

Hanon Systems and Subsidiaries

Consolidated Financial Statements

December 31, 2018 and 2017

(With Independent Auditor's Report Thereon)

Table of Contents

	Page
Independent Auditor's Report	1 - 5
Consolidated Financial Statements	
Consolidated Statements of Financial Position	6 - 7
Consolidated Statements of Profit or Loss	8
Consolidated Statements of Comprehensive Income	9
Consolidated Statements of Changes in Equity	10 -11
Consolidated Statements of Cash Flows.....	12- 13
Notes to the Consolidated Financial Statements.....	14 - 90



Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
Hanon Systems

Opinion

We have audited the accompanying consolidated financial statements of Hanon Systems and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2018 and 2017, and the consolidated statements of profit or loss, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

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

Key Audit Matters

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.

(1) Capitalization of internal development costs

As set out in Notes 2.11 and 14, the Group recognizes the internal development costs incurred from the vehicle development phase to the pre-production stage as assets. As at December 31, 2018, the Group recognized internal development costs capitalized amounting to ₩ 314,625 million (equal to 5.9 % of the total consolidated assets).

We focused on this area due to the fact that there are the management's judgement involved in assessing the size of the capitalized internal development costs and whether capitalized development expenditures have satisfied with the requirement of capitalization in the accounting standards.

In particular, we identified the capitalization of internal development costs as our key audit matter, in consideration of the fact that the management's assumption and judgements are required in the accounting treatment of development costs, including 1) commencement and termination of capitalization, 2) the aggregation of expenses incurred and 3) the determination of whether the capitalized internal development costs are impaired, while the development costs are expected to increase due to the Group's expansion in development of eco-friendly, high-efficiency and high-value products.

In order to address the key audit matter identified, we performed the following audit procedures:

- We obtained a detailed statement of internal development costs capitalization project, and reconciled with the amounts recorded in general ledger.
- We inspected documents forming the basis for determination of capitalization, including the notice of bidding results for specific projects, through audit sampling.
- We tested the accuracy of labor time aggregation by project and by personnel, which is used in calculation of capitalized internal development costs, through audit sampling.
- We tested the accuracy of aggregation and allocation, and occurrence of capitalized expenditure, through audit sampling.
- We tested the recalculation of the capitalized internal development costs for the specific month (audit sample).
- We tested the recalculation of depreciated development cost.
- We tested key assumptions and actual data for (the expected) sales quantity and (the expected) sales gains and losses by project, which are applied to the impairment test of development cost, through audit sampling.

(2) Impairment test of goodwill

As set out in Note 14, the carrying amount of the Group's goodwill amounts to ₩ 212,909 million (4.0 % of the total consolidated assets) as at December 31, 2018.

For impairment test of goodwill, the Group estimated the recoverable amount of cash-generating units by applying a value-in-use model, which reflects the financial forecasts for the next five years and the residual value. Key assumptions used in this model include revenue growth, operating profit margin, long-term growth and discount rate.

We focused on impairment test of goodwill, in consideration of the fact that test result may differ depending on the management's assumptions and judgements in sales growth rate and discount rate, and the fact that the testing process is complicated. In particular, we identified impairment test of goodwill allocated to three cash-generating unit (Hanon System headquarters, HASI (India), and Hanon Alabama (U.S.)) as our key audit matter, in consideration of recent performance and the significance in amounts.

In order to address the key audit matter identified, we performed the following audit procedures:

- We obtained understanding and evaluated the Group's procedures and internal controls in relation to the impairment test of goodwill.
- We tested the mathematical accuracy of the valuation model applied to the estimation of value-in-use of the cash-generating unit.
- We tested the consistency of future cash flow estimated with the business plan reported to and approved by the management.
- We compared the current year actual data with the prior period estimates to validate whether the estimates included optimistic assumptions.
- We tested the reasonableness of key assumptions used in the estimation of value-in-use.
 - Consistency of the sales growth rate, operating profit margin and investment forecasts of cash-generating unit with the past performance and market conditions.
 - Comparison of economic and industrial forecasts with long-term growth rates.
 - Comparison of the discount rate computed independently using the observable information with the discount rate applied by the Group.
- We tested the impairment of goodwill based on the computations by independently computing the value-in-use of cash-generating unit and making adjustments for the irrational assumptions identified in our evaluation process on reasonableness of key assumptions.
- We validated the results of a sensitivity analysis on discount rate and permanent growth rate presented by the Group in order to assess the impact of changes in key assumptions on the impairment test.

Other Matter

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

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 IFRS, 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.

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

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing 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 Standards on Auditing, 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 entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

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

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other

matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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

The engagement partner on the audit resulting in this independent auditor's report is Changhyun Lee, Certified Public Accountant.

March 21, 2019
Seoul, Korea

<p>This report is effective as of March 21, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.</p>

Hanon Systems and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2018 and 2017

<i>(in Korean won)</i>	Notes	2018	2017
Assets			
Current assets			
Cash and cash equivalents	6	1,017,786,118,643	567,258,577,099
Other financial assets	6,22	12,500,000,000	7,500,000,000
Derivative financial assets	5,6,23	23,938,411,267	47,134,417,436
Trade receivables	4,6,8,34	968,851,510,632	883,122,373,128
Other current receivables	6,9,34	43,809,155,351	80,481,377,193
Other current assets	10	281,357,741,878	180,208,002,790
Inventories	11	505,805,263,228	468,642,506,848
Non-current assets held-for-sale	35	5,152,901,971	6,916,877,600
Total current assets		<u>2,859,201,102,970</u>	<u>2,241,264,132,094</u>
Non-current assets			
Long-term financial assets	6	42,504,985	42,507,835
Available-for-sale financial assets	6	-	1,000,000
Financial asset at fair value through profit or loss	5,6	2,239,670,400	-
Held-to-maturity investments	6	-	3,285,000
Derivative financial assets	5,6,23	2,867,489,339	21,861,567,000
Other non-current receivables	6,9,34	8,646,685,854	8,649,684,032
Investments in associates and joint ventures	12	98,879,034,205	96,627,728,289
Property, plant and equipment	13	1,551,451,094,347	1,262,003,089,633
Intangible assets	14	564,010,352,398	437,652,618,816
Lease assets	15	180,637,413,747	-
Deferred tax assets	29	63,468,093,969	45,495,184,633
Other non-current assets	7,10	24,337,389,760	5,980,113,008
Total non-current assets		<u>2,496,579,729,004</u>	<u>1,878,316,778,246</u>
Total assets		<u>5,355,780,831,974</u>	<u>4,119,580,910,340</u>

Hanon Systems and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2018 and 2017

<i>(in Korean won)</i>	Notes	2018	2017
Liabilities			
Current liabilities			
Trade payables	4,6,34	799,290,233,093	732,889,386,093
Other current payables	4,5,6,16,34	402,842,596,760	297,101,200,268
Short-term borrowings	4,5,6,21	325,823,490,572	135,867,991,073
Current portion of debentures	4,5,6,21	159,986,936,741	-
Current tax liabilities		69,676,048,378	73,262,308,536
Derivative financial liabilities	4,5,6,23	6,477,865,595	2,151,040,013
Other current liabilities	17	97,094,348,181	48,617,788,198
Other provisions	18	5,655,316,037	9,431,498,199
Non-current liabilities held-for-sale	35	265,224,171	169,094,393
Total current liabilities		<u>1,867,112,059,528</u>	<u>1,299,490,306,773</u>
Non-current liabilities			
Other non-current payables	4,6,16	13,206,698,293	15,503,775,237
Long-term borrowings	4,5,6,21	149,259,848,284	22,108,108,787
Debentures	4,5,6,21	1,036,955,880,233	598,900,394,012
Derivative financial liabilities	4,5,6,23	441,000,000	1,245,574,000
Net defined benefit liabilities	19	60,635,736,311	62,815,484,953
Other non-current provisions	18	31,783,020,635	32,046,691,842
Deferred tax liabilities	29	43,957,540,813	32,216,586,429
Other non-current liabilities	17,19	20,772,867,190	23,808,847,964
Total non-current liabilities		<u>1,357,012,591,759</u>	<u>788,645,463,224</u>
Total liabilities		<u>3,224,124,651,287</u>	<u>2,088,135,769,997</u>
Equity			
Equity attributable to owners of the Parent Company			
Common stock	1,31	53,380,000,000	53,380,000,000
Additional paid-in capital	31	48,060,000,000	48,060,000,000
Other components of equity	31	(69,513,903,211)	(70,457,253,167)
Accumulated other comprehensive loss	32	(174,800,577,537)	(126,129,801,388)
Retained earnings	33	<u>2,179,604,829,752</u>	<u>2,073,817,232,435</u>
		<u>2,036,730,349,004</u>	<u>1,978,670,177,880</u>
Non-controlling interest		<u>94,925,831,683</u>	<u>52,774,962,463</u>
Total equity		<u>2,131,656,180,687</u>	<u>2,031,445,140,343</u>
Total liabilities and equity		<u>5,355,780,831,974</u>	<u>4,119,580,910,340</u>

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hanon Systems and Subsidiaries
Consolidated Statements of Profit or Loss
Years Ended December 31, 2018 and 2017

<i>(In Korean won)</i>	Notes	2018	2017
Sales	7,34	5,937,585,095,470	5,585,673,304,390
Cost of sales	28,34	<u>5,024,860,691,415</u>	<u>4,639,441,988,628</u>
Gross profit		<u>912,724,404,055</u>	<u>946,231,315,762</u>
Selling, general and administrative expenses	25,28	<u>478,948,396,835</u>	<u>477,794,628,361</u>
Operating profit		<u>433,776,007,220</u>	<u>468,436,687,401</u>
Finance income	6,26	21,775,438,386	13,005,876,744
Finance costs	6,26	<u>40,193,995,027</u>	<u>26,677,255,499</u>
Other non-operating income	6,27	170,926,171,018	142,182,523,467
Other non-operating expenses	6,27	<u>212,923,573,686</u>	<u>183,950,011,224</u>
Share of profit of associates and joint ventures	12	<u>6,261,436,995</u>	<u>8,507,552,375</u>
Profit before income taxes		<u>379,621,484,906</u>	<u>421,505,373,264</u>
Income tax expense	29	<u>95,924,065,247</u>	<u>123,102,185,030</u>
Profit for the year		<u>283,697,419,659</u>	<u>298,403,188,234</u>
Profit for the year attributable to equity holders of the parent company		277,639,204,729	288,563,135,146
Profit for the year attributable to non-controlling interest		6,058,214,930	9,840,053,088
Earnings per share attributable to the equity holders of the parent company for the year			
Basic and diluted earnings per share of ordinary share	24	520	541

The above consolidated statements of profit or loss should be read in conjunction with the accompanying notes.

