of contract.

- Contract amounts

i) Contract Asset

Contract asset is recognized when a performance obligation is satisfied (and revenue recognized), but the asset is not billed to customers. The Group reflects the balance of contract asset at the end of reporting date, less allowance for liquidated damage regarding delay of construction, etc.

ii) Trade Receivable

Trade Receivables are amounts billed by the Group to its customers when it delivers goods or services, but not yet paid for by them. The Group reflects the balance of trade receivables, less allowance for liquidated damage regarding delay of construction, etc.

iii) Contract Liability

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 recognised when the payment is made or the payment is due (whichever is earlier). Allowance for liquidated damage regarding delay of construction, etc. is added to contract liability at the end of reporting date.

- Incremental costs of obtaining a contract

The Group pays Agent fee to overseas customers for the fulfillment of contracts. With implementation of paragraph 91~94 of Korean IFRS 1115, the Group recognizes it as the incremental costs of obtaining a contract with overseas customers, and the costs are amortized based on the assumption of the transfer of goods or services.

2.19 Revenue Recognition (cont'd)

(b) Interest income

Interest income is recognized using the effective interest method according to the time passed. When a loan and receivable is impaired, the Group reduces the carrying amount to its recoverable amount and continues unwinding the discount as interest income. Interest income on impaired loans and receivables is recognized using the original effective interest rate.

(c) Dividend income

Dividend income is recognized when the right to receive payment is established.

2.20 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 attached 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.

2.21 Income Tax Expense and Deferred Taxes

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.

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.

2.22 Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to owner of the parent by the weighted average number of common shares outstanding during reporting period.

Diluted earnings per share is calculated by adjusting the weighted average number of common shares outstanding to assume conversion of dilutive potential common shares. Dilutive potential common shares are included in the calculation of diluted earnings per share only when the dilution is effective.

2.23 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 (Note 32). The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the steering committee that makes strategic decisions.

2.24 Approval of Financial Statements

The issuance of the December 31, 2018 consolidated financial statements of the Company was approved by the Board of Directors on March 13, 2019.

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.

(a) Revenue recognition

Revenue from construction contract work is recognized using the percentage-of-completion method, applied by the Statements of K-IFRS1115, Revenue from Contracts with Customers, under which revenue is generally based on the costs incurred to date as a percentage to the total estimated costs to be incurred.

(b) Income tax

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. The Group recorded, based on its best estimate, current taxes and deferred taxes that the Group will be liable in the future for the operating results as of the financial year end. However, the final tax outcome in the future may be different from the amounts that were initially recorded. Such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made (Note 28).

3. Critical Accounting Estimates and Judgments (cont'd)

(c) Provisions

The Group recognizes provisions for construction warranty claims and loss in construction contracts as of the reporting date. The amounts are estimated based on historical data(Note 16).

(d) Net defined benefit liabilities

The present value of net 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).

4. Financial Assets Subject to Withdrawal Restrictions

Short and long-term financial instruments subject to withdrawal restrictions as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)

	2018	2017	Restriction
Short-term financial instruments	\ -	\ 6,250,426	Government grants
Other long-term finance assets	12,500	12,500	Deposits for checking accounts
Total	\ 12,500	\ 6,262,926	

5. Financial Instruments by Category

Categorizations of financial instruments as of December 31, 2018, are as follows:

(In thousands of Korean won)	Financial assets at amortized costs	Financial assets at fair value through profit or loss	Total	Fair value
Assets				
Cash and cash equivalents	\ 143,831,970	\ -	\ 143,831,970	1
Short -term financial instruments	96,018,361	-	96,018,361	1
Financial assets at fair value through profit or loss	-	31,110,359	31,110,359	\ 31,110,359
Trade receivables	204,213,552	-	204,213,552	1
Other financial assets	36,449,181	-	36,449,181	1

5. Financial Instruments by Category (cont'd)

(In thousands of Korean won)		Financial liabilities at amortized costs		Fair value
Liabilities				
Trade payables	\	289,489,656		1
Borrowings[2]		261,750,275	\	260,239,466
Debentures[2]		459,584,671		461,109,739
Other financial liabilities[2]		191,783,359		191,783,359

[1] Short-term trade receivables and payables and others whose carrying amount is a reasonable approximation of fair value are excluded from the fair value disclosures.
[2] The fair value of current borrowings with the maturity of less than one year from the issuance date equals their carrying amount, as the impact of discounting is not significant. The fair value of borrowings with the maturity of one or more years from the issuance date is based on cash flows discounted at a market interest rate (Note 13).

Categorizations of financial instruments as of December 31, 2017, are as follows:

(In thousands of Korean won)

		Loans and receivables		Available-for-sale financial assets		Total	Fair value
Assets							
Cash and cash equivalents	\	227,100,460	\	-	\	227,100,460	2
Short -term financial instruments		6,255,226		-		6,255,226	2
Available-for-sale financial assets[1]		-		30,517,992		30,517,992	\ 30,517,992
Trade receivables		421,847,670		-		421,847,670	2
Due from customers for contract work		382,784,585		-		382,784,585	2
Other financial assets		26,442,836		-		26,442,836	2

(In thousands of Korean won)		Financial liabilities measured at amortized cost		Fair value
Liabilities				
Trade payables	\	133,631,740		2
Borrowings[3]		500,392,829	\	499,601,930
Debentures[3]		399,381,110		401,430,559
Other financial liabilities[3]		277,377,586		277,377,586

5. Financial Instruments by Category (cont'd)

[1] Equity instruments that do not have a quoted price in an active market are measured at cost because their fair value cannot be measured reliably and excluded from the fair value disclosures.

[2] Short-term trade receivables and payables and others whose carrying amount is a reasonable approximation of fair value are excluded from the fair value disclosures.

[3] The fair value of current borrowings with the maturity of less than one year from the issuance date equals their carrying amount, as the impact of discounting is not significant. The fair value of borrowings with the maturity of one or more years from the issuance date is based on cash flows discounted at a weighted average interest rate (Note 13).

Gain and loss of financial instruments by category as of December 31, 2018, are as follows:

(In thousands of Korean won)	**Financial assets at amortized costs**	**Financial assets(liabilities) at fair value through profit or loss**	**Financial liabilities at amortized costs**	**Total**
Interest income	\ 3,571,372	\ 461	\ -	\ 3,571,833
Interest expenses	-	-	25,770,950	25,770,950
Gain on foreign currency translation	4,891,385	-	638,485	5,529,870
Loss on foreign currency translation	4,130,977	-	1,014,121	5,145,098
Bad debt expenses	831,240	-	-	831,240
Loss on disposal of trade receivables	579,911	-	-	579,911
Gains on valuation of financial assets at fair value through profit or loss	-	54,720	-	54,720
Losses on valuation of financial assets at fair value through profit or loss	-	5,983,773	-	5,983,773

5. Financial Instruments by Category (cont'd)

Gain and loss of financial instruments by category as of December 31, 2017, are as follows:

(In thousands of Korean won)	Loans and receivables	Available-for-sale financial assets	Financial Liabilities at amortized cost	Total
Interest income	\ 6,412,579	\ -	\ -	\ 6,412,579
Interest expenses	-	-	24,121,251	24,121,251
Gain on foreign currency translation	5,934,410	-	2,020,487	7,954,897
Loss on foreign currency translation	42,323,921	-	786,454	43,110,375
Bad debt expenses	(4,541,632)	-	-	(4,541,632)
Loss on disposal of trade receivables	370,917	-	-	370,917
Other comprehensive income	-	79,638	-	79,638

In addition to the above, gain on foreign currency transactions of \ 23,866 million (2017: \ 22,478 million) and loss on foreign currency transactions of \ 13,979 million (2017: \ 58,719 million) were recognized in settlement of financial assets and liabilities measured at amortized cost.

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:

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

For available-for-sale financial assets that do not have a quoted market price in an active market and whose fair value cannot be measured reliably are measured at cost.

Valuation methods to measure fair value of financial instruments are as follows:

- Quoted prices or dealer prices of similar instruments
- Other techniques, such as discounted cash flow analysis

5. Financial Instruments by Category (cont'd)

Following table presents the financial assets and liabilities that are measured at fair value at December 31, 2018 and 2017:

(In thousands of Korean won)

	2018			
	Level 1	**Level 2**	**Level 3**	**Total**
Recurring fair value measurement				
Financial assets at fair value through profit or loss	\ -	\ 1,239,845	\ 29,870,514	\ 31,110,359

(In thousands of Korean won)

	2017			
	Level 1	**Level 2**	**Level 3**	**Total**
Recurring fair value measurement				
Available-for-sale financial assets	\ -	\ 318,425	\ 30,048,566	\ 30,366,991

The changes in the financial assets on level 3 for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	**2018 (Financial assets at fair value through profit or loss)**	**2017 (Available-for-sale financial assets)**
Balance as of January 1[1]	\ 30,199,566	\ 26,743,503
Acquisition	5,600,000	3,200,000
Valuation (Other comprehensive income)	-	105,063
Valuation (Profit for the year)	(5,929,052)	-
Balance as of December 31	\ 29,870,514	\ 30,048,566

[1] The difference between the balances as of January 1, 2018 and December 31, 2018 is the effect of adoption of K-IFRS 1109.

Details of financial instruments measured at cost as of December 31, 2017, are as follows:

(In thousands of Korean won)		**2017**
Available-for-sale financial assets	Korea Software Financial Cooperative	\ 151,000

5. Financial Instruments by Category (cont'd)

Valuation techniques and inputs used in the recurring fair value measurements categorized within Level 3 of the fair value hierarchy as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018			
	Fair value	**level**	**Valuation techniques**	**Inputs**
Financial assets at fair value through profit or loss				
Korea Defense Industrial Association	\ 29,664,794	3	Asset approach	Net asset value
Korea Software Financial Cooperative	205,720	3	Asset approach	Net asset value
Total	\ 29,870,514			

(In thousands of Korean won)	2017			
	Fair value	**level**	**Valuation techniques**	**Inputs**
Available-for-sale financial assets				
Korea Defense Industrial Association	\ 30,048,566	3	Asset approach	Net asset value

6. Trade Receivables and Other Financial Assets

Trade receivables and other financial assets as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)	2018	2017
Current assets		
Trade receivables	\ 204,213,552	\ 421,847,670
Other receivables	21,730,282	10,532,301
Guarantee deposits	7,282,853	6,583,490
Accrued income	366,258	51,851
	\ 233,592,945	\ 439,015,312
Non-current asset		
Long-term financial instruments	\ 304,913	255,114
Long-term other receivables	-	3,446,952
Long-term loans to employees	576,424	52,538
Deposits	6,188,452	5,520,591
	\ 7,069,789	\ 9,275,195
Total	240,662,734	448,290,507

6. Trade Receivables and Other Financial Assets (cont'd)

The aging analysis of trade receivables and other receivables as of December 31, 2018 and 2017, follows:

(In thousands of Korean won)

	2018			2017		
	Trade receivables	Contract assets	Long-term other receivables	Trade receivables	Other receivables	Long-term other receivables
Receivables not past due	\ 167,692,438	\ 76,603,731	\ 22,157,396	\ 171,743,229	\ 10,532,301	\ 3,446,952
Past due but not impaired[1]						
Up to 12 months	37,216,354	-	-	54,097,942	-	-
Over 12 months	2,990,161	-	-	987,490	-	-
	\ 40,206,515	\ -	\ -	\ 55,085,432	\ -	\ -
Impaired						
Up to 12 months	-	-	-	42,396,337	-	-
Over 12 months	-	-	2,893,000	194,908,916	2,893,000	-
	-	-	2,893,000	237,305,253	2,893,000	-
Total	\ 207,898,953	\ 76,603,731	\ 25,050,396	\ 464,133,914	\ 13,425,301	\ 3,446,952
Provision	\ (3,685,402)	\ -	\ (3,000,662)	\ (42,286,244)	\ (2,893,000)	\ -
Present value discount	-	-	(319,452)	-	-	-
	\ 204,213,551	\ 76,603,731	\ 21,730,282	\ 421,847,670	\ 10,532,301	\ 3,446,952

[1] Loans that are past due but not impaired are related to several independent customers with no recent bankruptcy records.