Hanon Systems and Subsidiaries
Consolidated Statements of Comprehensive Income
Years Ended December 31, 2018 and 2017

<i>(In Korean won)</i>	Notes	2018	2017
Profit for the year		283,697,419,659	298,403,188,234
Other comprehensive income for the year, after tax		(51,496,195,165)	18,912,314,314
Items that may be subsequently reclassified to profit or loss:			
Gain (loss) on cash flow hedge derivative instruments	23,32	(35,672,969,627)	63,224,013,083
Foreign currency translation adjustments	32	(17,175,881,215)	(47,902,145,005)
Share of other comprehensive income of associates and joint ventures	12,32	2,388,263,089	(5,213,870,336)
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of the net defined benefit liabilities	19	(1,035,607,412)	8,804,316,572
Total comprehensive income for the year		<u>232,201,224,494</u>	<u>317,315,502,548</u>
Attributable to :			
Equity holders of the Company		227,779,232,881	310,550,125,198
Non-controlling interests		4,421,991,613	6,765,377,350

The above consolidated statements of comprehensive income should be read in conjunction with the accompanying notes.

Hanon Systems and Subsidiaries
Consolidated Statements of Changes in Equity
Years Ended December 31, 2018 and 2017

		Attributable to equity holders of the parent company							
				Other components of equity	Accumulated other comprehensive income	Retained earnings	Non-controlling interests	Total Equity	
(in Korean won)		Notes	Share capital	Share premium					
Balances at January 1, 2017			53,380,000,000	48,060,000,000	(71,131,343,144)	(139,312,474,868)	1,936,589,780,717	57,320,124,455	1,884,906,087,160
Profit for the year			-	-	-	-	288,563,135,146	9,840,053,088	298,403,188,234
Remeasurement of net defined benefit liabilities		19	-	-	-	-	8,804,316,572	-	8,804,316,572
Gain on cash flow hedge derivative instruments		23,32	-	-	-	63,224,013,083	-	-	63,224,013,083
Translation of foreign currency financial statements		32	-	-	-	(44,827,469,267)	-	(3,074,675,738)	(47,902,145,005)
Share of other comprehensive income of associates and joint ventures		12	-	-	-	(5,213,870,336)	-	-	(5,213,870,336)
Comprehensive income			-	-	-	13,182,673,480	297,367,451,718	6,765,377,350	317,315,502,548
Share-based Payments		20	-	-	674,089,977	-	-	-	674,089,977
Cash dividends		33	-	-	-	-	(160,140,000,000)	(11,310,539,342)	(171,450,539,342)
Transactions with equity holders of the Company			-	-	674,089,977	-	(160,140,000,000)	(11,310,539,342)	(170,776,449,365)
Balances at December 31, 2017			53,380,000,000	48,060,000,000	(70,457,253,167)	(126,129,801,388)	2,073,817,232,435	52,774,962,463	2,031,445,140,343

Hanon Systems and Subsidiaries

Consolidated Statements of Changes in Equity

Years Ended December 31, 2018 and 2017

		Attributable to equity holders of the parent company							
				Other components of equity	Accumulated other comprehensive income	Retained earnings	Non-controlling interests	Total Equity	
(in Korean won)		Notes	Share capital	Share premium					
Balances at January 1, 2018			53,380,000,000	48,060,000,000	(70,457,253,167)	(126,129,801,388)	2,073,817,232,435	52,774,962,463	2,031,445,140,343
Profit for the year			-	-	-	-	277,639,204,729	6,058,214,930	283,697,419,659
Remeasurement of net defined benefit liabilities		19	-	-	-	-	(1,035,607,412)	-	(1,035,607,412)
Gain on cash flow hedge derivative instruments		23,32	-	-	-	(35,672,969,627)	-	-	(35,672,969,627)
Translation of foreign currency financial statements		32	-	-	-	(15,539,657,898)	-	(1,636,223,317)	(17,175,881,215)
Share of other comprehensive income of associates and joint ventures		12	-	-	-	2,388,263,089	-	-	2,388,263,089
Comprehensive income			-	-	-	(48,824,364,436)	276,603,597,317	4,421,991,613	232,201,224,494
Share-based payment		20	-	-	943,349,956	-	-	-	943,349,956
Disposal of investment in associates and joint ventures		32	-	-	-	153,588,287	-	-	153,588,287
Paid-in capital of non-controlling interest			-	-	-	-	-	39,377,763,450	39,377,763,450
Cash dividends		33	-	-	-	-	(170,816,000,000)	(1,648,885,843)	(172,464,885,843)
Transactions with equity holders of the Company			-	-	943,349,956	153,588,287	(170,816,000,000)	37,728,877,607	(131,990,184,150)
Balances at December 31, 2018			53,380,000,000	48,060,000,000	(69,513,903,211)	(174,800,577,537)	2,179,604,829,752	94,925,831,683	2,131,656,180,687

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

Hanon Systems and Subsidiaries

Consolidated Statements of Cash Flows

Years Ended December 31, 2018 and 2017

(in Korean won)

	Notes	2018	2017
Cash flows from operating activities			
Cash generated from operations		565,089,270,877	682,810,374,724
Profit for the year		283,697,419,659	298,403,188,234
Adjustments to reconcile profit for the year to net cash provided by operating activities	30	468,857,512,015	415,792,524,354
Changes in operating assets and liabilities	30	(187,465,660,797)	(31,385,337,864)
Interest received		4,019,710,480	6,711,428,812
Interest paid		(13,232,100,000)	(16,227,548,557)
Dividend received		3,903,507,820	4,393,717,080
Income tax paid		(88,515,367,229)	(111,037,292,679)
Net cash inflow from operating activities		471,265,021,948	566,650,679,380
Cash flows from investing activities			
Cash inflows from investing activities		17,959,248,973	94,540,527,524
Collection of short-term loans		2,733,149,695	11,563,657,353
Collection of long-term loans		-	60,000,000
Disposal of long-term financial instruments		-	3,000,000
Disposal of held-to-maturity investments		3,285,000	13,835,000
Cash inflow from derivative instrument transactions		-	1,467,000,000
Disposal of property, plant and equipment		9,681,949,014	29,385,498,911
Disposal of intangible assets		1,338,932,336	237,236,260
Disposal of investment in associates and joint ventures		2,620,135,436	-
Disposal of net assets held-for-sale		1,581,797,492	51,810,300,000
Cash outflows from investing activities		(594,682,721,329)	(441,049,978,760)
Increase in short-term loans receivable		(2,784,918,572)	(7,460,126,454)
Increase in long-term loans receivable		-	(300,000,000)
Acquisition of short-term financial instruments		(5,000,000,000)	-
Acquisition of long-term financial instruments		-	(17,250,794)
Acquisition of financial assets at fair value		(2,239,670,400)	-
Cash outflow from derivative instrument transactions		(944,500,000)	-
Acquisition of investment in associates and joint ventures		-	(2,765,716,800)
Acquisition of property, plant and equipment	13	(419,742,242,565)	(322,132,161,141)
Acquisition of intangible assets	14	(145,352,192,486)	(105,115,547,303)
Cash outflow from business combination		(18,619,197,306)	-
Disposal of net assets due to changes in scope for consolidation		-	(3,259,176,268)
Net cash outflow from investing activities		(576,723,472,356)	(346,509,451,236)
Cash flows from financing activities			
Cash inflows from financing activities		1,255,582,289,518	567,191,411,755
Proceeds from short-term borrowings	21	618,452,475,480	267,897,832,743
Proceeds from long-term borrowings	21	184,646,625	77,097,481
Proceeds from issuance of debentures	21	597,567,403,963	299,216,481,531
Capital inflow from non-controlling interests		39,377,763,450	-
Cash outflows from financing activities		(691,864,621,852)	(623,414,096,839)
Repayment of short-term borrowings	21	(457,033,217,010)	(439,125,818,547)
Repayment of long-term borrowings	21	(4,295,466,240)	(12,837,738,950)
Repayment of lease liabilities	21	(58,071,052,759)	-
Dividends paid	33	(170,816,000,000)	(160,140,000,000)
Dividends paid to non-controlling interests		(1,648,885,843)	(11,310,539,342)

Hanon Systems and Subsidiaries

Consolidated Statements of Cash Flows

Years Ended December 31, 2018 and 2017

(in Korean won)

	Notes	2018	2017
Net cash inflow (outflow) from financing activities		563,717,667,666	(56,222,685,084)
Net increase (decrease) in cash and cash equivalents		458,259,217,258	163,918,543,060
Beginning of the year		567,258,577,099	425,160,400,983
Effect of exchange rate on cash and cash equivalents		(4,579,240,483)	(19,167,033,037)
Cash and cash equivalents classified as assets held-for-sale	35	(3,152,435,231)	(2,653,333,907)
End of the year		1,017,786,118,643	567,258,577,099

The above consolidated statements of cash flows should be read in conjunction with the accompanying notes.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

1. General Information

Hanon Systems (the “Company”) has been established on March 11, 1986, under the Commercial Code of the Republic of Korea to manufacture, assemble and sell automotive parts such as radiators, air conditioners and heaters, and organized pursuant to a joint venture agreement on December 12, 1985 between Ford Motor Company (“Ford”) and Mando Machinery Corporation. On July 31, 1996, the Company offered its ordinary shares for public offering on the Korea Stock Exchange.

The capital initially issued by the Company was ₩900,000 thousand upon establishment, and amounts to ₩53,380,000 thousand as at December 31, 2018. The Company’s major shareholders and their respective equity ownership as at December 31, 2018 and 2017, are as below.