Changes in provision (Present value discount is included) for impairment of trade receivables and other receivables for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

	2018		2017	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Balance as of January 1	\ 42,286,244	\ 2,893,000	\ 4,875,548	\ 2,893,000
Impacts of the changes in Korean IFRS 1109	2,086,313	853,490	-	-
Impacts of the changes in Korean IFRS 1115	(42,264,223)	-	-	-
Bad debt expenses	1,577,068	(745,828)	37,410,696	-
Balance as of December 31	\ 3,685,402	\ 3,000,662	\ 42,286,244	\ 2,893,000

The Group transferred trade receivables to the financial institutions for \ 77,409 million (2017: \ 107,812 million) and derecognized the trade receivables from the financial statements for the periods ended December 31, 2017. Accordingly, the Group recognized a loss on disposal for \ 580 million (2017: \ 371 million).

7. Inventories

Inventories as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018		2017	
Finished goods	\	18,430,98 7	\	13,772,525
Work-in-process		818,801,985		211,216,766
Raw materials		409,243,825		196,888,467
Supplies		13,606,559		14,490,372
Raw materials in-transit		48,033,222		29,638,185
Valuation allowance		(17,228,959)		(1,890,327)
Total	\	1,290,887,619	\	464,115,988

As of December 31, 2018, the Group's inventories and property, plant and equipment are insured for \ 2,134 billion (2017: \ 2,293 billion). In addition, the Group carries product liability insurance with a ceiling of \ 3,833 billion (2017: \ 5,345 billion).

8. Financial assets at fair value through profit or loss and Available-for-sale Financial Assets

Available-for-sale financial assets as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018				2017	
	Acquisition cost		Book amount		Book amount	
Debt instruments at fair value through profit or loss	\	35,799,567	\	29,870,514	\	-
Government and public bonds		1,239,845		1,239,845		318,425
Equity securities		-		-		30,199,567
Total	\	37,039,412	\	31,110,359	\	30,517,992

8. Financial assets at fair value through profit or loss and Available-for-sale Financial Assets(cont'd)

Debt securities as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	**Ownership percentage (%)**	**Maturities**	**2018**	**2017**
Province development bond	-	2021.03.31	\ 170,300	\ 170,300
	-	2023.05.30	5,585	-
	-	2023.06.30	62,645	-
	-	2022.02.28	145,500	145,500
	-	2022.06.30	1,835	1,835
	-	2022.09.30	790	790
	-	2023.08.31	853,190	
Korea Defense Industrial Association	18.1	-	29,664,794	-
Korea Software Financial Cooperative	0.1	-	205,720	-
Total			\ 31,110,359	\ 318,425

Korea Defense Industrial Association and Korea Software Financial Cooperative's net proportionate share in the assets of the investee is measured at fair value.

Equity securities as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)	**Ownership percentage (%)**	**2018**	**2017**
Korea Defense Industrial Association	-	\ -	\ 30,048,566
Korea Software Financial Cooperative[1]	-	-	151,000
Total		\ -	\ 30,199,566

[1] Korea Software Financial Cooperative provided a guarantee to the Group and the investment has been pledged as collateral for Korea Software Financial Cooperative (Note 18).

8. Financial assets at fair value through profit or loss and Available-for-sale Financial Assets(cont'd)

Upon adoption of Korean IFRS 1109, the Company has reclassified Available-for-sale financial assets into fair value through profit or loss. Changes in gain on valuation of available-for-sale financial assets as of December 31 2017, consist of the following:

(In thousands of Korean won)	2017 January 1	2017 Changes	2017 December 31
Valuation amount	\ 8,719,831	\ 105,063	\ 8,824,894
Deferred tax effect	(2,087,306)	(25,425)	(2,112,731)
Total	\ 6,632,525	\ 79,638	\ 6,712,163

9. Investments in Associates and Joint Venture

Investments in associates and joint venture as of December 31, 2018 and 2017, and their summarized financial information as of and for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018 Ownership (%)	Acquisition Cost	Net Asset Value	Recorded Book amount	Assets	Liabilities	Sales	Profit (loss) for the year
Joint venture								
KAI-EC[1]	51.00	\ 2,805,000	\ 266,984	\ 266,984	\ 523,756	\ 259	\ -	\ (11,311)
Associates								
S&K Aerospace Co., Ltd.	29.41	1,000,000	4,906,298	4,906,298	42,987,538	26,306,126	21,831,637	918,109
Korea Surface Treatment Co., Ltd.	29.69	1,900,000	1,218,722	1,218,722	9,872,269	5,767,447	654,858	(1,821,802)
Total		\ 5,705,000	\ 6,392,004	\ 6,392,004				

[1] Considering unanimity rule in the Articles of Incorporation of KAI-EC, it is classified as a joint venture, irrespective of the Group's ownership percentage of 51%.

(In thousands of Korean won)	2018 Ownership (%)	Acquisition Cost	Net Asset Value	Recorded Book amount	Assets	Liabilities	Sales	Profit (loss) for the year
Joint venture								
KAI-EC[1]	51.00	\ 2,805,000	\ 272,768	\ 272,768	\ 534,839	\ -	\ -	\ (32,171)
Associates								
S&K Aerospace Co., Ltd.	29.41	1,000,000	4,622,567	4,622,567	41,253,673	25,536,945	22,667,411	1,084,729
Korea Surface Treatment Co., Ltd.	29.69	1,900,000	1,772,132	1,772,132	10,171,980	4,203,195	2,120	(246,411)
Total		\ 5,705,000	\ 6,667,467	\ 6,667,467				

[1] Considering unanimity rule in the Articles of Incorporation of KAI-EC, it is classified as a joint venture, irrespective of the Group's ownership percentage of 51%.

9. Investments in Associates and Joint Venture (cont'd)

Details of changes in investments in associates and joint venture under the equity method for the years ended December 31, 2018 and 2017, are as follows:

2018

(In thousands of Korean won)	January 1	Gain(loss) on valuation of equity method December 31	Share of other comprehensive income of associates	December 31
Joint venture				
KAI-EC	\ 272,768	\ (5,784)	\ -	\ 266,984
Associates				
S&K Aerospace Co., Ltd.	4,622,567	270,032	13,699	4,906,298
Korea Surface Treatment Co., Ltd.	1,772,132	(553,411)	-	1,218,721
Total	\ 6,667,467	\ (289,163)	\ 13,699	\ 6,392,003

2017

(In thousands of Korean won)	January 1	Gain(loss) on valuation of equity method December 31	Share of other comprehensive income of associates	December 31
Joint venture				
KAI-EC	\ 289,175	\ (16,407)	\ -	\ 272,768
Associates				
S&K Aerospace Co., Ltd.	3,431,880	319,038	871,649	4,622,567
Korea Surface Treatment Co., Ltd.	1,845,293	(73,161)	-	1,772,132
Total	\ 5,566,348	\ 229,470	\ 871,649	\ 6,667,467

The joint venture and associate above are non-listed entities

Summary of condensed financial information of associates and joint venture, and their book amounts as of and for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	KAI-EC		S&K Aerospace Co., Ltd.		Korea Surface Treatment Co., Ltd.	
	2018	2017	2018	2017	2018	2017
Equity	\ 523,499	\ 534,839	\ 16,681,412	\ 15,716,728	\ 4,104,822	\ 5,968,785
Ownership percentage (%)	51.00%	51.00%	29.41%	29.41%	29.69%	29.69%
Net assets of equity shares	266,984	272,768	4,906,298	4,622,567	1,218,721	1,772,132
Book amount of investments in associate and jointly controlled entity	266,984	272,768	4,906,298	4,622,567	1,218,721	1,772,132

10. Property, Plant and Equipment, and Intangible Assets

Property, plant and equipment as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)	2018		
	Acquisition cost	**Accumulated depreciation**	**Balance**
Land	\ 92,251,695	\ -	\ 92,251,695
Buildings	392,466,505	(142,489,127)	249,977,378
Structures	53,780,741	(21,041,846)	32,738,895
Machinery	381,356,338	(274,695,730)	106,660,608
Tools and equipment	317,153,058	(276,393,364)	40,759,694
Vehicles	5,567,664	(4,609,332)	958,332
Construction-in-progress	47,925,097	-	47,925,097
Machinery-in-transit	97,228	-	97,228
Total	\ 1,290,598,326	\ (719,229,399)	\ 571,368,927

(In thousands of Korean won)	2017		
	Acquisition cost	**Accumulated depreciation**	**Balance**
Land	\ 91,582,789	\ -	\ 91,582,789
Buildings	358,066,362	(129,368,026)	228,698,336
Structures	49,954,968	(19,384,901)	30,570,067
Machinery	353,117,833	(251,474,102)	101,643,731
Tools and equipment	302,446,955	(265,780,617)	36,666,338
Vehicles	4,940,124	(4,064,147)	875,977
Construction-in-progress	56,002,077	-	56,002,077
Machinery-in-transit	1,285,286	-	1,285,286
Total	\ 1,217,396,394	\ (670,071,793)	\ 547,324,601

10. Property, Plant and Equipment, and Intangible Assets (cont'd)

Changes in property, plant and equipment for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018						
	January 1	**Acquisitions / Capital expenditures**	**Acquisitions due to business combination**	**Disposals / Abandonment / Impairment**	**Depreciation**	**Transfers[1]**	**December 31**
Land	\ 91,582,789	\ 538,164	\ -	\ -	\ -	\ 130,742	\ 92,251,695
Buildings	228,698,335	451,702	-	(5,094)	(12,915,777)	33,748,212	249,977,378
Structures	30,570,067	242,058	-	(104,187)	(1,665,873)	3,696,830	32,738,895
Machinery	101,643,731	9,259,628	280,769	(6,551)	(25,893,260)	21,376,291	106,660,608
Tools and equipment	36,666,338	13,930,850	54,105	(3,423)	(18,105,206)	8,217,030	40,759,694
Vehicles	875,977	312,764	-	-	(545,185)	314,776	958,332
Construction-in-progress	56,002,077	54,911,866	-	-	-	(62,988,846)	47,925,097
Machinery-in-transit	1,285,286	246,433	-	-	-	(1,434,491)	97,228
Total	\ 547,324,600	\ 79,893,465	\ 334,874	\ (119,255)	\ (59,125,301)	\ 3,060,544	\ 571,368,927

[1] Transfers include capitalization of borrowing costs, \ 4,369 million.