Shareholders	December 31, 2018		December 31, 2017	
	Number of shares	Equity ownership (%)	Number of shares	Equity ownership (%)
Hahn & Co Auto Holdings Co., Ltd.	269,569,000	50.50	269,569,000	50.50
Hankook Tire Co., Ltd,	104,031,000	19.49	104,031,000	19.49
Others	160,200,000	30.01	160,200,000	30.01
	<u>533,800,000</u>	<u>100.00</u>	<u>533,800,000</u>	<u>100.00</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

1.1 Consolidated Subsidiaries

Subsidiaries included in the consolidated financial statements as at December 31, 2018 and 2017, are as follows:

Subsidiaries ¹	Location	Percentage of ownership (%)		Year end	Main business
		2018	2017		
Hanon Beijing	China	80.00	80.00	December	Production and sales of vehicle components
Hanon Dalian	China	100.00	100.00	December	Production and sales of vehicle components
Hanon Jinan ²	China	99.70	99.70	December	Production and sales of vehicle components
Hanon Shanghai	China	100.00	100.00	December	Development, technical consultation and export of vehicle components
Hanon Chongqing	China	100.00	100.00	December	Production and sales of vehicle components
Hanon Nanchang	China	80.90	80.90	December	Production and sales of vehicle components
Hanon Nanjing	China	51.00	51.00	December	Production and sales of vehicle components
Hanon Yancheng	China	100.00	100.00	December	Production and sales of vehicle components
Hanon New Chongqing	China	66.60	66.60	December	Production and sales of vehicle components
CSG JV ³	China	50.00	-	December	Production and sales of vehicle components
FHAC JV	China	55.00	-	December	Production and sales of vehicle components
HASI	India	100.00	100.00	March	Production and sales of vehicle components
Hanon Bhiwadi	India	61.00	61.00	March	Production and sales of vehicle components
Hanon Japan	Japan	100.00	100.00	December	Development, technical consultation and export of vehicle components
Hanon Thailand	Thailand	100.00	100.00	December	Production and sales of vehicle components
Hanon South Africa	Republic of South Africa	100.00	100.00	December	Production and sales of vehicle components
Hanon Slovakia	Slovakia	100.00	100.00	December	Production and sales of vehicle components
Hanon Turkey	Turkey	100.00	100.00	December	Production and sales of vehicle components
Hanon Portugal	Portugal	100.00	100.00	December	Production and sales of vehicle components
Hanon Autopal Service	Czech	100.00	100.00	December	Research of vehicle components
Hanon Autopal	Czech	100.00	100.00	December	Production and sales of vehicle components
Hanon Charleville	France	100.00	100.00	December	Production and sales of vehicle components
Hanon Hungary	Hungary	100.00	100.00	December	Production and sales of vehicle components
Hanon UK	United Kingdom	100.00	100.00	December	Development, technical consultation and export of vehicle components
Hanon Deutschland	Germany	100.00	100.00	December	Research of vehicle components
Hanon Southern Germany	Germany	100.00	100.00	December	Development, technical consultation and export of vehicle components
Hanon EFP Deutschland GmbH	Germany	100.00	-	December	Production and sales of vehicle components
Hanon Netherlands	Netherlands	100.00	100.00	December	Sales of vehicle components
Hanon Russia	Russia	100.00	100.00	December	Production and sales of vehicle components
Hanon Auto Parts Hungary	Hungary	100.00	-	December	Production and sales of vehicle components
Hanon Alabama	U.S.A	100.00	100.00	December	Production and sales of vehicle components
Hanon USA	U.S.A	100.00	100.00	December	Research of vehicle components
Hanon Canada	Canada	100.00	100.00	December	Production and sales of vehicle components
Hanon Coclisa	Mexico	100.00	100.00	December	Production and sales of vehicle components
Hanon Mexicana	Mexico	100.00	100.00	December	Production and sales of vehicle components
Hanon Brazil	Brazil	100.00	100.00	December	Production and sales of vehicle components
Hanon Brasil Holdings ⁴	Brazil	-	100.00	December	Production and sales of vehicle components
Hanon EFP Corporation	Republic of South Korea	100.00	-	December	Production and sales of vehicle components

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Hanon EFP Mexico ⁵	Mexico	100.00	-	December	Production and sales of vehicle components
Hanon EFP Mexico Service ⁵	Mexico	100.00	-	December	Production and sales of vehicle components

¹ The official names of the subsidiaries are as follows:

Subsidiaries	Official names
Hanon Beijing	Hanon Systems (Beijing) Co., Ltd.
Hanon Dalian	Hanon Systems (Dalian) Co., Ltd.
Hanon Jinan	Halla Visteon Climate Control (Jinan) Co., Ltd.
Hanon Shanghai	Hanon Systems (Shanghai) Co., Ltd.
Hanon Chongqing	Hanon Systems (Chongqing) Co., Ltd.
Hanon Nanchang	Hanon Systems (Nanchang) Co., Ltd.
Hanon Nanjing	Hanon Jie Xi Si Systems (Nanjing) Co., Ltd.
Hanon Yancheng	Hanon Systems (Yancheng) Co., Ltd.
Hanon New Chongqing	Chongqing Hanon Systems Co., Ltd
CSG JV	Chongqing Hanon Jianshe Automotive Thermal Systems Co. Ltd
FHAC JV	Fawer Hanon Automotive Components Co. Ltd
HASI	Hanon Automotive Systems India Private Ltd.
Hanon Bhiwadi	Hanon Climate Systems India Private Limited
Hanon Japan	Hanon Systems Japan Ltd.
Hanon Thailand	Hanon Systems (Thailand) Co. Ltd.
Hanon South Africa	Hanon Systems South Africa (PTY) Ltd.
Hanon Slovakia	Hanon Systems Slovakia s.r.o.
Hanon Turkey	Hanon Automotive Climate Sys. Manufacturing Industrial and Commercial Co.
Hanon Portugal	Hanon Systems Portugal, S.A.
Hanon Autopal Service	Hanon Systems Autopal Services s.r.o.
Hanon Autopal	Hanon Systems Autopal s.r.o.
Hanon Charleville	Hanon Systems Charleville SAS
Hanon Hungary	Hanon Systems Hungary Kft.
Hanon UK	Hanon Systems UK Limited
Hanon Deutschland	Hanon Systems Deutschland GmbH
Hanon Southern Germany	Hanon Systems Southern Germany GmbH
Hanon EFP Deutschland GmbH	Hanon Systems EFP Deutschland GmbH
Hanon Netherlands	Hanon Systems Netherlands Cooperatief U.A.
Hanon Russia	Hanon Systems Rus LLC
Hanon Auto Parts Hungary	Gibbs-Hungary Die Casting Ipari Termelo Kft.
Hanon Alabama	Hanon Systems Alabama Corp.
Hanon USA	Hanon Systems USA, LLC
Hanon Canada	Hanon Systems Canada Inc.
Hanon Coclisa	Coclisa, S.A. de C.V.
Hanon Mexicana	Climate Systems Mexicana, S.A. de C.V.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Hanon Brazil	Hanon Systems Climatizacoes do Brasil Industria e Comercio Ltda.
Hanon Brasil Holdings	Hanon Brasil Holdings Ltda
Hanon EFP Corporation	Hanon Systems EFP Corporation
Hanon EFP Mexico	EFP Operations Mexicana, S.A. de C.V.
Hanon EFP Mexico Service	Climate Systems Services Mexicana EFP, S.A. de C.V.

² During the year ended December 31, 2018, the Group is in the process of disposing of its stake in Hanon Jinan. The assets and liabilities related to Hanon Jinan were disclosed as held-for-sale.

³ Although the Group owns less than 50% of CSG JV's interest, it is considered to have control over CSG JV, due to the fact that the Group has a right to appoint or dismiss the majority of its Board of Directors by virtue of an agreement with other shareholders.

⁴ During the year ended December 31, 2018, Hanon Brasil Holdings were merged into Hanon Brazil, a subsidiary of the Group.

⁵ During the year of 2018, the entity was newly established. However, there are no paid-in capital as at December 31, 2018.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

1.2 Summary of financial information of subsidiaries

The summarized financial information of subsidiaries as at and for the years ended December 31, 2018 and 2017, is as follows:

(in thousands of
Korean won)

Subsidiary	2018					
	Assets	Liabilities	Equity	Sales	Profit (loss) for the year	Total comprehensive income (loss)
Hanon Beijing	248,149,823	124,806,107	123,343,716	328,002,696	20,250,606	19,226,971
Hanon Dalian	204,530,147	90,883,481	113,646,666	175,991,819	7,102,114	6,363,302
Hanon Jinan	5,152,902	265,224	4,887,678	5,344	(278,147)	(158,615)
Hanon Shanghai	18,821,425	14,413,848	4,407,577	15,034,241	1,288,734	1,243,524
Hanon Chongqing	58,728,087	18,479,419	40,248,668	59,946,809	2,980,199	2,710,860
Hanon Nanchang	66,409,028	30,146,299	36,262,729	71,609,611	3,752,540	3,492,233
Hanon Nanjing	32,769,860	12,157,620	20,612,240	32,217,266	1,464,997	1,328,079
Hanon Yancheng	71,001,401	59,392,518	11,608,883	100,440,959	2,106,503	2,008,211
Hanon New Chongqing	40,905,135	30,729,814	10,175,321	31,067,931	(2,778,788)	(2,788,505)
CSG JV	117,959,169	51,176,330	66,782,839	8,516,165	(1,611,746)	(3,851,845)
FHAC JV	8,663,209	20,152	8,643,057	-	(365,568)	(380,244)
HASI	176,608,509	96,496,767	80,111,742	275,974,414	22,746,487	19,966,328
Hanon Bhiwadi	47,297,547	10,546,215	36,751,332	61,589,843	6,830,064	5,406,950
Hanon Japan	33,986,692	21,690,107	12,296,585	79,769,727	1,390,329	2,102,396
Hanon Thailand	125,392,122	37,274,777	88,117,345	150,535,896	23,500,222	26,736,069
Hanon South Africa	18,342,020	12,117,588	6,224,432	32,766,462	1,561,737	870,835
Hanon Slovakia	294,700,093	143,165,352	151,534,741	499,023,767	15,859,662	15,612,317
Hanon Turkey	89,451,853	36,224,916	53,226,937	231,101,286	28,802,989	16,713,272
Hanon Portugal	156,646,285	75,862,460	80,783,825	154,585,992	2,683,060	2,750,653
Hanon Autopal Service	33,148,608	13,561,406	19,587,202	35,033,198	7,151,384	7,043,283
Hanon Autopal	225,135,481	139,919,640	85,215,841	387,632,587	10,345,262	11,102,829
Hanon Charleville	70,511,383	99,730,119	(29,218,736)	150,330,404	(29,474,096)	(29,323,839)
Hanon Hungary	214,439,646	120,092,479	94,347,167	242,617,685	6,833,512	7,548,929
Hanon UK	5,196,519	6,116,312	(919,793)	7,436,146	881,554	887,260
Hanon Deutschland	148,439,692	116,699,244	31,740,448	175,671,990	22,658,818	22,318,539
Hanon Southern Germany	8,558,000	4,227,167	4,330,833	11,516,306	3,353,892	3,303,536
Hanon EFP Deutschland GmbH	31,960	-	31,960	-	(19)	19
Hanon Netherlands	399,916,874	320,620,571	79,296,303	918,576,786	71,636,115	69,927,333
Hanon Russia	1,037,395	7,611,576	(6,574,181)	-	(1,912,709)	(992,253)
Hanon Auto Parts Hungary	12,438,494	3,003,998	9,434,496	13,679,381	501,442	556,579
Hanon Alabama	203,038,703	99,645,251	103,393,452	436,815,904	1,025,400	5,316,931
Hanon USA	356,550,759	266,843,590	89,707,169	292,065,570	28,003,990	31,006,355
Hanon Canada	82,456,392	25,482,627	56,973,765	119,337,662	(2,534,585)	(5,111,384)
Hanon Coclisa	69,011,721	43,754,934	25,256,787	101,666,904	7,279,180	8,016,296
Hanon Mexicana	124,553,586	127,989,295	(3,435,709)	157,310,962	(4,183,947)	(4,295,206)
Hanon Brazil Hanon EFP Corporation	34,304,517 96,648	30,450,383 -	3,854,134 96,648	42,651,979 -	(5,293,467) (3,352)	(6,538,769) (3,352)