(In thousands of Korean won)	2017					
	January 1	**Acquisitions / Capital expenditures**	**Disposals / Abandonment / Impairment**	**Depreciation**	**Transfers**	**December 31**
Land	\ 83,521,192	\ 1,513	\ -	\ -	\ 8,060,084	\ 91,582,789
Buildings	239,750,753	181,788	-	(12,034,206)	800,000	228,698,335
Structures	26,614,039	102,437	-	(1,541,492)	5,395,083	30,570,067
Machinery	118,457,257	6,624,389	(9)	(24,994,624)	1,556,718	101,643,731
Tools and equipment	29,241,423	14,820,106	(17,355)	(15,427,454)	8,049,618	36,666,338
Vehicles	1,357,488	236,510	(11,506)	(706,515)	-	875,977
Construction-in-progress	22,231,167	56,036,142	-	-	(22,265,232)	56,002,077
Machinery-in-transit	889,184	2,833,765	-	-	(2,437,663)	1,285,286
Total	\ 522,062,503	\ 80,836,650	\ (28,870)	\ (54,704,291)	\ (841,392)	\ 547,324,600

As of December 31, 2018 and 2017, the Group's property, plant and equipment are pledged as collateral for borrowings from Korea Development Bank for up to \ 550 billion.

10. Property, Plant and Equipment, and Intangible Assets (cont'd)

As of December 31, 2018, the Group's inventories, and property, plant and equipment are insured for \ 2,134 billion (2017: \ 2,293 billion). In addition, the Group carries product liability insurance with a ceiling of \ 3,833 billion (2017: \ 5,345 billion) and general insurance for vehicles. The aforementioned package of insurance has been pledged as collateral for borrowings from Korea Development Bank up to a maximum of \ 550 billion.

The depreciation expense classified by accounts for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)		**2018**		**2017**
Cost of sales	\	57,157,528	\	53,651,619
Selling, general and administrative expenses		1,967,773		1,052,672
Total	\	59,125,301	\	54,704,291

Intangible assets as of December 31, 2018 and 2017, consist of the following:

	2018							
(In thousands of Korean won)		**Acquisition cost**		**Accumulated amortization**		**Accumulated impairment**		**Book amount**
Industrial property rights	\	1,712,371	\	(1,148,140)	\	(2,862)	\	561,369
Software		115,661,094		(38,941,442)		-		76,719,652
Facility usage rights		602,754		(22,492)		-		580,262
Long-term development projects		146,477,343		(87,314,575)		(1,363,187)		57,799,581
Development costs		550,750,411		(206,263,871)		(46,428,679)		298,057,861
Memberships		579,727		-		(527,727)		52,000
Goodwill		2,640,169		-		-		2,640,169
Other intangible assets		10,162,815		(5,589,548)		-		4,573,267
Construction-in-progress		9,596,295		-		-		9,596,295
Total	\	838,182,979	\	(339,280,068)	\	(48,322,455)	\	450,580,456

10. Property, Plant and Equipment, and Intangible Assets (cont'd)

(In thousands of Korean won)	2017			
	Acquisition cost	**Accumulated amortization**	**Accumulated impairment**	**Book amount**
Industrial property rights	\ 1,670,109	\ (1,029,524)	\ (1,431)	\ 639,154
Software	59,990,422	(22,143,865)	-	37,846,557
Facility usage rights	77,721	(69,592)	-	8,129
Long-term development projects	146,477,343	(77,077,980)	(1,363,187)	68,036,176
Development costs	433,900,541	(199,372,716)	(2,348,041)	232,179,784
Memberships	2,131,598	-	(410,727)	1,720,871
Other intangible assets	10,162,815	(5,081,408)	-	5,081,407
Construction-in-progress	14,446,861	-	-	14,446,861
Total	\ 668,857,410	\ (304,775,085)	\ (4,123,386)	\ 359,958,939

Changes in intangible assets for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018						
	January 1	**Acquisitions / Capital expenditures**[1]	**Acquisitions due to business combination**	**Disposals / Impairment**[2]	**Amortization**	**Transfers**[4]	**December 31**
Industrial property rights	\ 639,154	\ 38,853	\ 2,824	\ (1)	\ (119,461)		\ 561,369
Software	37,846,557	20,496,440	27,483	-	(16,787,367)	\ -	76,719,652
Facility usage rights	8,129	-	-	-	(2,307)	35,136,539	580,262
Long-term development projects	68,036,176	-	-	-	(10,236,595)	574,440	57,799,581
Development costs[3]	232,179,784	109,164,631	1,245,106	(42,902,914)	(5,763,436)	-	298,057,861
Memberships	1,720,871	-	-	(117,000)	-	4,134,690	52,000
Goodwill	-	-	2,640,169	-	-	(1,551,871)	2,640,169
Other intangible assets	5,081,407	-	-	-	(508,140)	-	4,573,267
Construction-in-progress	14,446,861	29,533,175	-	-	-	-	9,596,295
Total	\ 359,958,939	\ 159,233,099	\ 3,915,582	\ (43,019,915)	\ (33,417,306)	\ (34,383,741)	\ 450,580,456

[1] Amounts after deducting the government grants, \ 45,994 million.

[2] The Group has determined that the future economic benefits to be obtained in future are uncertain, and the total development costs incurred in connection with the project amounted to \ 43,020 million were recognized as other operating expenses.

[3] The Group recognized \ 42,013 million as development expense.

[4] Amounts after including capitalization of borrowing costs, \ 4,695 million

10. Property, Plant and Equipment, and Intangible Assets (cont'd)

(In thousands of Korean won)	2017					
	January 1	**Acquisitions / Capital expenditures[1]**	**Disposals / Impairment[2]**	**Amortization**	**Transfers**	**December 31**
Industrial property rights	\ 717,501	\ 38,457	\ -	\ (116,804)	\ -	\ 639,154
Software	23,181,391	22,317,734	-	(8,493,960)	841,392	37,846,557
Facility usage rights	10,867	-	-	(2,738)	-	8,129
Long-term development projects	83,453,414	-	(1,363,187)	(14,054,051)	-	68,036,176
Development costs[3]	131,357,742	108,933,519	(2,348,041)	(5,763,436)	-	232,179,784
Memberships	1,720,871	-	-	-	-	1,720,871
Other intangible assets	5,589,548	-	-	(508,141)	-	5,081,407
Construction-in-progress	-	14,446,861	-	-	-	14,446,861
Total	\ 246,031,334	\ 145,736,571	\ (3,711,228)	\ (28,939,130)	\ 841,392	\ 359,958,939

[1] Amounts after deducting the government grants, \ 51,558 million.

[2] The Group has determined that the future economic benefits to be obtained in future are uncertain, and the total development costs incurred in connection with the project amounted to \ 3,711,228 thousand were recognized as other operating expenses.

[3] The Group recognized \ 54,179 million as development expense.

The amortization expense for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	**2018**	**2017**
Cost of sales	\ 25,848,113	\ 22,108,734
Selling, general and administrative expenses	7,569,193	6,070,252
Development expense	-	760,144
Total	\ 33,417,306	\ 28,939,130

10. Property, Plant and Equipment, and Intangible Assets (cont'd)

Details of property, plant and equipment provided as collateral as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018				
	Carrying amount	**Secured amount**	**Related line item**	**Related amount**	**Secured party**
Land	\ 68,944,527	\ 550,000,000	Guaranteed (Note 18)	USD 251,799,834 \ 10,000,000	Korea Development Bank
Buildings	141,443,738				
Structures	671,543				
Machinery	4				

(In thousands of Korean won)	2017				
	Carrying amount	**Secured amount**	**Related line item**	**Related amount**	**Secured party**
Land	\ 83,521,192	\ 550,000,000	Guaranteed (Note 18)	USD 382,455,518	Korea Development Bank
Buildings	106,765,377				

As of December 31, 2018 and 2017, details of major development costs are as follows:

(In thousands of Korean won)	**2018[1]**	**2017**
Amphibious helicopter[2]	\ 12,010,588	\ 14,412,706
Police helicopter	\ 10,796,990	\ 12,596,488
T-X[2]	-	32,241,978
KFX[2]	73,645,835	42,235,493
LCH[2]	194,760,253	122,175,654
Others[2]	6,844,195	8,517,465
Total	\ 298,057,861	\ 232,179,784

[1] Includes the capitalized borrowing costs, \ 4,209 million.

[2] The development costs related to the development project with the Defense Acquisition Program Administration, etc. The Group accounts the estimated total costs reviewed by customers as development costs. Since the time of the first mass production, the Group will have right to collect the development costs included in the contract price.

[3] During the current period, the Group recognized \ 32,242 million of impairment loss in connection with failure of US Air Force advanced pilot training project. As of December 31, 2017, the Group classified the expenditure on APT development as intangible asset (development costs).

10. Property, Plant and Equipment, and Intangible Assets (cont'd)

Acquisition of property, plant and equipment and capital expenditure commitments:

As of December 31, 2018, the Group has made construction contracts worth \4,867 million about new construction of KF-X integrated test complex. At the end of the reporting period, \1,745 million (construction costs \1,745 million) is appropriated for the construction in process, and \3,122 million is expected to be spent additionally. However, the final cost can be altered when the construction is completed.

Also, as of December 31, 2018, the Group has made a contract of Stabilizing and upgrading ERP. The contract is worth \11,560 million. At the end of the reporting period, \6,876 million is appropriated for the construction in process (intangible asset), and \4,684 million is expected to be spent additionally.

11. Other Assets

Other assets as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)		2018		2017
Current assets				
Advanced payments	\	534,606,481	\	420,901,472
Prepaid expenses		33,698,569		34,241,272
Prepaid tax		304,275		110,659
Total	\	568,609,325	\	455,253,403

12. Trade Payables and Other Financial Liabilities

Trade payables and other financial liabilities as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)		2018		2017
Current liabilities				
Trade payables	\	289,489,656	\	133,631,740
Other payables		30,526,364		113,188,906
Accrued expenses		100,736,474		135,371,555
Unpaid dividends		18,133		18,133
	\	420,770,627	\	382,210,334
Non-current liabilities				
Long-term other payables(Notes 18)	\	60,502,388	\	28,798,991
Total	\	481,273,015	\	411,009,325

13. Borrowings and Debentures payable

Short-term and long-term borrowings as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)	Interest rate(%)	2018	2017
Current liabilities			
Short-term borrowings	2.56~2.86	\ 161,300,000	\ 454,000,000
Current maturities of long-term borrowings	1.81~2.00	16,957,090	17,372,270
Less : Present value discount[1]		(402,679)	(998,141)
		\ 177,854,411	\ 470,374,129
Non-current liabilities			
Long-term borrowings	1.81~3.20	\ 84,543,372	\ 30,018,700
Less : Present value discount[1]		(647,507)	-
		\ 83,895,865	\ 30,018,700
Total		\ 261,750,276	\ 500,392,829

[1] The interest rate of the defense industry loans is lower than the market interest rate (1.95%~ 4.02%). The loan amount is discounted using the market interest rate as its fair value. The difference between the undiscounted amount and the fair value has been accounted for as government grants.