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(in thousands of
Korean won)

Subsidiary	2017					
	Assets	Liabilities	Equity	Sales	Profit (loss) for the year	Total comprehensive income (loss)
Hanon Beijing	279,077,304	166,792,558	112,284,746	392,366,875	29,120,607	21,362,019
Hanon Dalian	157,956,092	50,672,727	107,283,365	189,655,226	17,479,997	10,946,871
Hanon Jinan	10,310,668	169,094	10,141,574	401,004	(238,986)	(842,806)
Hanon Shanghai	12,911,672	9,758,893	3,152,779	11,476,790	1,054,257	907,006
Hanon Chongqing	65,787,860	28,250,053	37,537,807	89,898,838	9,114,804	6,631,702
Hanon Nanchang	59,966,104	27,195,609	32,770,495	78,695,694	7,442,413	5,587,838
Hanon Nanjing	33,458,033	14,174,713	19,283,320	33,601,350	4,028,056	3,035,196
Hanon Yancheng	42,167,623	32,566,951	9,600,672	43,951,110	(529,580)	(1,111,701)
Hanon New Chongqing	26,415,098	13,451,272	12,963,826	9,030,145	(2,238,973)	(3,077,793)
HASI	166,514,154	106,682,701	59,831,453	277,507,916	6,075,202	2,555,706
Hanon Bhiwadi	40,751,723	9,321,831	31,429,892	60,518,092	6,339,221	4,346,460
VEIPL	-	-	-	21,841,731	5,947,395	3,948,928
Hanon Japan	28,539,062	18,340,343	10,198,719	83,834,194	2,051,713	1,169,474
Hanon Thailand	105,770,170	35,750,164	70,020,006	150,355,871	7,886,889	5,616,410
Hanon Slovakia	250,389,051	114,429,174	135,959,877	430,997,208	11,495,998	12,654,976
Hanon Turkey	71,295,215	34,781,550	36,513,665	212,263,112	11,788,545	5,155,005
Hanon Portugal	113,847,520	35,814,348	78,033,172	152,782,383	3,771,659	4,456,325
Hanon Autopal Service	20,365,516	7,821,597	12,543,919	25,212,816	2,282,360	2,380,878
Hanon Autopal	198,611,619	124,498,606	74,113,013	363,179,550	12,324,565	12,910,606
Hanon Charleville	75,589,437	75,239,069	350,368	182,349,401	(11,455,607)	(11,374,705)
Hanon Hungary	182,585,312	95,787,074	86,798,238	211,865,236	5,596,485	6,344,804
Hanon UK	3,044,701	5,627,496	(2,582,795)	6,212,869	(358,791)	(300,701)
Hanon Deutschland	102,176,413	94,055,546	8,120,867	126,347,563	17,330,635	17,294,671
Hanon Southern Germany	4,142,799	3,115,502	1,027,297	6,253,161	(587,034)	(573,636)
Hanon Netherlands	340,189,685	330,818,936	9,370,749	887,465,673	2,785,363	2,523,020
Hanon Russia	5,902,423	11,484,350	(5,581,927)	536,618	(1,220,603)	(841,878)
Hanon Alabama	152,825,349	54,748,828	98,076,521	441,855,609	11,401,883	(365,303)
Hanon USA	176,400,686	117,778,795	58,621,891	253,484,621	13,956,598	7,430,831
Hanon Canada	81,715,010	19,629,861	62,085,149	132,155,652	1,602,186	(1,415,637)
Hanon Coclisa	44,148,619	27,513,477	16,635,142	95,411,249	6,542,106	5,132,408
Hanon Mexicana	70,018,970	69,179,906	839,064	118,381,053	(4,291,849)	(4,238,355)
Hanon Brazil	31,555,134	15,729,616	15,825,518	40,185,757	76,647	3,056,161
Hanon Brasil Holdings	54,233	5,486,847	(5,432,614)	-	(3,613,678)	(2,982,574)
Hanon South Africa	13,705,412	8,351,815	5,353,597	30,167,829	2,724,944	2,727,334

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

1.3 Changes in Scope for Consolidation

Subsidiaries newly included in the consolidation for the year ended December 31, 2018, and a subsidiary excluded for the year ended December 31, 2018, are as follows:

(1) Subsidiaries newly included in the consolidation

Subsidiaries	Reason
CSG JV	Newly established
FHAC JV	Newly established
Hanon EFP Corporation	Newly established
Hanon EFP Deutschland GmbH	Newly established
Hanon EFP Mexico	Newly established
Hanon EFP Mexico Service	Newly established
Hanon Auto Parts Hungary	Newly acquired 100% of shares

(2) Subsidiary excluded from the consolidation

Subsidiaries	Reason
Hanon Brasil Holdings	Merged into Hanon Brazil, subsidiary of Hanon Systems

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.

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.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

The preparation of the consolidated financial statements requires the use of certain critical accounting estimates. It also requires management to exercise judgment in the process of applying the Group's accounting policies. The areas which require 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 Policy and Disclosures

(1) New and amended standards adopted by the Group

The Group newly applied the following amended and enacted standards for the annual period beginning January 1, 2018, and this application does not have a material impact on the financial statements:

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

When an investment in an associate or a joint venture is held by, or is held indirectly through, an entity that is a venture capital organization, or a mutual fund, unit trust and similar entities including investment-linked insurance funds, the entity may elect to measure each investment separately at fair value through profit or loss in accordance with Korean IFRS 1109. The amendment does not have a significant impact on the financial statements because the Group is not a venture capital organization.

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

The amendment to Korean IFRS 1040 clarifies that a transfer to, or from, investment property, including property under construction, can only be made if there has been a change in use that is supported by evidence, and the list of evidence for a change of use in the standard was re-characterized as a non-exclusive list of example. The amendment does not have a significant impact on the financial statements.

- Amendment 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.

- Enactment of Interpretation 2122 *Foreign Currency Transaction and Advance Consideration*

According to the enactment, the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income (or part of it) is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration. The enactment does not have a significant impact on the financial statements.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- Korean IFRS 1109 *Financial Instruments*

The Group has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures have not been restated, and the differences between previous book amounts and book amounts at the date of initial application are recognized to retained earnings. See Note 36 for further details on the impact of the application of the standard.

- Korean IFRS 1115 *Revenue from Contracts with Customers*

The Group has applied to apply Korean IFRS 1115 *Revenue from Contracts with Customers*. In accordance with the transition provisions in Korean IFRS 1115, comparative figures have not been restated. The Group elected the modified retrospective approach, and recognized the cumulative impact of initially applying the revenue standard as an adjustment to retained earnings as at January 1, 2018, the period of initial application. See Note 36 for further details on the impact of the application of the standard.

- Korean IFRS 1116 *Leases*

The Group has elected to apply Korean IFRS 1116 *Leases*. In accordance with the transition provisions in Korean IFRS 1116 the new rules have been adopted retrospectively with the cumulative effect of initially applying the new standard recognized on January 1, 2018. Comparatives for the 2017 financial year have not been restated. See Note 36 for further details on the impact of the application of the standard.

(2) *New and amended standards and interpretations not yet adopted by the Group*

Amendments which have been issued but not effective for the financial year beginning January 1, 2018, and which are not early adopted are enumerated below.

- Korean IFRS 1109 *Financial Instruments*

The narrow-scope amendments made to Korean IFRS 1109 *Financial Instruments* enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- Amendments to Korean IFRS 1019 *Employee Benefits*

The amendments require that an entity shall calculate current service cost and net interest for the remainder of the reporting period after a plan amendment, curtailment or settlement based on updated actuarial assumptions from the date of the change. The amendments also require that a reduction in a surplus must be recognized in profit or loss even if that surplus was not previously recognized because of the impact of the asset ceiling. The amendments are effective for plan amendments, curtailments and settlements occurring in reporting periods that begin on or after 1 January 2019.

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

The amendments clarify that an entity shall apply Korean IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted. In accordance with the transitional provisions in Korean IFRS 1109, the restatement of the comparative information is not required and the cumulative effects of initially applying the amendments retrospectively should be recognized in the beginning balance of retained earnings (or other components of equity, as appropriate) at the date of initial application.

- Enactment to Interpretation of Korean IFRS 2123 *Uncertainty over Income Tax Treatments*

The Interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed. This Interpretation will be applied for annual periods beginning on or after January 1, 2019, and an entity can either restate the comparative financial statements retrospectively or recognize the cumulative effect of initially applying the Interpretation as an adjustment in the beginning balance at the date of initial application.

- Annual Improvements to Korean IFRS 2015 – 2017 Cycle:

• Korean IFRS 1103 *Business Combination*

The amendments clarify that when a party to a joint arrangement obtains control of a business that is a joint operation, and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. In such cases, the acquirer shall remeasure its entire previously held interest in the joint operation. These amendments will be applied to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early adoption permitted.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- Korean IFRS 1111 *Joint Agreements*

The amendments clarify that when 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. In such cases, previously held interests in the joint operation are not remeasured. These amendments will be applied to transactions in which an entity obtains joint control on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early adoption permitted.

- Paragraph 57A of Korean IFRS 1012 *Income Tax*

The amendment is applied to all the income tax consequences of dividends and requires an entity to recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized those past transactions or events. These amendments will be applied for annual reporting periods beginning on or after January 1, 2019, with early adoption permitted.

- Korean IFRS 1023 *Borrowing Costs*

The amendments clarify that if a specific borrowing remains outstanding after the related qualifying asset is ready for its intended use (or sale), it becomes part of general borrowings. These amendments will be applied to borrowing costs incurred on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early adoption permitted.

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 parent company has control. The parent company controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. The consolidation of a subsidiary begins from the date the parent company obtains control of a subsidiary and ceases when the parent company loses control of the subsidiary.

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

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

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

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

(b) Associates

Associates are entities over which the Group has significant influence, and investments in associates are initially recognized at acquisition cost using the equity method. 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 any objective evidence that the investment in the associate is impaired, the Group recognizes the difference between the recoverable amount of the associate and its book value 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 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. 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 classified as available-for-sale financial assets are recognized in other comprehensive income.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

2.5 Financial Assets

(a) Classification

From January 1, 2018, the Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

(b) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

A. Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- **Amortized cost:** Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- Fair value through other comprehensive income: Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other non-operating income or expenses' and impairment losses are presented in 'other non-operating expenses'.
- Fair value through profit or loss: 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. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'other non-operating income or expenses' in the year in which it arises.

B. Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'other non-operating income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other non-operating income and expenses' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

(c) Impairment

The Group assesses on a forward looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables and lease receivables, the Group applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables. (Note 4.1.2 provides more detail of how the Group determines there has been a significant increase in credit risk.)

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as “borrowings” in the statement of financial position.

(e) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the 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.

2.6 Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'other non-operating income (expenses)' based on the nature of transactions.

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Group has hedge relationships and designates certain derivatives as either:

- hedges of the fair value of recognized assets or liabilities or a firm commitment (fair value hedges)
- hedges of a particular risk associated with the cash flows of recognized assets and liabilities and highly probable forecast transactions (cash flow hedges)

At inception of the hedge relationship, the Group documents the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items.

The fair values of derivative financial instruments designated in hedge relationships are disclosed in Note 23. Movements in the cash flow hedge reserve are shown in Note 32.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining maturity of the hedged item is less than 12 months. A non-derivative financial asset and a non-derivative financial liability is classified as a current or non-current based on its expected maturity and its settlement, respectively.

The Group applies cash flow hedge accounting to hedge the price risk associated with forecast sales and inventory purchase. The effective portion of changes in fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income, and the ineffective portion is recognized in 'other non-operating income (expenses)'. When the forecast transaction that is hedge results in the recognition of a non-financial asset, the gains and losses previously deferred in other comprehensive income are reclassified from other comprehensive income and included in the initial measurement of the cost of the assets. The deferred amounts are ultimately recognized in profit or loss as cost of goods sold. When a forecast transactions no longer to occur, the cumulative gain or loss that was reported in other comprehensive income is immediately reclassified to profit or loss within 'other non-operating income (expenses)'.

2.7 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using following methods.

Inventories	Method
Merchandises, finished goods, work in process, raw material, supplies	Moving-weighted average method
Materials-in-transit	Specific identification method

2.8 Non-current Assets (or Disposal Group) Held for sale

Non-current assets (or disposal group) are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

2.9 Property, Plant and Equipment

Property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Depreciation of all property, plant and equipment, except for land, is calculated using the straight-line method to allocate their cost or revalued amounts, net of their residual values, over their estimated useful lives as follows:

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

	Useful lives
Buildings	4 - 50 years
Structures	5 - 50
Machinery	1 - 21
Vehicles	4 - 10
Tools and equipment	2 - 16
Office Equipment	3 - 16
Lease Improvements	5 - 10

The assets' depreciation method, residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

2.10 Government Grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions. Government grants related to assets are presented in the statement of financial position by deducting the grant in arriving at the carrying amount of the asset, and government grants related to income are deferred and later deducted from the related expense.

2.11 Intangible Assets

Goodwill is measured as described in Note 2.3 and carried at cost less accumulated impairment losses.

Intangible assets, except for goodwill, are initially recognized at its historical cost, and carried at cost less accumulated amortization and accumulated impairment losses.

Development costs that are directly attributable to internally generated by the Group are recognized when the criteria; such as, technically feasible, generate probable future economic benefits and other, are met. The Company recognized the expenditure incurred during the pre-production stages which are vehicle development phase, such as demo car (trial car), proto and pilot, as intangible asset. Expenditures incurred prior to vehicle development phase are treated as a current expense.

Membership rights that have an indefinite useful life are not subject to amortization because there is no foreseeable limit to the period over which the assets are expected to be utilized. The Group amortizes intangible assets with a limited useful life using the straight-line method over the following periods:

	Useful lives
Industrial rights	5 - 10 years
Development costs	1 - 5
Other intangible assets	5 - 15

2.12 Impairment of Non-financial Assets

Impairment test is being conducted for goodwill and intangible assets which have indefinite useful lives on an annual basis, and for assets which are subject to depreciation or amortization when indicators of impairment are present. 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 cost to sell and value-in-use. Impairment losses from non-financial assets other than goodwill are reviewed for reversal of the impairment at the end of each reporting period.

2.13 Financial Liabilities

(a) Classification and measurement

The Group's financial liabilities at fair value through profit or loss are derivative financial instruments. A financial liability is classified as a liability held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not designated as hedging instruments and an embedded derivative that is separated from financial instrument are also classified as liability held for trading.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'other payables', and 'other financial liabilities' in the consolidated statements of financial position.

(b) Derecognition

Financial liabilities are derecognized in the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified.

2.14 Financial Guarantee Contracts

Financial guarantee contracts are recognized as a financial liability at the time the guarantee is issued. The liability is initially measured at fair value, subsequently at the higher of following and recognized in the statement of financial position within 'provisions'.

- (a) the amount determined in accordance with the expected credit loss model under Korean IFRS 1109 *Financial Instruments* and
- (b) the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with Korean IFRS 1115 *Revenue from Contracts with Customers*

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

2.15 Provisions

Provisions for service warranties, make good obligation, and legal claims are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

2.16 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, 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 measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. The Group recognizes current income tax on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises 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 if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, 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, the Group recognizes a deferred tax asset for all 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 and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

2.17 Employee Benefits

(a) Post-employment benefits

The Group operates both defined contribution and defined benefit pension plans.

For defined contribution plans, the Group pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The Group has no further payment obligation once the contribution have been paid. The contribution are recognized as employee benefit expense when they are due.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. 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 that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income.

Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

(b) Share-based payments

Equity-settled share-based payment is recognized at fair value of equity instruments granted, and employee benefit expense is recognized over the vesting period. At the end of each period, the Group revises its estimates of the number of options that are expected to vest based on the non-market vesting and service conditions. It recognizes the impact of the revision to original estimates, if any, in profit or loss, with a corresponding adjustment to 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.

2.18 Revenue Recognition

From January 1, 2018, the Group has applied Korean IFRS 1115 *Revenue from Contracts with Customers*.

Revenue is measured at the fair value of the consideration received or receivable for the sale of goods or rendering of services arising from the normal course of the business. Amounts disclosed as revenue are net of value added taxes, returns, rebates and discounts and after elimination of inter-company transactions.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

The Group recognizes revenue when the amount of revenue can be reliably measured, it is probable that future economic benefits will flow to the Group and when specific criteria have been met for each of the Group's activities as described below. The Group bases its estimate on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

(a) Sale of goods

The Group manufactures and sells automobile parts. Sales are recognized when control of the products has transferred, being when the products are delivered to the buyer.

(b) Rendering of services

The Group renders research and development services to the automobile manufacturers and other automobile parts manufacturers. This service is rendered based on type of contract, such as time-and-materials contracts. The contract terms are generally less than one year to two years.

2.19 Lease

As explained in Note 2.2 above, the Group has changed its accounting policy for leases. The new policy is described below and the impact of the change in Note 36.

The Group leases various property, plant and equipment. Rental contracts are typically made for fixed periods of 1 to 20 years, but may have extension options as described in (e) below. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

Leases are recognized as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate
- Amounts expected to be payable by the lessee under residual value guarantees
- The exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- Payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option

The lease payments are discounted using the interest rate implicit in the lease, if that rate can be determined, or the Group's incremental borrowing rate.

2.20 Approval of Issuance of the Financial Statements

The consolidated financial statements 2018 were approved for issue by the Board of Directors on February 13, 2019 and are subject to change with the approval of shareholders at Annual General Meeting.

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

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 discussed below. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

(a) Estimated goodwill impairment

The Group tests whether goodwill has suffered any impairment on an annual basis. The recoverable amount of a cash generating unit (CGU) is determined based on value-in-use calculations (Note 14).

(b) Income taxes

The Group's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain (Note 29). If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the *Tax System For Recirculation of Corporate Income*, the Group is liable to pay additional income tax calculated based on the tax laws. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

(c) Net defined benefit liability

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 19).

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(d) Provisions for warranty and legal contingencies

The Group recorded provisions related to warranty as at December 31, 2018, and determined the provisions using the estimation based on past experience. In addition, the Group accounted for legal contingencies arising from litigation related to in Note 22 based on management's judgment and estimation.

4. Financial Risk Management

4.1 Financial Risk Factors

The Group is exposed to market risk (foreign exchange risk, interest risk), credit risk and liquidity risk. The Group's management reviews that the Group's financial risk-taking activities are governed by appropriate policies and procedures, which have not significant changed since the prior reporting period.

4.1.1 Market risk

(a) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risks arising from various currency exposures, primarily with respect to the US dollar and the Euro. Foreign exchange risk arises from future expected transactions and recognized assets and liabilities.

It is the Group's policy to manage its financial currency against foreign exchanges risks. Foreign exchange risk arises when future expected transactions or recognized assets and liabilities are denominated in a currency that is not the entity's functional currency.

The Group manages foreign exchange risks arising from expected cash flows (mainly export sales and purchase of inventory) per major foreign currency for a 40 month period and uses foreign currency forward contracts to hedge foreign exchange risk.

The Group's monetary assets and liabilities denominated in foreign currencies as at December 31, 2018 and 2017, are as follows:

	2018		2017	
	Assets	Liabilities	Assets	Liabilities
<i>(in thousands of Korean won)</i>				
USD	467,759,462	(183,659,526)	502,921,609	(255,008,105)
EUR	99,726,312	(51,803,818)	151,449,198	(26,541,370)
Others	26,619,674	(43,927,053)	33,860,013	(22,564,031)
	<u>594,105,448</u>	<u>(279,390,397)</u>	<u>688,230,820</u>	<u>(304,113,506)</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

The impacts on the Group's profit before tax due to 5% changes in foreign exchange rates as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018		2017	
	5% increase	5% decrease	5% increase	5% decrease
USD	13,405,970	(13,405,970)	9,921,116	(9,921,116)
EUR	739,485	(739,485)	3,637,001	(3,637,001)
Others	(777,603)	777,603	1,407,358	(1,407,358)
	<u>13,367,852</u>	<u>(13,367,852)</u>	<u>14,965,475</u>	<u>(14,965,475)</u>

The sensitivity analysis as at December 31, 2018 and 2017 includes the monetary assets and liabilities denominated in foreign currencies other than functional currencies and excludes monetary assets and liabilities in which hedge accounting was applied.

(b) Interest rate risk

Interest rate risk is the risk that the interest income or interest expense from deposits, loans or borrowings will fluctuate due to changes in future market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's loans and borrowings with floating interest rates.

Financial liabilities exposed to the Group's risk of changes in market interest rates are short-term and long-term borrowings with floating interest rates amounting to ₩292,857,236 thousand and ₩133,829,753 thousand as at December 31, 2018 and 2017, respectively. In addition, except for a sharp drop in economy, the Group is not exposed to the interest risk of replacement in consideration of the Group's retained cash level and capacity of cash generating through operations.

The following table shows the effect on the interest expenses due to a 1% variation of interest rate on the Group's short-term and long-term borrowings for one year period, with all other variables fixed, as at December 31, 2018 and 2017:

(in thousands of Korean won)	2018		2017	
	1% increase	1% decrease	1% increase	1% decrease
Interest expense	2,928,572	(2,928,572)	1,338,298	(1,338,298)

4.1.2 Credit Risk

(a) Risk management

Credit risk occurs when customers or counterparties will not meet its obligations under contracts. The Group is exposed to credit risk from its operating and investing activities. In order to manage credit risk, the Group assesses the credit rating regularly considering financial position of customers or counterparties, historical data and so on and defines the credit limits for each customers and counter-parties, respectively.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Outstanding financial instruments are the Group's maximum exposure amounts, net of impairment loss. Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks and financial institutions. For mitigating the risk, the group deals with banks and financial institutions, only independently rated parties with high ratings are accepted.

(b) Impairment of financial assets

The Group has two types of financial assets that are subject to the expected credit loss model:

- trade receivables for sales of goods and provision of services, and
- other financial assets carried at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified impairment loss was immaterial.

A. Trade receivables and contract assets

The Group applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets.

To measure the expected credit losses, trade receivables and contract assets have been grouped based on shared credit risk characteristics and the days past due.

The expected loss rates are based on the payment profiles of sales over a period of 24 month before September 30, 2017 and September 30, 2018, respectively, and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables.

On that basis, the loss allowance as at December 31, 2018 and January 1, 2018 was determined as follows for trade receivables:

<i>(in thousands of Korean won)</i>	Neither past due nor impaired	Less than 90 days past due	More than 90 days past due	More than 180 days past due	Total
December 31, 2018					
Expected loss rate	0.1%	0.8%	3.5%	71.8%	
Gross carrying amount – trade receivables	923,969,702	37,931,423	5,544,185	9,890,209	977,335,518
Loss allowance provision	881,418	307,272	193,024	7,102,294	8,484,008
January 1, 2018					
Expected loss rate	1.9%	0.8%	3.2%	40.5%	
Gross carrying amount – trade receivables	832,971,875	54,438,395	4,440,835	12,432,501	904,283,607
Loss allowance provision	15,563,143	427,259	141,456	5,029,375	21,161,233

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Movements in the loss allowance provision for trade receivables and contract assets for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

	Trade receivables	
	2018	2017 ¹
Beginning balance - Korean IFRS 1039	21,161,232	6,818,349
Amounts restated through beginning balance of retained earnings ²	-	-
Increase in loss allowance recognized in profit or loss during the year	-	14,342,884
Unused amounts reversed	(12,677,224)	-
Ending balance	8,484,008	21,161,233

¹ The amounts as at December 31, 2017, were calculated under Korean IFRS 1039.

² The restatement on transition to Korean IFRS 1109 as a result of applying the expected credit risk model was immaterial.

Trade receivables are written off when there is no reasonable expectation of recovery.

Impairment losses on trade receivables are presented as net impairment losses within impairment loss in the consolidated statement of profit or loss. Subsequent recoveries of amounts previously written off are credited against the same line item.

B. Other financial assets amortized cost

Other financial assets at amortized cost include loans and other receivables and others.

Movements in loss allowance provision for other financial assets at amortized cost for the year ended December 31, 2018, are as follows:

(in thousands of Korean won)	Loans and other receivables and others	Total
Beginning balance - Korean IFRS 1039	170,270	170,270
Amounts restated through beginning balance of retained earnings ¹	-	-
Loss allowance as at initial application date - calculated under Korean IFRS 1109	170,270	170,270
Increase in loss allowance recognized in profit or loss during the year	2,522,091	2,522,091
Ending balance	2,692,361	2,692,361

¹ The restatement on transition to Korean IFRS 1109 as a result of applying the expected credit risk model was immaterial.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

C. Impairment loss

Following losses are recognized in profit or loss in relation to impaired financial assets for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousand of Korean won)</i>	2018	2017
Trade receivables	(12,677,224)	14,342,884
Other financial assets	2,522,091	-
Net impairment losses	(10,155,133)	14,342,884

D. Financial assets at fair value through profit or loss

The Group is also exposed to credit risk in relation to debt investments that are measured at fair value through profit or loss. The maximum exposure at the end of the reporting period is the carrying amount of these investments.

4.1.3 Liquidity Risk

Cash flow forecasting is performed in the operating entities of the Group and aggregated by the Group. The Group monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities (Note 22) at all times so that the Group does not breach borrowing limits or covenants on any of its borrowing facilities. Such forecasting takes into consideration the Group's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and, if applicable external regulatory or legal requirements.

Surplus cash held by the operating entities over and above the balance required for working capital management are transferred to the Group's Treasury department. The Treasury department invests surplus cash in interest bearing accounts, time deposits, money market deposits and marketable securities, choosing instruments with appropriate maturities or sufficient liquidity to provide sufficient headroom as determined by the aforementioned forecasts.

The maturity profile of the Group's financial liabilities (based on contractual undiscounted payments) as at December 31, 2018 and 2017 are as follows:

<i>(in thousands of Korean won)</i>	2018				
	Book value	Contractual cash flow	Less than 1 year	1~5 years	Over 5 years
Borrowings(Debentures)	1,672,026,156	1,845,239,193	545,469,466	1,011,226,092	288,543,635
Trade payables	799,290,233	799,290,233	799,290,233	-	-
Other payables	416,049,295	416,049,295	402,842,597	13,206,698	-
Derivative financial liabilities	4,205,468	4,205,468	4,205,468	-	-

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(in thousands of Korean won)

	2017				
	Book value	Contractual cash flow	Less than 1 year	1~5 years	Over 5 years
Borrowings(Debentures)	756,876,494	809,128,380	152,512,460	586,140,354	70,475,566
Trade payables	732,889,386	732,889,386	732,889,386	-	-
Other payables	312,604,975	312,604,975	297,101,200	15,503,775	-
Derivative financial liabilities	586,883	586,883	586,883	-	-

The table above analyses the Group's financial liabilities into relevant maturity groupings based on the remaining period from the date of the consolidated statement of financial position to the contractual maturity date. The amounts disclosed in the table are contractual undiscounted cash flows.

All of the Group's non-trading gross settled derivative financial instruments are in hedge relationships and are due to settle within 26 months from the statement of financial position date. These financial instruments are not included in the above table and the contracts require undiscounted contractual cash inflows are as follows:

(in thousands of Korean won)

	2018	2017
Cash inflow of derivatives settled gross	805,008,385	1,060,180,857
Cash outflow of derivatives settled gross	790,340,427	1,000,781,023
Cash outflow of derivatives settled net	386,779	-

4.2 Capital Risk Management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. The Group manages capital risk based upon the debt to equity ratio just as other companies within the same industry.

The Group's strategy is to maintain its corporate credit rating at over an investment grade. The Group received AA credit ratings from Korea Investors Service and Korea Ratings.

The debt to equity ratio of the Group as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

	2018	2017
Liabilities	3,224,124,651	2,088,135,770
Equity	2,131,656,181	2,031,445,140
Debt to equity ratio	151.2%	102.8%

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

5. Fair Value

5.1 Fair Value of Financial Instruments by Category

Carrying amount and fair value of financial instruments by category as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018		2017	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Financial assets at fair value through profit or loss	2,239,670	2,239,670	-	-
Derivative financial instruments	26,805,901	26,805,901	68,995,984	68,995,984
Financial liabilities				
Debentures	1,196,942,817	1,232,231,117	598,900,394	597,015,170
Borrowings ¹	475,083,339	464,461,111	157,976,100	157,916,675
Derivative financial instruments	6,918,866	6,918,866	3,396,614	3,396,614

¹ Borrowings include short-term borrowings, long-term borrowings and finance lease liabilities.

Trade receivables, trade payables and others of which carrying amount approximately equal to their fair value are excluded from the fair value disclosures.

5.2 Fair Value Hierarchy

Assets which are measured at fair value or of which the fair value is disclosed are categorized within the fair value hierarchy, and the defined levels are as follows:

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

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Fair value hierarchy classifications of the financial instruments that are measured at fair value or disclosed as fair value as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

	2018			
	Level 1	Level 2	Level 3	Total
Financial instruments measured at fair value				
Financial assets at fair value through profit or loss	-	-	2,239,670	2,239,670
Derivative financial assets	-	26,805,901	-	26,805,901
Derivative financial liabilities	-	6,918,866	-	6,918,866
Financial instruments disclosed as fair value				
Debentures	-	1,232,231,117	-	1,232,231,117
Borrowings	-	464,461,111	-	464,461,111

(in thousands of Korean won)

	2017			
	Level 1	Level 2	Level 3	Total
Financial instruments measured at fair value				
Derivative financial assets	-	68,995,984	-	68,995,984
Derivative financial liabilities	-	3,396,614	-	3,396,614
Financial instruments disclosed as fair value				
Debentures	-	597,015,170	-	597,015,170
Borrowings	-	157,916,675	-	157,916,675

5.3 Transfers between Fair Value Hierarchy Levels of Recurring Fair Value Measurements

The Group's policy is to recognize transfers between levels of the fair value at the date of the event or change in circumstances that caused the transfer.

Details of transfers between levels of each fair value hierarchy of financial instruments are as follows:

There were no transfers between levels 1 and 2 for recurring fair value measurements during the year.