As of December 31, 2018 and 2017, the Group's property, plant and equipment are pledged as collateral for borrowings from Korea Development Bank (Note 10).
Debentures as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)	Issue date	Maturity date	Interest rate(%)	2018 Book amount	2017 Book amount
19th (Unguaranteed, Public offering)	2016.04.11	2019.04.11	1.80	\ 200,000,000	\ 200,000,000
20-1th (Unguaranteed, Public offering)	2017.05.31	2020.05.31	2.04	100,000,000	100,000,000
20-2th (Unguaranteed, Public offering)	2017.05.31	2022.05.31	2.43	100,000,000	100,000,000
21th (Unguaranteed, Private)	2018.02.14	2021.02.14	3.20	30,000,000	-
22th (Unguaranteed, Private)	2018.03.16	2021.03.16	3.20	30,000,000	-
Less: Present value discount				(415,329)	(618,890)
Less: Current portion				(199,948,185)	-
Total				\ 259,636,486	\ 399,381,110

13. Borrowings and Debentures payable (cont'd)

Book amount and fair value of the long-term borrowings and debentures as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018		2017	
	Book amount	Fair value[1]	Book amount	Fair value[1]
Short-term borrowings	\ 177,854,411	\ 177,854,411	\ 470,374,129	\ 470,374,129
Long-term borrowings	83,895,865	82,385,055	30,018,700	29,227,801
Debentures	459,584,671	461,109,739	399,381,110	401,430,559
Total	\ 721,334,947	\ 721,349,205	\ 899,773,939	\ 901,032,489

[1] The fair value of long-term borrowings is calculated by discounting the nominal amount of cash outflows with the weighted average interest rate.

14. Other liabilities

Other liabilities as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)	2018	2017
Advances received	\ 587,428,648	\ 104,582,027
Unearned revenues	358,265	781,538
Withholdings	5,952,430	6,335,654
Deposits received	5,076,545	401,982
Reserve for annual leave allowance	2,277,000	-
Total	\ 601,092,888	\ 112,101,201

15. Contract liabilities

Contract liabilities as of December 31, 2018, consist of the following:

(In thousands of Korean won)	Contract liabilities	Advances received[1]
January 1	\ -	\ 104,582,027
Changes in accounting standards	212,750,824	770,272,510
Increase/decrease	55,388,628	(287,425,889)
	\ 268,139,452	\ 587,428,648

[1] The Advances received is recognized when the performance obligation is satisfied at a point in time.

16. Net Defined Benefit Liabilities

Net defined benefit liabilities recognized on the statements of financial position as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

		2018		2017
Present value of funded defined benefit obligations	\	5,713,232	\	15,478,669
Present value of unfunded defined benefit obligations		352,611,832		320,865,903
Present value of retirement benefit obligation	\	358,325,064	\	336,344,572
Fair value of plan assets		(2,040,200)		(3,734,465)
	\	356,284,864	\	332,610,107

Changes in the carrying amount of retirement benefit obligations for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

		2018		2017
Balance as of January 1	\	336,344,572	\	303,438,622
acquisitions due to business combination		481,520		-
Current service cost		35,897,079		35,286,331
Interest expense		12,094,534		10,028,122
Remeasurements:				
Actuarial gains and losses arising from changes in demographic assumptions		-		406,020
Actuarial gains and losses arising from changes in financial assumptions		416,701		(9,954,796)
Actuarial gains and losses arising from experience adjustments		9,921,620		15,495,364
Payments from plans:				
Benefit payments		(37,590,813)		(18,355,091)
Inflow from an affiliate / outflow to an affiliate		759,851		
Balance as of December 31	\	358,325,064	\	336,344,572

16. Net Defined Benefit Liabilities (cont'd)

Changes in the fair value of plan assets for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018	2017
Balance as of January 1	\ 3,734,465	\ 4,715,571
Interest income	132,684	151,217
Contribution on plan assets	440,734	-
Remeasurements:	-	-
Return on plan assets	(96,038)	(108,768)
Payments from plans:	-	-
Benefit payments	(2,171,645)	(1,023,555)
Balance as of December 31	\ 2,040,200	\ 3,734,465

The details of pension expenses recognized in the statements of comprehensive income for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018	2017
Current service cost	\ 35,897,079	\ 35,286,331
Interest expenses of retirement benefit obligations	12,094,535	10,028,122
Expected return on plan assets	(132,684)	(151,217)
Total	\ 47,858,930	\ 45,163,236
Cost of sales	\ 42,708,016	\ 40,132,301
Selling, general and administrative expenses	5,150,914	5,030,935
Total	\ 47,858,930	\ 45,163,236

The key assumptions used for retirement benefit obligation calculations as of December 31, 2018 and 2017, are as follows:

	2018	2017
Discount rate	3.16%	3.65%
Salary increase rate	5.40%	5.90%

Plan assets as of December 31, 2018 and 2017, consist of:

(In thousands of Korean won)	2018		2017	
	Quoted price	Composition	Quoted price	Composition
Cash and cash equivalents	\ 1,912,903	93.8%	\ 3,594,543	96.3%
Others	127,297	6.2%	139,922	3.7%
	\ 2,040,200	100.0%	\ 3,734,465	100.0%

16. Net Defined Benefit Liabilities (cont'd)

The sensitivity of the defined benefit obligations as of December 31, 2018, to changes in the principal assumptions is:

(In thousands of Korean won)	Discount rate		Salary growth rate	
	1% increase	**1% decrease**	**1% increase**	**1% decrease**
Amount	\ 327,774,800	\ 394,017,448	\ 392,864,488	\ 328,095,806
Ratio	91.5%	110.0%	109.7%	91.6%

A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bondholding.

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.

Contribution to plan assets, which is expected to be made by the Group in 2019, amounts to \ 504 million.

Weighted average maturities of defined benefit obligations as of December 31, 2018 and 2017, are as follows:

	2018	**2017**
Weighted average maturities	9.5 years	9.5 years

17. Provisions

The changes in provisions for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018				
	January 1	**Changes in accounting standards**	**Increase**	**Decrease**	**December 31**
Construction contracts					
Loss on the construction contract[1]	\ -	\ 169,579,460	\ 56,257,399	\ (109,318,482)	\ 116,518,377
Provision for construction warranty claims[2]	27,179,957	-	120,361,354	(15,021,361)	132,519,950
Other construction contracts[3]	-	-	397,512		397,512
Others					
Provision for pending lawsuits[4]	13,028,759	-	178,079	(12,375,200)	831,638
Others[5]	-	-	12,787,551	(2,272,465)	10,515,086
Total	\ 40,208,716	\ 169,579,460	\ 189,981,895	\ (138,987,508)	\ 260,782,563

(In thousands of Korean won)	2017			
	January 1	**Increase**	**Decrease**	**December 31**
Construction contracts				
Loss on the construction contract[1]	\ -	\ -	\ -	\ -
Provision for construction warranty claims[2]	13,562,869	13,617,087	-	27,179,956
Other construction contracts[3]	-	-	-	-
Others				
Provision for pending lawsuits[4]	12,497,559	531,200	-	13,028,759
Others[5]	-	-	-	-
Total	\ 26,060,428	\ 14,148,287	\ -	\ 40,208,715

[1] Provision for loss on the construction contract is made when there is an expected loss on the construction contract.

[2] The Group makes provision for repair and maintenance based on the past experience.

[3] In relation to construction contracts, the Group made provision when there is a present obligation as a result of a past event, and resources are expected to flow out in the future.

[4] In relation to the pending lawsuits, the Group recognized the best estimate as other provisions (Note 30).

[5] The Group has applied Korean IFRS 1115 for the first time for annual period commencing January 1, 2018. Due to adoption of K-IFRS 1115, the effect of reclassifying provision for construction loss to other provisions as separate account is included in accordance with Korean IFRS 1037, *Provisions, Contingent Liabilities and Contingent Assets*. In accordance with initial application of K-IFRS 1115, it reflects \ 169,579 million, the effect of adjustment in opening balance as of January 1, 2018.

18. Commitments and Contingencies

(1) Major commitments with financial institutions as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won and in thousands of US dollars and British Pound)

Description	Financial institutions	Limit amount 2018	Limit amount 2017
Bank Overdrafts	Shinhan Bank	\ 4,000,000	\ 10,000,000
General loan agreement	Kyongnam Bank	30,000,000	30,000,000
	KEB Hana Bank[1]	31,000,000	-
	NongHyup Bank	871,000	-
	Kookmin Bank	300,000	-
	Woori Bank[2]	20,000,000	21,500,000
B2B Note Issuing arrangement	Woori Bank	20,500,000	20,600,000
Foreign currency L/C arrangement	Woori Bank[2]	USD 27,300	USD 27,300
	Shinhan Bank[3]	GBP 4,072	-
Foreign currency loan agreement	Kookmin Bank	USD 50,000	USD 50,000
Limit of short-term financial agreement	Meritz Securities Co., Ltd.	30,000,000	30,000,000
	Shinhan Bank	40,000,000	40,000,000
Foreign currency payment guarantee agreement	Shinhan Bank	USD 1,257	USD 1,571
	Kookmin Bank	USD 12,374	USD 30,300
	KEB Hana Bank[1]	USD 41,603	USD 71,789
	Woori Bank[2]	USD 63,750	USD 69,288
	NongHyup Bank	USD 26,000	USD 26,000
Foreign currency trade receivables factoring agreement	BNP Paribas Seoul Branch[4]	USD 70,000	USD 80,000

[1] Limit amount of general loan agreement (\ 30 billion), foreign currency payment guarantee agreement (USD 41,603,446) with KEB Hana Bank is a part of the comprehensive loan agreement limit of \ 80,000 million.

[2] Limit amount of general loan agreement (\ 20 billion), foreign currency L/C arrangement (USD 7,300,000), foreign currency payment guarantee agreement (USD 45,337,981) with Woori Bank is a part of the comprehensive loan agreement limit of \ 80,000 million. In addition, the execution amount of guarantees related to foreign currency L/C arrangement (USD 27,300,000) at December 31, 2018 is USD 4,266,460.

[3] The execution amount of guarantees related to foreign currency L/C arrangement (GBP 4,072,000) with Shinhan Bank at December 31, 2018 is GBP 4,072,000.

18. Commitments and Contingencies (cont'd)

[4] The execution amount of Foreign currency trade receivables factoring agreement (USD 70,000,000) with BNP Paribas Seoul Branch at December 31, 2018 is USD 41,831,559.

(2) Details of payment guarantees provided by financial institutions as of December 31, 2018 and 2017, are as follows:

(In thousands of US dollars and Euros)	Guaranteed by	Guaranteed amount 2018	2017
performance guarantees of KT-1 Turkey /Performance guarantee of off-set Advance payment guarantee of KT-1 Peru, and others	Korea Development Bank	USD 23,746	USD 32,943
Performance guarantee/ Advance payment guarantee/ Maintenance guarantee of FA-50 Philippine Spare part Performance guarantee of KT-1 Indonesia Spare part Performance guarantee of T-50 Indonesia Spare part Performance guarantee of KT-1 Peru Spare part Performance guarantee of KT-1 Turkey and others	KEB Hana Bank	USD 6,934	USD 6,769
Performance guarantees / Advance payment guarantee of C-130 and others	Shinhan Bank	USD 1,257	USD 1,571
Performance guarantee / Advance payment guarantee of T-50 to Iraq and others	Korea Development Bank	USD 140,304	USD 261,763
Performance guarantee / Advance payment guarantee of Iraq military base	Korea Development Bank	USD 87,750	USD 87,750
Performance guarantee / Advance payment guarantee of T-50 Thailand	Woori Bank	USD 63,673	USD 68,211
Advance payment guarantee of T-50 Iraq[1]	KEB Hana Bank	USD 8,662	USD 21,210
	Kookmin Bank	USD 12,374	USD 30,300

[1] Advance payment guarantee of T-50 Iraq is pledged as collateral for guarantees from Korea Development Bank. Also, , the Group was guaranteed by Export Guarantee Insurance Corporation for up to USD 107,085 thousand (2017: USD 116,279 thousand). Guarantee by Export Guarantee Insurance Corporation is pledged as collateral for guarantees from Korea Development Bank.

(3) With respect to the export of KT-1 to Turkey and Peru, the Group has to perform an offset agreement such as purchasing equipment from customers, and technology transfer.

18. Commitments and Contingencies (cont'd)

(4) As of December 31, 2018, Seoul Guarantee Insurance, Korea Software Financial Cooperative, and Korea Federation of Small and Medium Business have provided guarantees for repair and maintenance, and for advances received from customers for up to approximately \ 481 billion (2017: \ 449 billion), \ 9 billion (2017: \ 11 billion), and \ 2 billion (2017: \ 5 billion), respectively. Also, the Group was guaranteed by Export Guarantee Insurance Corporation for up to USD 107,085 thousand (2017: USD 116,279 thousand). Guarantee by Export Guarantee Insurance Corporation is pledged as collateral for borrowings from Korea Development Bank.

(5) The Group has payment guarantees provided by Korea Defense Industry Association of up to \ 3,533 billion (2017: \ 2,973 billion). The total credit limit, which is 100 times of the total contribution, amounts to \ 3,565 billion (2017: \ 3,005 billion).

(6) As of December 31, 2018, the Group has issued three (2017: three) blank promissory notes as collateral for its borrowings and contract fulfillments.

(7) The Group uses certain land, buildings, machinery and vehicles as operating leases. The lease term is 1 to 10 years. Accordingly, the lease payments recognized as an expense during the years ended December 31, 2018 and 2017 are as follows:

(In thousands of Korean won)	2018	2017
Total lease payments	₩ 6,301,743	₩ 5,541,505

The future minimum lease payments arising from the non-cancellable operating lease contracts as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018	2017
Less than 1 year	₩ 3,424,113	₩ 6,500
Between 1 and 3 years	2,017,691	1,361,054
Between 3 and 5 years	1,309	706,199
Over 5 years	-	568,035
	₩ 5,443,113	₩ 2,641,788

18. Commitments and Contingencies (cont'd)

(8) The Company invested \ 35,700 million of cash, \ 36,700 million of land, and \ 12,000 million of building, and \ 5,300 million of structures and other investors invested \ 45,300 million of cash to establish KAEMS Inc., a subsidiary of the Company. The Company gave KAC(Korea Airports Corporation) and JEJUAIR the Put options that allow the investors to dispose of common shares of KAEMS Inc., the subsidiary, only if they meet the qualifying conditions. If the investors exercise the Put options, the Company is required to acquire 5,380,000 common shares for \ 26,900 million from KAC and 200,000 common shares for \ 1,000 million from JEJUAIR. At the end of the reporting period, the Group recognized the Put option to KAC and JEJUAIR as Long-term other payables and Other capital adjustments.

19. Capital Stock and Share Premium

The number of authorized shares of the Company is 200 million shares and capital stock as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won, except number of shares and par value)

	Authorized shares	Issued and outstanding shares	Par value per share	Capital stock
Common stock	200,000,000	97,475,107	\ 5,000	\ 487,375,535

The Company is allowed to grant stock options to the employees, who contributed or are capable to contribute to the Company's establishment, management, and technological innovation, through a special resolution at the shareholders' meeting or through a related law.

As of December 31, 2018, the shareholders of the Company are as follows:

(In thousands of shares)

	2018	
	Number of Shares	Ownership (%)
The Export-Import Bank of Korea	25,746	26.41%
National Pension Service	5,203	5.33%
Hana Financial Investment Co., Ltd	4,731	4.85%
KAI employee stock ownership association	1,507	1.54%
Other shareholders	60,287	61.87%
Total	97,475	100.00%

20. Retained Earnings

Retained earnings as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)		2018		2017
Legal reserve[1]	₩	21,241,377	₩	21,241,377
Appropriated retained earnings for business expansion		169,250,000		169,250,000
Appropriated retained earnings for research and human resource development		30,000,000		30,000,000
Unappropriated retained earnings		195,501,219		296,718,879
Total	₩	415,992,596	₩	517,210,256

[1] The Commercial Code of the Republic of Korea requires the Group to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit.

The Company declared cash dividends to shareholders for the year ended December 31, 2018.
Details of year-end dividends are as follows:

		2018
Number of shares (total share)		97,475,107
Dividend amount per share (In Korean won)	₩	200
Dividend amount	₩	19,495,021,400

Details of dividends paid in 2018 and 2017, are as follows:

		2018		2017
Dividend per share	₩	-	₩	680
Total dividend (in millions of Korean won)		-		66,283

21. Other Components of Equity

Other components of equity as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)		2018		2017
Gain on valuation of available-for-sale financial assets	₩	-	₩	6,712,162
Gain on disposal of treasury stock		184,272		184,272
Other capital adjustments(Note 18)		(23,089,705)		-
Gain on capital reduction		4,053,367		4,053,367
Loss on overseas operation translation		(44,479)		(67,578)
Share of other comprehensive income of associates		873,356		859,657
Total	₩	(18,023,189)	₩	11,741,880

22. Earnings per Share

Weighted-average number of ordinary share for the year ended December 31, 2017, is as follows:

	Shares	Number of shares outstanding	No. of days	Cumulative number of shares
December 31, 2018	97,475,107	97,475,107	365	35,578,414,055

Number of shares outstanding for the year ended December 31, 2017: 35,578,414,055 ÷ 365 = 97,475,107

Weighted-average number of ordinary share for the year ended December 31, 2017, is as follows:

	Shares	Number of shares outstanding	No. of days	Cumulative number of shares
December 31, 2017	97,475,107	97,475,107	365	35,578,414,055

Number of shares outstanding for the year ended December 31, 2017: 35,578,414,055 ÷ 365 = 97,475,107

Basic earnings per share for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)		2018		2017
Profit(Loss) attributable to the Parent Company	₩	57,188,119	₩	(235,185,853)
Weighted-average number of ordinary share		97,475,107		97,475,107
Total	₩	587	₩	(2,413)

For the year ended December 31, 2018, the diluted earnings per share equals basic earnings per share as the Group does not issue dilutive potential ordinary shares.

23. Sales

Details of sales for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018	2017
Sales		
Sales of goods	₩ 2,161,417,592	₩ 1,095,821,986
Construction contract revenue	597,793,678	976,427,156
Significant financing component	26,812,241	-
Total	₩ 2,786,023,511	₩ 2,072,249,142

Backlog balance as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

	Total contract balance as of January 1	Increase and decrease[1]	Recognition of construction	Backlog balance as of December 31[2]
2018	₩ 6,623,868,948	₩ 60,568,256	₩ (597,793,678)	₩ 6,086,643,526
2017	9,862,022,100	(547,168)	(976,427,156)	8,885,047,776

[1] The amount of increase / decrease includes new contract amount, additional contract amount and contract change amount.
[2] Balance of foreign currency contracts is expressed in Korean Won balances by applying exchange rate at the end of the year.

The Group provides contract performance guarantees, and guarantees for repair and maintenance, and advances received from customers in connection with the aforementioned revenue. Various related guarantees have been provided to the Group by Seoul Guarantee Insurance and others (Note 17).

Accumulated construction contract revenue, cost of construction, construction profit and advanced payment on the ongoing projects as of December 31, 2018 and 2017, consist of the following:

(In thousands of Korean won)

	Segment	Accumulated revenue recognized	Cost of construction	Construction profit	Contract liabilities / Advanced payment
2018	Government defense business and aircraft export business	₩ 1,429,115,553	₩1,504,924,235	₩ (75,808,682)	₩ 268,139,452
2017	Government defense business and aircraft export business	5,316,174,337	4,871,043,126	445,131,211	242,803,872

23. Sales (cont'd)

The gross amounts due from and due to customers for contract work as of December 31, 2018 and 2017, are as of the follows:

(In thousands of Korean won)

2018		2017	
Contract assets	**Contract liabilities**	**Due from customers contract work**	**Due to customers contract work**
₩ 76,603,731	₩ 268,139,452	₩ 409,964,541	₩ 227,745,589

Details of major contracts that total contract amounts are more than 5% of the previous fiscal year's sales as of December 31, 2018, are as follows:

(In thousands of Korean won)

Name of contract	Contract date	Completion date (Delivery date)	Percentage of completion (%)	Contract assets: Total	Contract assets: Provisions and others	Trade receivables: Total	Trade receivables: Provisions and others
LAH development	June 25, 2015	June 30, 2023	49.88	₩ -	₩ -	₩ -	₩ -
KF-X development	December 28, 2015	June 30, 2026	13.64	-	-	-	-
D base construction	January 18, 2015	March 31, 2018	26.69	58,549,355	-	-	-
425satellite development	December 04, 2018	September 26, 2025	0.22	-	-	-	-

Due to the factors causing the changes in construction contract costs, the estimated total revenue and estimated total costs for contracts in progress have changed. Details of changes in estimated total contract revenue and costs, profits or loss for the year and the succeeding year, and the impact on due from customers for contract work are as follows:

(In thousands of Korean won)	2018				
	Changes in estimated total contract revenue[1]	**Changes in estimated total contract cost**[1]	**Impact on profit or loss for the year**	**Impact on profit or loss for the succeeding year**	**Changes in contract assets**
Government defense business and aircraft export business	₩ (608,538,304)	₩ (474,234,024)	₩ (31,394,874)	₩ (102,909,406)	₩ 1,226,421

[1] Includes impacts of changes in foreign exchange rates and the decrease in contract revenue due to the estimation of penalty for construction delays.

23. Sales (cont'd)

(In thousands of Korean won)	2017				
	Changes in estimated total contract revenue[1]	**Changes in estimated total contract cost**	**Impact on profit or loss for the year**	**Impact on profit or loss for the succeeding year**	**Changes in due from customers for contract work**
Government defense business and aircraft export business	₩ (298,578,560)	₩ 154,352,689	₩ (369,447,044)	₩ (83,484,205)	₩ (152,571,676)

[1] Includes impacts of changes in foreign exchange rates and the decrease in contract revenue due to the estimation of penalty for construction delays.

The impact on profit or loss for the year and the succeeding year is determined based on total contract costs, which are estimated based on the circumstances present from the start of the contract to the end of current year, and the estimated contract revenue as of December 31, 2018. Contract costs and contract revenue may change in the future.