Changes in level 3 for recurring fair value measurements for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

	2018
Beginning balance	-
Acquisition	2,239,670
Ending balance	2,239,670

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

5.4 Valuation Technique and the Inputs

Valuation techniques and inputs used in the fair value of financial instruments categorized within Level 2 and Level 3 of the fair value hierarchy as at December 31, 2018 and 2017 are as follows:

(in thousands of Korean won)

		2018			
	Fair value	Level	Valuation techniques	Inputs	Range of inputs (weighted average)
Financial assets at fair value through profit or loss	2,239,670	3	Net asset value technique	N/A	N/A
Derivative financial assets	26,805,901	2	Present value technique	N/A	N/A
Derivative financial liabilities	6,918,866	2	Present value technique	N/A	N/A
Debentures	1,232,231,117	2	Present value technique	N/A	N/A
Long-term borrowings	464,461,111	2	Present value technique	N/A	N/A

(in thousands of Korean won)

		2017			
	Fair value	Level	Valuation techniques	Inputs	Range of inputs (weighted average)
Derivative financial assets	68,995,984	2	Present value technique	N/A	N/A
Derivative financial liabilities	3,396,614	2	Present value technique	N/A	N/A
Debentures	597,015,170	2	Present value technique	N/A	N/A
Long-term borrowings	157,916,675	2	Present value technique	N/A	N/A

5.5 Valuation Processes for Fair Value Measurements Categorized as Level 3

The Group's finance department performs the fair value measurements required for financial reporting purposes, including level 3 fair values. The department reports directly to the chief financial officer (CFO) and the audit committee (AC). Valuation process and result are discussed with CFO and AC on a quarterly basis, in accordance with the Group's quarterly reporting periods.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

6. Financial Instruments by Category

Categorizations of financial assets and liabilities as at December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018			
	Financial assets at amortized cost	Derivatives for trading purpose	Derivatives for hedging purposes	Financial assets at fair value through profit or loss
Cash and cash equivalents	1,017,786,119	-	-	-
Other financial instruments	12,500,000	-	-	-
Trade receivables	968,851,511	-	-	-
Other receivables	52,455,841	-	-	-
Derivative financial assets	-	9,313,066	17,492,834	-
Long-term financial instruments	42,505	-	-	-
Financial assets at fair value	-	-	-	2,239,670
	<u>2,051,635,976</u>	<u>9,313,066</u>	<u>17,492,834</u>	<u>2,239,670</u>
				<u>2,080,681,546</u>

<i>(in thousands of Korean won)</i>	2018			
	Financial liabilities measured at amortized cost	Derivatives for trading purpose	Derivatives for hedging purposes	Total
Trade payables	799,290,233	-	-	799,290,233
Other payables	416,049,295	-	-	416,049,295
Derivative financial liabilities	-	4,205,468	2,713,398	6,918,866
Borrowings(Debentures)	1,672,026,156	-	-	1,672,026,156
	<u>2,887,365,684</u>	<u>4,205,468</u>	<u>2,713,398</u>	<u>2,894,284,550</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(in thousands of
Korean won)

	2017					Total
	Loans and receivables	Financial assets at fair value through profit or loss	Derivatives for hedging purposes	Available-for- sale financial assets	Held-to- maturity financial assets	
Cash and cash equivalents	567,258,577	-	-	-	-	567,258,577
Other financial instruments	7,500,000	-	-	-	-	7,500,000
Trade receivables	883,122,373	-	-	-	-	883,122,373
Other receivables	89,131,061	-	-	-	-	89,131,061
Derivative financial assets	-	6,800,709	62,195,275	-	-	68,995,984
Long-term financial instruments	42,508	-	-	-	-	42,508
Available-for-sale financial assets	-	-	-	1,000	-	1,000
Held-to-maturity financial assets	-	-	-	-	3,285	3,285
	<u>1,547,054,519</u>	<u>6,800,709</u>	<u>62,195,275</u>	<u>1,000</u>	<u>3,285</u>	<u>1,616,054,788</u>

(in thousands of Korean won)

	2017			Total
	Financial liabilities measured at amortized cost	Financial liabilities at fair value	Derivatives for hedging purposes	
Trade payables	732,889,386	-	-	732,889,386
Other payables	312,604,975	-	-	312,604,975
Derivative financial liabilities	-	586,883	2,809,731	3,396,614
Borrowings(Debentures)	756,876,494	-	-	756,876,494
	<u>1,802,370,855</u>	<u>586,883</u>	<u>2,809,731</u>	<u>1,805,767,469</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Net gains or net losses on each category of financial instruments for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

	2018	
	Financial assets measured at amortized cost	Total
Interest incomes	6,793,977	6,793,977
Gain on foreign exchange transactions	5,281,361	5,281,361
Gain on foreign currency translation	2,029,545	2,029,545

(in thousands of Korean won)

	2018	
	Financial liabilities measured at amortized cost	Total
Interest expenses	(24,424,275)	(24,424,275)
Loss on foreign exchange transactions	(3,012,916)	(3,012,916)
Loss on foreign currency translation	(4,608,281)	(4,608,281)

(in thousands of
Korean won)

	2017				
	Financial assets at fair value through profit or loss	Loans and receivables	Available- for-sale financial assets	Held-to- maturity financial assets	Total
Interest income	-	8,654,309	-	349	8,654,658
Gain on foreign exchange transactions	-	(22,114,817)	-	-	(22,114,816)
Gain on foreign currency translation	-	(23,121,476)	-	-	(23,121,476)

(in thousands of Korean won)

	2017		
	Financial liabilities at fair value through profit or loss	Financial liabilities measured at amortized cost	Total
Interest expenses	-	(19,779,955)	(19,779,955)
Loss on foreign exchange transactions	-	3,222,918	3,222,918
Loss on foreign currency translation	-	15,552,599	15,552,599

See note 23 about derivative financial assets and liabilities including related profit or loss.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

7. Operating Segment Information

(1) The board of directors that performs strategic decision making process is considered as the highest level of decision maker at the Group. Operating segment of the Group consists of one single operating segment and accordingly, no information by operating segments is disclosed.

(2) Details of the Group's revenue for the years ended December 31, 2018 and 2017 are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Sales of finished goods	5,912,140,309	5,554,999,864
Other revenue	25,444,786	30,673,440
	<u>5,937,585,095</u>	<u>5,585,673,304</u>

(3) Sales by geographic information for the years ended December 31, 2018 and 2017 are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Korea (Location of the Company)	1,857,334,417	1,585,363,198
Asia	1,166,798,005	1,252,635,780
America	946,471,650	904,004,174
Europe	1,966,981,023	1,843,670,152
	<u>5,937,585,095</u>	<u>5,585,673,304</u>

(4) Non-current assets by geographic information as at December 31, 2018 and 2017 are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Korea (Location of the Company)	732,413,002	637,316,367
Asia	513,026,816	398,136,906
America	393,591,915	192,969,954
Europe	681,404,517	477,212,594
	<u>2,320,436,250</u>	<u>1,705,635,821</u>

Financial instruments, deferred tax assets, net defined benefit assets and investment in associates and joint ventures are excluded from the 'non-current assets'.

(5) Sales to key customers representing 10% or more of the Group's total sales for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Company A	1,307,238,238	1,079,323,891
Company B	1,146,815,910	1,166,267,217
Company C	1,050,979,799	1,127,496,114
	<u>3,505,033,947</u>	<u>3,373,087,222</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

8. Trade Receivables

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

<i>(in thousands of Korean won)</i>	2018	2017
Trade receivables	977,335,518	904,283,605
Allowance for doubtful accounts	(8,484,008)	(21,161,232)
	<u>968,851,510</u>	<u>883,122,373</u>

The Group provides allowance for doubtful accounts by assessing trade receivables for impairment both individually and collectively and sets up the allowance for doubtful accounts accordingly. See note 4.1.2 for a calculation of the Group's loss allowances and impairment policy.

9. Other Receivables and Other Non-current Receivables

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

<i>(in thousands of Korean won)</i>	2018		2017	
	Current	Non-current	Current	Non-current
Non-trade receivables	21,576,026	44,160	52,784,956	-
Accrued revenues	3,834,680	-	2,294,729	-
Loan receivables	359,983	200,000	6,366,078	120,000
Certificate of deposits	18,038,466	8,402,526	19,035,614	8,529,684
	<u>43,809,155</u>	<u>8,646,686</u>	<u>80,481,377</u>	<u>8,649,684</u>

10. Other Current Assets and Other Non-Current Asset

Other current and non-current assets as at December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018		2017	
	Current	Non-current	Current	Non-current
Advance payment	162,499,882	-	74,725,887	-
Prepaid VAT	89,844,623	-	75,057,928	-
Prepaid expense, etc.	29,013,237	-	30,424,188	-
Up-front payment ¹	-	19,310,601	-	-
Long-term prepaid expenses and others	-	483,984	-	4,079,431
Net defined benefit assets ²	-	4,542,805	-	1,900,682
	<u>281,357,742</u>	<u>24,337,390</u>	<u>180,208,003</u>	<u>5,980,113</u>

¹Amount to be received in the future according to the contract with customers.

² The excess amount of certain plans in the Group has not been offset with net defined benefit assets because it has no right or intention to settle the defined benefit obligations of other plans (Note 19).

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

11. Inventories

(1) Details of inventories as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018			2017		
	Acquisition cost	Less valuation allowance	Book value	Acquisition cost	Less valuation allowance	Book value
Merchandises	19,874,951	(222,718)	19,652,233	14,966,949	(298,096)	14,668,853
Finished goods	116,550,644	(2,846,008)	113,704,636	109,449,411	(2,723,057)	106,726,354
Goods partly processed	17,692,437	(453,160)	17,239,277	20,997,377	(139,325)	20,858,052
Work in process	24,372,629	(647,049)	23,725,580	20,194,957	(449,619)	19,745,338
Raw material	243,811,521	(10,017,224)	233,794,297	233,559,746	(8,717,525)	224,842,221
Supplies	26,647,914	(2,893,291)	23,754,623	20,703,243	(2,745,195)	17,958,048
Materials-in-transit	73,934,617	-	73,934,617	63,843,642	-	63,843,642
	<u>522,884,713</u>	<u>(17,079,450)</u>	<u>505,805,263</u>	<u>483,715,325</u>	<u>(15,072,817)</u>	<u>468,642,508</u>

(2) The Company recognized loss on inventory valuation of ₩19,998,768 thousand and ₩18,900,149 thousand for the years ended December 31, 2018 and 2017, respectively. The amount of loss on inventory has been included in cost of sales. In addition, the Company excluded the beginning balance of inventory valuation amounting to ₩15,072,817 thousand and ₩18,142,482 thousand from the cost of sales for the years ended December 31, 2017 and 2016, respectively.