The contract to use the ratio of cumulative contract costs incurred as of the end of the current term to the estimated total contract cost is used for progress measurement for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)		2018					
		Changes in construction contract profit or loss		**Changes in estimated total contract cost**		**Contract assets**	
Operating segments	**provision for construc-tion loss**	**Changes in accounting estimates**	**Error correction**	**Changes in accounting estimates**	**Error correction**	**Total amounts**	**Accumulated impairment**
Government defense business and aircraft export business	₩116,518,377	₩ (31,394,874)	₩ -	₩ (474,234,024)	₩ -	₩ 76,603,731	₩ -

(In thousands of Korean won)		2017					
		Changes in construction contract profit or loss		**Changes in estimated total contract cost**		**Due from customers for contract work**	
Operating segments	**provision for construc-tion loss**	**Changes in accounting estimates**	**Error correction**	**Changes in accounting estimates**	**Error correction**	**Total amounts**	**Accumulated impairment**
Government defense business and aircraft export business	₩106,476,949	₩(369,447,044)	₩ -	₩ 154,352,689	₩ -	₩382,784,585	₩ -

24. Expenses by Nature

Expenses by nature for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)		**2018**		**2017**
Changes in inventories	₩	245,903,599	₩	40,697,290
Purchase of raw and other materials		1,120,881,637		1,070,839,732
Wages and salaries		460,008,644		386,879,956
Depreciation and amortization		92,542,608		83,643,421
Commission expenses		89,656,211		66,762,678
Royalty and development expenses		201,260,789		214,394,775
Outside processing expenses		302,045,269		288,664,522
Welfare expenses		68,862,631		68,855,472
Travel expenses		15,258,693		19,586,887
Others		43,220,910		40,797,664
Total	₩	2,639,640,991	₩	2,281,122,397

25. Selling, General and Administrative Expenses

Selling, general and administrative expenses for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)		**2018**		**2017**
Wages and salaries	₩	45,087,263	₩	39,466,396
Severance and retirement benefits		8,107,051		5,030,935
Welfare expense		8,153,094		8,654,775
Travel expenses		3,659,178		4,656,648
Taxes and dues		1,701,259		1,443,498
Entertainment		297,694		667,660
Vehicles maintenance		597,308		640,056
Depreciation		1,967,772		1,052,672
Commission		12,568,620		9,427,114
Amortization		7,569,193		6,070,252
Rental expense		480,286		1,156,802
Advertising expense		2,530,909		4,415,992
Sales commission		1,087		-
Transportation expense		8,549,523		8,934,135
Development expense		42,012,692		54,179,123
Maintenance expense		73,929,303		34,008,875
Others		10,889,653		4,129,969
Total	₩	228,101,885	₩	183,934,902

26. Other Income and Expenses

Other income and expenses for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018	2017
Other income		
Commission income	₩ 5,181	₩ 3,520
Rental income	318,797	315,896
Gain on disposal of property, plant and equipment	207,068	31,732
Others	6,847,203	3,340,798
Total	₩ 7,378,249	₩ 3,691,946

(In thousands of Korean won)	2018	2017
Other expenses		
Donations	₩ 2,822,916	₩ 2,794,545
Loss from disposal of property, plant and equipment	112,703	7,671
Impairment losses on intangible assets	43,019,914	3,711,228
Loss from disposal of trade receivables	579,911	370,917
Loss on valuation of inventories and inventory loss.	1,018,882	-
Others	8,400,842	19,341,129
Total	₩ 55,955,168	₩ 26,225,490

27. Finance Income and Expenses

Finance income and expenses for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	2018	2017
Finance income		
Interest income	₩ 3,571,833	₩ 6,412,579
Gain on foreign currency transactions	23,866,149	22,478,100
Gain on foreign exchange translation	5,529,870	7,954,897
Gain on valuation of financial assets at fair value through profit or loss	54,720	-
Total	₩ 33,022,572	₩ 36,845,576

(In thousands of Korean won)	2018	2017
Other finance expenses		
Interest expense	₩ 25,770,950	₩ 24,121,251
Loss on foreign currency transactions	13,978,694	58,718,962
Loss on foreign exchange translation	5,145,098	43,110,375
Loss on valuation of financial assets at fair value through profit or loss	5,983,773	-
Total	₩ 50,878,515	₩ 125,950,588

28. Income Tax

Income tax expense for the years ended December 31, 2018 and 2017, consists of the following:

(In thousands of Korean won)	2018	2017
Current taxes	₩ 19,245	₩ 12,717,404
Deferred tax due to temporary difference	(41,758,671)	(89,724,822)
Tax charged directly to equity	52,717,151	1,439,971
Amount due for correction and tax investigation	21,393,532	-
Reversal due to claim for tax rectification	(8,250,227)	(9,529,040)
Income tax expense (benefit)	₩ 24,121,030	₩ (85,096,487)

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the weighted average tax rate applicable to profits of the consolidated entities as follows:

(In thousands of Korean won)	2018	2017
Profit (Loss) before income tax	₩ 79,660,495	₩ (320,282,339)
Income tax based on statutory rate	19,006,871	(77,558,089)
Adjustment		
Non-taxable income/Non-deductible expense	234,908	3,855,479
Tax credit	(5,817,531)	(5,393,389)
Reversal due to claim for tax rectification	(8,250,227)	(9,529,040)
Effect of error correction	21,393,532	4,279,273
Others	(2,446,522)	(750,721)
Income tax expense (benefit)	₩ 24,121,031	₩ (85,096,487)
Effective tax rate	30.28%	-

28. Income Tax (cont'd)

Deferred tax assets and liabilities from the tax effects of temporary differences as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

	2018					
	Temporary Differences			Deferred Tax Assets (Liabilities)		
	Beginning Balance	Increase (Decrease)	Ending Balance	Beginning Balance	Increase (Decrease)	Ending Balance
Deferred tax arising from taxable temporary differences (1)						
Deposits for severance benefits	₩ (3,594,542)	₩ 1,681,639	₩ (1,912,903)	₩ (869,879)	₩ 406,956	₩ (462,923)
Reserve for R&D	(10,000,000)	10,000,000	-	(2,420,000)	2,420,000	-
Others	(12,564,813)	5,212,069	(7,352,744)	(3,040,685)	1,349,531	(1,691,154)
	₩ (26,159,355)	₩ 16,893,708	₩ (9,265,647)	₩ (6,330,564)	₩ 4,176,487	₩ (2,154,077)
Deferred tax arising from deductible temporary differences (2)						
Accrued severance benefits	₩ 254,326,402	₩ 12,062,338	₩ 266,388,740	₩ 61,546,989	₩ 2,785,424	₩ 64,332,413
Impairment loss on intangible assets	25,929,519	(15,239,163)	10,690,356	6,274,944	(3,687,878)	2,587,066
Government grants	155,820,862	95,108,743	250,929,605	37,708,649	22,945,073	60,653,722
Accrued liability	38,606,332	7,093,092	45,699,424	9,342,732	1,699,564	11,042,296
Depreciation	1,676,865	(329,486)	1,347,379	405,801	(89,903)	315,898
Provisions	392,722,590	(277,324,798)	115,397,792	95,038,867	(67,112,601)	27,926,266
Investments in subsidiaries, associates and joint venture[1]	445,870	26,902,483	27,348,353	107,901	6,510,400	6,618,301
Others	33,025,030	17,693,028	50,718,058	8,205,869	3,920,850	12,126,719
	₩ 902,553,470	₩ (134,033,763)	₩ 768,519,707	₩ 218,631,752	₩ (33,029,071)	₩ 185,602,681
Items charged directly to equity (3)						
Gain on valuation of long-term available-for-sale financial assets	₩ (8,824,893)	₩ 8,824,893	₩ -	₩ (2,112,731)	₩ 2,112,731	₩ -
Actuarial losses	81,878,247	10,482,970	92,361,217	19,685,731	2,665,684	22,351,415
Changes in account standards	-	198,545,154	198,545,154	-	48,078,129	48,078,129
	₩ 73,053,354	₩ 217,853,017	₩ 290,906,371	₩ 17,573,000	₩ 52,856,544	₩ 70,429,544
Tax loss carryforward (4)	9,245,686	58,932,530	₩ 68,178,216	₩ 2,237,456	₩ 14,261,672	₩ 16,499,128
Donation carryforward (5)	2,300,454	2,139,161	4,439,615	556,710	517,677	1,074,387
Tax credit carryforward (6)	5,551,665	5,817,223	11,368,888	5,393,389	5,817,285	11,210,674
Total (1+2+3+4+5+6)	₩ 966,545,274	₩ 167,601,876	₩ 1,134,147,150	₩ 238,061,743	₩ 44,600,594	₩ 282,662,337

[1] Deferred tax assets were not recognized if it is probable that the temporary differences will not reverse in the foreseeable future for investments in subsidiaries, associates and joint ventures.

28. Income Tax (cont'd)

(In thousands of Korean won)

	2017					
	Temporary Differences			Deferred Tax Assets (Liabilities)		
	Beginning Balance	Increase (Decrease)	Ending Balance	Beginning Balance	Increase (Decrease)	Ending Balance
Deferred tax arising from taxable temporary differences (1)						
Deposits for severance benefits	₩ (4,575,648)	₩ 981,106	₩ (3,594,542)	₩ (1,107,307)	₩ 237,428	₩ (869,879)
Reserve for R&D	(20,000,000)	10,000,000	(10,000,000)	(4,840,000)	2,420,000	(2,420,000)
Others	(13,524,299)	959,486	(12,564,813)	(3,272,880)	232,195	(3,040,685)
	₩ (38,099,947)	₩ 11,940,592	₩ (26,159,355)	₩ (9,220,187)	₩ 2,889,623	₩ (6,330,564)
Deferred tax arising from deductible temporary differences (2)						
Accrued severance benefits	₩ 232,064,882	₩ 22,261,520	₩ 254,326,402	₩ 56,159,701	₩ 5,387,288	₩ 61,546,989
Impairment loss on intangible assets	43,370,317	(17,440,798)	25,929,519	10,495,617	(4,220,673)	6,274,944
Government grants	125,097,322	30,723,540	155,820,862	30,273,552	7,435,097	37,708,649
Accrued liability	36,860,543	1,745,789	38,606,332	8,920,251	422,481	9,342,732
Depreciation	8,116,371	(6,439,506)	1,676,865	1,964,162	(1,558,361)	405,801
Provisions	153,559,706	239,162,884	392,722,590	37,161,449	57,877,418	95,038,867
Others	(15,366,219)	48,837,119	33,470,900	(3,658,554)	11,864,423	8,205,869
	₩ 583,702,922	₩ 318,850,548	₩ 902,553,470	₩ 141,316,178	₩ 77,207,673	₩ 218,523,851
Items charged directly to equity (3)						
Gain on valuation of long-term available-for-sale financial assets	₩ (8,719,830)	₩ (105,063)	₩ (8,824,893)	₩ (2,087,306)	₩ (25,425)	₩ (2,112,731)
Actuarial losses	75,822,891	6,055,356	81,878,247	18,220,335	1,465,396	19,685,731
	₩ 67,103,061	₩ 5,950,293	₩ 73,053,354	₩ 16,133,029	₩ 1,439,971	₩ 17,573,000
Tax loss carryforward (4)	-	₩ 9,245,686	₩ 9,245,686	₩ -	₩ 2,237,456	₩ 2,237,456
Donation carryforward (5)	-	2,300,454	2,300,454	-	556,710	556,710
Tax credit carryforward (6)	-	5,551,665	5,551,665	-	5,393,389	5,393,389
Total (1+2+3+4+5+6)	₩ 612,706,036	₩ 353,839,238	₩ 966,545,274	₩ 148,229,020	₩ 89,724,822	₩ 237,953,842

28. Income Tax (cont'd)

The Group recognizes a deferred tax assets for all deductible temporary differences and unused tax losses when it is probable the taxable profit will be available which the temporary difference can be utilized. Details of unrecognized deferred tax assets as of December 31, 2018 and 2017, are as follows.

(In thousands of Korean won)		2018		2017
Deductible temporary differences	₩	7,564,362	₩	445,870
Tax loss carryforward		4,217,642		-

The analysis of deferred tax assets and deferred tax liabilities is as follows:

(In thousands of Korean won)		2018		2017
Deferred tax assets				
More than 12 months	₩	217,468,744	₩	223,680,721
Within 12 months		67,147,832		20,603,685
	₩	284,616,576	₩	244,284,406
Deferred tax liabilities				
More than 12 months		(541,673)		(6,018,547)
Within 12 months		(4,276,879)		(312,017)
	₩	(4,818,552)	₩	(6,330,564)
Deferred tax assets, net	₩	279,798,024	₩	237,953,842

29. Cash Generated from Operations

Cash generated from operations for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	**2018**	**2017**
Adjustments for:		-
Interest expenses	₩ 25,770,950	₩ 24,121,251
Loss on foreign exchange translation	5,145,098	43,110,375
Loss on disposal of property, plant and equipment	112,703	7,671
Depreciation expense	59,125,301	54,704,290
Amortization expense	33,417,307	28,939,130
Impairment losses on intangible assets	43,019,914	3,711,228
Severance and retirement benefits	51,138,440	45,163,236
Loss on disposal of trade receivables	579,911	370,917
Loss on valuation of equity method investment	559,194	89,567
Gain on valuation of equity method investment	(270,032)	(319,038)
Interest income	(3,571,833)	(6,412,579)
Gain on foreign exchange translation	(5,529,870)	(7,954,897)
Gain on disposal of property, plant and equipment	(207,068)	(31,732)
Miscellaneous income	(3,393,896)	-
Provision for penalty for construction delay	-	155,196,772
Provision for construction loss	-	77,258,019
Provision for other construction contracts	-	54,442,734
Provision for construction warranty claims	50,317,394	9,652,907
Other employee benefits	2,415,157	1,711,129
Miscellaneous expense	237,887	531,200
Bad debt expense	831,240	(4,541,632)
Loss on valuation of financial assets at fair value through profit or loss	5,983,773	-
Gain on valuation of financial assets at fair value through profit or loss	(54,720)	-
Loss on inventories loss	889,663	-
Loss on valuation of inventories	129,219	1,452,904
Income tax expense	24,121,031	(85,096,487)
Total	₩ 290,766,763	₩ 396,106,965

29. Cash Generated from Operations (cont'd)

Changes in assets and liabilities:		
Decrease (increase) in trade receivables	₩ 22,277,811	₩ 99,610,644
Decrease (increase) in contract assets	(311,330,719)	-
Decrease (increase) in the gross amount due from customers for construction work	-	(142,733,074)
Decrease (increase) in other financial assets	(11,167,378)	22,521,651
Increase in other assets	(83,798,936)	(130,385,573)
Decrease (increase) in deposits	(73,185,435)	-
Increase (decrease) in inventories	92,394,073	40,697,291
Increase (decrease) in trade payables	155,403,656	(147,167,966)
Increase (decrease) in contract liabilities	41,811,432	-
Increase (decrease) in the gross amount due to customers for contract work	-	170,940,042
Increase (decrease) in other financial liabilities	₩ (19,151,310)	₩ 89,704,849
Increase (decrease) in other liabilities	(225,639,256)	36,874,979
Employee benefits paid	(37,951,769)	(18,355,091)
Net increase in retirement pension assets	(440,734)	1,023,555
Increase (decrease) in Provisions	282,227,295	-
Total	₩ (168,551,270)	₩ 22,731,307

Significant transactions not affecting cash flows for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	**2018**	**2017**
Gain on valuation of available-for-sale financial assets	₩ -	₩ 105,063
Income tax effect of gain on valuation of available-for-sale financial assets	-	25,425
Remeasurement of net defined benefit liabilities	(10,434,845)	6,055,356
Income tax effect of remeasurement of net defined benefit liabilities	2,526,291	1,465,396
Current portion of long-term borrowings	216,643,245	15,692,876
Transfer of government grants to intangible assets	45,993,954	51,557,829
Transfer of construction in progress to property, plant and equipment	62,988,846	22,265,232
Increase in other accounts payable related to acquisition of intangible assets	2,003,487	1,898,062
Increase in other accounts payable related to other capital adjustments.	23,089,705	-

The Group recorded net cash inflows and outflows from short-term financial instruments with frequent transactions and maturities in the short term.

29. Cash Generated from Operations (cont'd)

Changes in liabilities arising from financial activities for the year ended December 31, 2018, are as follows:

	2018				
	Liabilities arising from financial activities				
(In thousands of Korean won)	**Short-term borrowings**	**Current debentures payable**	**Long-term borrowings**	**Long-term debentures payable**	**Total**
December 31, 2017	₩470,374,129	₩ -	₩ 30,018,700	₩399,381,110	₩ 899,773,939
Cash flow	(310,372,270)	-	70,819,417	59,864,360	(179,688,493)
Business combination	300,000	-	-	-	300,000
Current portion	16,695,059	199,948,185	(16,942,253)	(199,948,185)	(247,194)
Amortized cost	857,493	-	-	339,201	1,196,694
December 31, 2018	₩177,854,411	₩199,948,185	₩ 83,895,864	₩259,636,486	₩ 721,334,946

30. Related Party Transactions

Related parties of the Group as of December 31, 2018 and 2017, are as follows:

	2018	
Description	**Related Party**	**Relation**
The entity which has significant influence[1]	The Export-Import Bank of Korea	The largest shareholder
Joint venture	KAI-EC	Investee
Associates	S&K Aerospace Co., Ltd.	Investee
	Korea Surface Treatment Co., Ltd.	Investee

	2017	
Description	**Related Party**	**Relation**
The entity which has significant influence[1]	The Export-Import Bank of Korea	The largest shareholder
Joint venture	KAI-EC	Investee
Associates	S&K Aerospace Co., Ltd.	Investee
	Korea Surface Treatment Co., Ltd.	Investee

[1] As of June 30, 2017, Korea Export-Import Bank has a significant influence over the Company as a result of the in-kind investment of 19.02% equity shares owned by the Korea Development Bank.

30. Related Party Transactions (cont'd)

Sales and purchases with related parties for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

		2018			
	Counterparty		Sales		Purchases
Associate	S&K Aerospace Co., Ltd.	₩	122,582	₩	15,490,546
	Korea Surface Treatment Co., Ltd.		907		136,374

(In thousands of Korean won)

		2017			
	Counterparty		Sales		Purchases
Associate	S&K Aerospace Co., Ltd.	₩	71,540	₩	16,485,696
	Korea Surface Treatment Co., Ltd.		-		2,120

[1] Amount of transactions up to the period when the scope of related parties is maintained.

Details of receivables and payables as of December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)

		2018					
			Other receivables		Trade payables		Other payables
Associates	S&K Aerospace Co., Ltd.	₩	703	₩	748,058	₩	-
	Korea Surface Treatment Co., Ltd		500,907		4,997		-

(In thousands of Korean won)

		2017					
			Other receivables		Trade payables		Other payables
Associates	S&K Aerospace Co., Ltd.	₩	-	₩	767,556	₩	-
	Korea Surface Treatment Co., Ltd		-		-		665

30. Related Party Transactions (cont'd)

Key management includes directors and members of the Executive Committee. The compensation paid or payable to key management for employee services consists of:

(In thousands of Korean won)	2018	2017
Salaries	₩ 774,257	₩ 842,625
Severance and retirement benefits	226,450	286,752
Total	₩ 1,000,707	₩ 1,129,377

Key management consists of registered executive officers and auditors who have the authority and responsibility in planning, operations and control of the Group's operations.

Fund transactions with related parties for years ended December 31, 2018 is as follows:

(In thousands of Korean won)		2018	
		Borrowings	Repayment
Associates	Korea Surface Treatment Co., Ltd	₩ 500,000	-

There are no collateral and payment guarantees provided to the related parties as of December 31, 2018 and 2017

There are no payment guarantees and collateral provided by the related parties as of December 31, 2018 and 2017.

31. Pending Litigation

(1) A portion of the KHP project costs incurred as a result of changing the design was not qualified for reimbursement by the Defense Acquisition Program Administration. The Group filed a lawsuit against the Korean Government for the amount of \13,400 million on March 14, 2013, and partially won the case for the amount of \8,100 million in the first trial on February 13, 2014. Both parties appealed on March 4, 2014, and the Group partially won the case for the amount of \11,500 million in the second trial on November 17, 2017. Both parties appealed on December 4, 2017, and the lawsuit is on its third trial. The ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

31. Pending Litigation (cont'd)

(2) A portion of the KHP project costs incurred as a result of inflation and fluctuation of the foreign exchange rates was not qualified for reimbursement by the Defense Acquisition Program Administration. The Group filed a lawsuit against the Korean Government for the amount of \ 12,600 million on April 30, 2013, and won the case in the first trial on January 10, 2014. Although the defendant appealed on January 14, 2014, and the plaintiff partially won the case in the second trial on April 1, 2015. Both parties appealed, and the court ruled that the case shall be transferred to the Seoul Administrative Court considering the relationship as a public contractual one on November 9, 2017. The Seoul Administrative Court ruled that the Group lost the case in the first trial on August 17, 2018, and the Group appealed against the judgment on September 11, 2018. The ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

(3) The Defense Acquisition Program Administration took administrative action to the Group which includes "Restrictions on Qualification for Participation of Improper Provider in Tendering" in accordance with the Clause 1 of the Article 27 of the National Contract Law and the Clause 1.8 of the Article 76 of the Enforcement Decree thereof because the Group submitted a test certificate that was given by a subcontractor to the Defense Agency for Technology and Quality without confirming whether the test certificate was fabricated. The Group filed a lawsuit against The Defense Acquisition Program Administration on August 4, 2015, for cancelling the restriction with requesting an injunction for suspension of the execution, and the Court granted the injunction on August 25, 2015. On September 22, 2016, the Group won the case in the first trial, but lost the case in the second trial on March 16, 2017. And the Group appealed on March 16, 2017, and filed an application for an injunction for suspension of execution on March 28, 2017, and the Court granted the injunction on March 31, 2017. The outcome of the lawsuit cannot be predicted at the end of the reporting period.

(4) The Defense Acquisition Program Administration has offset \ 37.3 billion of payables that should have been paid to the Group alleging an injustice calculation of the general and administrative expenses and profit in relation to the Surion Development Program, especially the investment compensation and technology transfer costs of overseas manufacturers. On February 16, 2016, the Group filed a lawsuit against the Defense Acquisition Program Administration, and won the case in the first trial on October 20, 2017. The Defense Acquisition Program Administration appealed against the judgment and the court dismissed the appeal on November 14, 2018. The Defense Acquisition Program Administration appealed against the judgment on December 5, 2018, and the lawsuit is on its third trial. The ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

(5) The Defense Acquisition Program Administration has offset \ 15.7 billion of payables to the Group in order to collect the government grant that has been paid to the Group because of the failure of the domestic production of Surion power transmission device. On April 21, 2016, the Group filed a lawsuit against the Defense Acquisition Program Administration and won the case in the first trial on July 6, 2018. The Defense Acquisition Program Administration appealed against the judgment and the lawsuit is on its second trial. The ultimate outcome cannot be predicted at the end of the reporting period.

31. Pending Litigation (cont'd)

(6) The Group is a defendant in a lawsuit amounting to \ 17.1 billion filed by the Korean Government on March 14, 2017, in relation to the helicopter damage caused by the emergency landing of Surion No. 4. The first trial of the case is in progress, and the ultimate outcome cannot be predicted at the end of the reporting period.

(7) The Defense Acquisition Program Administration has offset \ 9.2 billion of payables that should have been paid to the Group because the authentication on the defense cost management system was canceled. The Group filed a lawsuit regarding the payables against the Defense Acquisition Program Administration, and increased the payables to \ 20,600 million considering the increased offset due to the cancellation of the authentication on the defense cost management system. The Court ruled that the Group partially won the case for the amount of \ 20,500 million in the first trial on September 5, 2018, and both parties appealed on September 21, 2018. The lawsuit is on its second trial and the ultimate outcome cannot be predicted at the end of the reporting period.

(8) The Group is a defendant in a lawsuit amounting to \ 200 million filed by the Korean Government on May 15, 2017, in relation to the repair cost of engine for Surion No. 2 and 12. The first trial of the case is in progress, and the ultimate outcome cannot be determined at the end of the reporting period.

(9) Through the KHP project, the Group delivered a Surion helicopter to the Defense Acquisition Program Administration, and since the time of delivery of the first mass production, it carries out a subsequent military support service. The Group were not settled by the Defense Agency for about \ 9.4 billion for the subsequent military support service costs in 2013. The Group filed a lawsuit on September 11, 2017, and the first trial of the case in progress. The ultimate outcome cannot be predicted at the end of the reporting period.

(10) The Korean Government filed mediation for the amount of \ 37,700 million regarding the incomplete fulfillment of obligation incurred as a result of the T-50B accident happened on November, 2012. The Seoul Central District Court imposed compulsory mediation for the amount of \ 10,600 million, but the Group appealed against the decision on June 7, 2018. The lawsuit is on its first trial and the ultimate outcome cannot be predicted at the end of the reporting period.

(11) The Defense Acquisition Program Administration has offset \ 7.8 million of payables that should have been paid to the Group due to the misleading cost data for 31 business segments such as aircraft development business, etc. On August 2, 2018, the Group filed a lawsuit against the Defense Acquisition Program Administration, and the ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

(12) Daemyung Engineering Inc. filed a lawsuit in Suwon District Court regarding the payable against the Group for the amount of \ 0.9 billion on May 18, 2018. The lawsuit is on its first trial and the ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

31. Pending Litigation (cont'd)

(13) 1428 employees of the Group filed a lawsuit in Changwon District Court against the Group regarding unpaid payments for overtime works, night works, and holiday works from April 1, 2015 to June 30, 2018 for the amount of \4,300 million(partially claimed) on October 11, 2018. The lawsuit is on its first trial and the ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

(14) The Group terminated a contract due to violations of ethics rules and suspension of the delivery by Daemyung Engineering Inc. on July, 2016. The Group requested to return the Group' inventories that Daemyung Engineering Inc. rent, but they have not returned. Accordingly, the Group filed a lawsuit in Changwon District Court against Daemyung Engineering Inc. regarding the inventories that should have been returned to the Group on October 11, 2018. The lawsuit is on its first trial. The ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

(15) The Group terminated a contract due to violations of ethics rules and suspension of the delivery by Daemyung Engineering Inc. on July, 2018. On October 11, 2018, the Group filed a lawsuit in Changwon District Court against Daemyung Engineering Inc. regarding costs incurred as a result of the termination of contract for the amount of \1,700 million (partially claimed) and the lawsuit is on its first trial. The ultimate outcome of the legal action cannot be predicted at the end of the reporting period.

32. Financial Risk Management

The Group's activities are exposed to a variety of financial risks: market risk (including currency risk, interest rate risk and 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.

Risk management is carried out by a treasury department, which settles risk management policies, identifies, evaluates and hedges financial risks.

The Group's risk management activity covers financial assets such as cash and cash equivalents, short-term financial instruments, available-for-sale financial assets, trade receivables and other receivables. The Group's risk management activity also covers financial liabilities such as trade payables, other payable and borrowings.

(1) Market risk

(a) Foreign exchange risk

The Group is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar. To minimize foreign exchange risk arising from operating activities, the Group's foreign exchange management policy requires all normal business transactions to be in local currency, or cash- in currency be matched with cash-out currency. The Group's foreign risk management policy also defines foreign exchange risk, measurement period, controlling responsibilities, and management procedures.

32. Financial Risk Management (cont'd)

The Group limits all speculative foreign exchange transactions and operates a system to manage receivables and payables denominated in foreign currency. The Group's foreign currency management system evaluates, manages and reports foreign exchange risk every month.

A summary of assets and liabilities denominated in foreign currencies of the Group as of December 31, 2018 and 2017, are as follows:

(In thousands of foreign currencies)	**2018**					
	USD	**EUR**	**GBP**	**JPY**	**CHF**	**SGD**
Cash and cash equivalents	13,038	-	-	169,479	-	2
Trade receivables	178,980	-	-	-	-	-
Contract assets	67,520	-	-	-	-	-
Other short-term financial assets	10,948	-	1	-	-	-
Other long-term financial assets	4,203	-	-	-	-	-
Trade payables	45,134	9,150	551	-	53	-

(In thousands of foreign currencies)	**2017**				
	USD	**EUR**	**GBP**	**JPY**	**CHF**
Cash and cash equivalents	117,472	-	-	-	-
Trade receivables	424,073	-	-	-	-
Due from customers for contract work	43,734	-	-	-	-
Other short-term financial assets	1,380	-	-	-	-
Other long-term financial assets	3,720	-	-	-	-
Trade payables	44,875	2,495	429	-	-

32. Financial Risk Management (cont'd)

As of December 31, 2018 and 2017, if the foreign exchange rate of the Korean won fluctuated by 5% while other variables were fixed, the effects on profit before income tax would be as follows:

(In thousands of Korean won)	2018		2017	
	5% Increase	**5% Decrease**	**5% Increase**	**5% Decrease**
Financial assets	₩ 15,422,512	₩ (15,422,512)	₩ 31,626,587	₩ (31,626,587)
Financial liabilities	(3,150,604)	3,150,604	(2,594,398)	2,594,398
Net effect	₩ 12,271,908	₩ (12,271,908)	₩ 29,032,189	₩ (29,032,189)

(b) Interest rate risk

The Group is exposed to interest rate risk mainly arising through interest-bearing liabilities and assets. The Group's position with regard to interest rate risk exposure is mainly driven by its debt obligations such as borrowings and interest-bearing deposits. The Group's policy includes interest risk management to optimize the balance between minimizing uncertainty caused by fluctuations in interest rates and net interest expenses.

In order to manage its exposure to interest rate risk, the Group maintains minimum external borrowings by facilitating its internal cash pooling system, and a reasonable balance between borrowings with fixed and variable interest rates. Also the Group manages its exposure to interest rate risk by improving the structure of short-term and long-term borrowings, and by reducing high interest loans. The Group monitors domestic and global trends of weekly and monthly interest rates.

(c) Price risk

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

(2) Credit risk

The Group is exposed to credit risk when clients or counterparties default on its contractual obligation resulting in a financial loss for the Company. Credit risk can arise from the client's and counterparty's financial conditions as well as financial instrument transactions such as cash and cash equivalents, and deposits with banks and financial institutions. Credit risk from transactions with financial institutions is limited as the Company transacts only with financial institutions which have strong international credit rating.

The Group monitors and sets the client′s and counterparty′s credit limit on a periodic basis based on the client′s and counterparty′s financial conditions, default history and other important factors. The credit risk from the clients and counterparties is managed and monitored by the Company's business divisions which comply with the Company's policies and procedures related to credit risk management.

32. Financial Risk Management (cont'd)

A provision matrix with collective assessment affiliates of trade receivables and other receivables as of December 31, 2018, is as follows:

(In thousands of Korean won)

Overdue dates	Expected Loss rate		Book amount		Expected Loss
Less than 3 months	0.16%	₩	275,434,653	₩	430,842
Less than 6 months	1.74%		25,647,559		447,241
Less than 9 months	21.00%		3,555,017		746,710
Less than 12 months	37.08%		2,571,253		953,521
Less than 15 months	49.51%		1,921,417		951,230
Less than 18 months	19.52%		221,678		43,273
Over 18 months	100.00%		201,505		201,505
Total		₩	309,553,082	₩	3,774,322

The allowance recognized as individual assessment for other receivables is \ 2,912 million.

(3) Liquidity risk

The Group manages its liquidity risk to maintain adequate net working capital. The Group forecasts its cash flow and liquidity status, and sets plans on a regular base to manage liquidity risk proactively. Beyond effective working capital and cash management, the Group mitigates liquidity risk by contracting with financial institutions with respect to bank overdrafts or banking facility agreement.

32. Financial Risk Management (cont'd)

The following table shows details of non-derivative financial liabilities classified in accordance with remaining maturities as of December 31, 2018 and 2017, the presented cash flows are the amount of principal and interests that are not discounted into present value.

(In thousands of Korean won)	December 31, 2018					
	Within 1 year		1-5 Years		Total	
Trade payables	₩	289,489,656	₩	-	₩	289,489,656
Other financial liabilities		131,280,971		60,502,388		191,783,359
Borrowings		181,631,305		86,741,725		268,373,030
Debentures payable		207,337,010		268,597,258		475,934,268
Total	₩	809,738,942	₩	415,841,371	₩	1,225,580,313

(In thousands of Korean won)	December 31, 2017					
	Within 1 year		1-5 Years		Total	
Trade payables	₩	133,631,740	₩	-	₩	133,631,740
Other financial liabilities		248,752,476		30,167,358		278,919,834
Borrowings		478,451,129		43,386,200		521,837,329
Debentures payable		8,379,579		411,886,141		420,265,720
Total	₩	869,214,924	₩	485,439,699	₩	1,354,654,623

(4) Capital risk management

The object of capital management is to maintain optimal capital structure to safeguard the Group's ability to provide continuing returns for shareholders as a going concern and to reduce the cost of capital.

The debt-to-equity ratios at December 31, 2018 and 2017, are as follows

(In thousands of Korean won)	2018		2017	
Total debts (A)	₩	2,702,957,418	₩	2,025,817,852
Total equity (B)		1,052,906,093		1,140,405,157
Debt-to-equity ratio (A/B)		256.71%		177.64%

33. Segment Information

(a) The Group's reporting segments are classified as follows:

Operating segments are determined by management who makes strategic decisions. The management assesses the performance of the operating segments and resources distributed to each segment based on gross profit. The Group's business segments consists of government defense business/aircraft export business, airframe part business, and others.

(b) The Group's management accesses each segment's performance based on its sales and gross profits. The following table shows segment information for the years ended December 31, 2018 and 2017:

(In thousands of Korean won)	2018				
	Government defense business and aircraft export business	**Airframe part business**	**Other**	**Intercompany transactions**	**Total**
Sales	₩ 1,705,422,406	₩1,080,685,734	₩ 5,084,506	₩ (5,169,135)	₩2,786,023,511
Gross profit	186,614,110	184,389,725	3,492,385	(11,814)	374,484,406

(In thousands of Korean won)	2017				
	Government defense business and aircraft export business	**Airframe part business**	**Other**	**Intercompany transactions**	**Total**
Sales	₩ 972,159,976	₩1,100,089,166	₩ 2,341,863	₩ (2,341,863)	₩2,072,249,142
Gross profit	(247,340,413)	220,060,198	2,341,863	-	(24,938,352)

(c) Information about geographic areas

Sales by geographic areas for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)	**2018**	**2017**
Domestic	₩ 1,144,661,580	₩ 816,123,942
Asia	1,048,162,703	393,674,314
Europe	292,251,647	501,605,534
North America	297,814,625	359,058,559
South America	3,132,956	1,786,793
Total	₩ 2,786,023,511	₩ 2,072,249,142

33. Segment Information (cont'd)

The sales to major customers whose amounts exceed 10% for the years ended December 31, 2018 and 2017, are as follows:

(In thousands of Korean won)		**2018**		**2017**
Defense Acquisition program administration and other government authorities[1]	₩	1,004,096,505	₩	800,944,869
Ministry of Defense(Overseas)		564,987,500		26,541,296
Total	₩	1,569,084,005	₩	827,486,165

[1] As of December 31, 2017, the Group recorded due from customers for contract balances (before loss on the construction contract and provision for construction warranty claims) of \452,679 million.