12. Investments in Associates and Joint ventures

Investments in associates and joint ventures as at December 31, 2018 and 2017, are as follows:

Company ¹	Country	Year end	Ownership (%)		Book value	
			2018	2017	2018	2017
Bonaire	China	December	37.5	37.5	33,199,997	32,436,617
JCS	Japan	March	33.3	33.3	41,765,704	37,473,751
FHTS	China	December	45.0	50.0	22,734,508	24,812,585
BBHS	China	December	49.0	49.0	1,178,825	1,904,775
					<u>98,879,034</u>	<u>96,627,728</u>

¹ The official names of the associates and joint ventures are as follows:

Associates	Official names
Bonaire	Bonaire Automotive Electrical System Co., Ltd.
JCS	Japan Climate Systems Corporation
FHTS	FAWER Hanon Thermal Systems (Changchun) Company Ltd
BBHS	Beijing BHAP Hanon Systems Co., LTD

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Changes in carrying amounts of investment in associates and joint ventures for the years ended December 31, 2018 and 2017, are as follows:

	2018					
	Beginning balance	Disposal	Share of profit(loss) of associates	Share of other comprehensive income of associates	Dividends	Ending balance
Bonaire	32,436,617	-	2,105,384	(86,203)	(1,255,800)	33,199,997
JCS	37,473,751	-	4,440,004	2,499,657	(2,647,708)	41,765,704
FHTS	24,812,586	(2,494,886)	447,643	(30,835)	-	22,734,508
BBHS	1,904,775	-	(731,594)	5,645	-	1,178,825
	96,627,728	(2,494,886)	6,261,437	2,388,263	(3,903,508)	98,879,034

	2017					
	Beginning balance	Disposal	Share of profit(loss) of associates	Share of other comprehensive income of associates	Dividends	Ending balance
Bonaire	33,020,982	-	2,730,469	(850,783)	(2,464,051)	32,436,617
JCS	37,250,420	-	5,494,853	(3,341,855)	(1,929,667)	37,473,751
FHTS	24,690,645	-	1,040,938	(918,998)	-	24,812,585
BBHS	-	2,765,717	(758,708)	(102,234)	-	1,904,775
	94,962,047	2,765,717	8,507,552	(5,213,870)	(4,393,718)	96,627,728

Summary of condensed financial information of major associates and joint ventures as at and for the years ended December 31, 2018 and 2017, are as follows:

	2018					
	Assets	Liabilities	Equity	Sales	Profit (loss) for the year	Total comprehensive income (loss)
Bonaire	83,666,493	44,744,543	38,921,950	64,059,087	5,614,357	5,614,357
JCS	183,818,822	58,396,288	125,422,534	270,109,659	13,339,986	13,339,986
FHTS	104,954,371	71,404,554	33,549,816	103,149,412	1,217,473	1,217,473
BBHS	8,012,800	5,607,035	2,405,765	692,684	(1,493,049)	(1,493,049)

	2017					
	Assets	Liabilities	Equity	Sales	Profit (loss) for the year	Total comprehensive income (loss)
Bonaire	98,762,092	61,865,139	36,896,953	91,828,422	7,435,756	5,166,999
JCS	180,879,354	68,345,567	112,533,787	308,256,122	16,503,974	6,445,794
FHTS	82,381,442	49,845,522	32,535,920	107,519,687	2,098,726	260,813
BBHS	6,071,613	2,184,318	3,887,295	4,710	(1,548,383)	(1,757,025)

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Details of adjustments from financial information of major associates and joint ventures to the book value of investments in associates and joint ventures for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018					
	Net assets at the end of the year (a)	Group's share in % (b)	Group's share in KRW (a × b)	Goodwill	Intergroup transactions and other	Book value
Bonaire	38,921,950	37.50%	14,595,731	16,022,106	2,582,160	33,199,997
JCS	125,422,534	33.30%	41,765,704	-	-	41,765,704
FHTS	33,549,816	45.00%	15,097,417	7,812,813	(175,722)	22,734,508
BBHS	2,405,765	49.00%	1,178,825	-	-	1,178,825

<i>(in thousands of Korean won)</i>	2017					
	Net assets at the end of the year (a)	Group's share in % (b)	Group's share in KRW (a × b)	Goodwill	Intergroup transactions and other	Book value
Bonaire	36,896,954	37.50%	13,836,357	16,022,106	2,578,154	32,436,617
JCS	112,533,787	33.30%	37,473,751	-	-	37,473,751
FHTS	32,535,920	50.00%	16,267,959	8,680,903	(136,277)	24,812,585
BBHS	3,887,295	49.00%	1,904,775	-	-	1,904,775

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

13. Property, Plant and Equipment

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

(in thousands of Korean won)

	2018		
	Cost	Accumulated depreciation ¹	Book value
Land	75,617,980	-	75,617,980
Building	383,994,993	(149,110,892)	234,884,101
Structures	20,787,108	(7,711,242)	13,075,866
Machinery	1,875,686,663	(1,213,069,135)	662,617,528
Vehicles	6,590,966	(4,348,460)	2,242,506
Tools, equipment and others	512,656,242	(388,886,858)	123,769,384
Office equipment	65,017,961	(49,986,329)	15,031,632
Lease Improvements	7,555,713	(1,801,160)	5,754,553
Machinery in transit	5,061,673	-	5,061,673
Construction in progress	413,395,871	-	413,395,871
	<u>3,366,365,170</u>	<u>(1,814,914,076)</u>	<u>1,551,451,094</u>

(in thousands of Korean won)

	2017		
	Cost	Accumulated depreciation ¹	Book value
Land	75,032,089	(123,244)	74,908,845
Building	361,302,505	(130,741,088)	230,561,417
Structures	19,204,515	(6,879,735)	12,324,780
Machinery	1,698,580,872	(1,087,760,793)	610,820,079
Vehicles	6,091,777	(3,648,785)	2,442,992
Tools, equipment and others	458,415,095	(358,128,092)	100,287,003
Office equipment	59,384,344	(42,880,160)	16,504,184
Lease Improvements	2,713,600	(1,332,423)	1,381,177
Machinery in transit	3,723,802	-	3,723,802
Construction in progress	209,048,811	-	209,048,811
	<u>2,893,497,410</u>	<u>(1,631,494,320)</u>	<u>1,262,003,090</u>

¹ Accumulated impairment losses are included.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

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

(in thousands of Korean won)	2018								Ending balance
	Beginning balance	Additions	Disposals	Depreciation ¹	Impairment	Transfer	Exchange differences	Changes in scope of consolidation	
Land	74,908,845	83,380	-	(144,687)	-	243,185	224,824	302,433	75,617,980
Building	230,561,417	16,070,584	(452,186)	(12,774,774)	(3,294,276)	2,878,806	(205,057)	2,099,587	234,884,101
Structures	12,324,780	1,768,473	(85,148)	(970,647)	-	40,831	(2,423)	-	13,075,866
Machinery	610,820,079	115,044,983	(7,785,370)	(129,458,770)	(12,749,192)	88,909,959	(3,599,414)	1,435,253	662,617,528
Vehicles	2,442,992	605,853	(27,215)	(753,576)	-	-	(29,488)	3,940	2,242,506
Tools, equipment and others	100,287,003	56,269,485	(1,625,437)	(45,880,086)	(1,742,462)	17,037,910	(577,029)	-	123,769,384
Office equipment	16,504,184	5,159,759	(54,773)	(8,052,018)	-	1,465,073	(47,961)	57,368	15,031,632
Lease Improvements	1,381,177	135,205	(8,434)	(632,188)	-	4,799,147	79,646	-	5,754,553
Machinery in transit	3,723,802	4,895,559	-	-	-	(3,424,242)	(133,446)	-	5,061,673
Construction in progress	209,048,810	333,429,126	(4,441,536)	(1,451,302)	-	(119,741,086)	(3,590,905)	142,764	413,395,871
	<u>1,262,003,089</u>	<u>533,462,407</u>	<u>(14,480,099)</u>	<u>(200,118,048)</u>	<u>(17,785,930)</u>	<u>(7,790,417)</u>	<u>(7,881,253)</u>	<u>4,041,345</u>	<u>1,551,451,094</u>

(in thousands of Korean won)	2017								Ending balance
	Beginning balance	Additions	Disposals	Depreciation ¹	Impairment	Transfer	Exchange differences	Transferred to disposal group classified as held-for-sale	
Land	76,855,902	823,455	(959,506)	-	(234,257)	49,492	(295,812)	(1,330,429)	74,908,845
Building	226,225,359	14,069,201	(2,260,640)	(12,197,002)	(135,252)	9,844,789	(3,600,564)	(1,384,474)	230,561,417
Structures	12,160,777	1,396,416	-	(921,427)	-	75,644	(386,630)	-	12,324,780
Machinery	566,010,325	100,740,776	(3,470,796)	(118,243,614)	(426,676)	78,734,462	(12,523,577)	(821)	610,820,079
Vehicles	1,305,710	1,207,694	(52,346)	(641,810)	-	670,161	(46,417)	-	2,442,992
Tools, equipment and others	103,602,832	41,892,152	(7,771,397)	(42,586,254)	(136,256)	6,936,688	(1,648,591)	(2,171)	100,287,003
Office equipment	17,392,009	5,389,421	(29,554)	(6,979,809)	(743)	1,401,907	(667,578)	(1,469)	16,504,184
Lease Improvements	1,306,195	621,238	(5,379)	(464,809)	-	11,030	(87,098)	-	1,381,177
Machinery in transit	4,810,617	503,295	-	-	-	(1,487,569)	(102,541)	-	3,723,802
Construction in progress	168,474,364	158,570,000	(11,527,504)	(746,198)	-	(97,721,125)	(8,000,726)	-	209,048,811
	<u>1,178,144,090</u>	<u>325,213,648</u>	<u>(26,077,122)</u>	<u>(182,780,923)</u>	<u>(933,184)</u>	<u>(1,484,521)</u>	<u>(27,359,534)</u>	<u>(2,719,364)</u>	<u>1,262,003,090</u>

¹ For the year ended December 31, 2018 and 2017, the depreciation expense of ₩6,031,136 thousand and ₩2,163,540 thousand, respectively, were transferred to the development cost (intangible assets) and other accounts.

Line items including depreciation in the statements of profit or loss for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018	2017
Cost of sales	178,998,956	167,815,921
Selling and administrative expenses	15,087,956	12,801,462
	<u>194,086,912</u>	<u>180,617,383</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

14. Intangible assets

- (1) Changes in carrying amounts of property, plant and equipment for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

	2018							
	Beginning balance	Additions	Changes in scope of consolidation	Disposals	Amortization ¹ & Impairment	Transfer	Exchange differences	Ending balance
Goodwill	208,423,354	-	4,662,129	-	-	-	(176,236)	212,909,247
Development costs	187,426,650	141,099,356	-	-	(23,622,011)	8,230,801	1,489,934	314,624,730
Memberships	4,271,048	2,484,810	-	(1,833,814)	-	-	(884)	4,921,160
Industrial rights	6,727,594	443,471	-	-	(1,319,063)	-	381	5,852,383
Other intangibles	30,803,973	2,574,376	38,001	(43,478)	(9,152,437)	1,462,217	20,180	25,702,832
	<u>437,652,619</u>	<u>146,602,013</u>	<u>4,700,130</u>	<u>(1,877,292)</u>	<u>(34,093,511)</u>	<u>9,693,018</u>	<u>1,333,375</u>	<u>564,010,352</u>

(in thousands of Korean won)

	2017							
	Beginning balance	Additions	Disposals	Amortization ¹ & Impairment	Transfer	Exchange differences	Transferred to disposal group classified as held-for-sale	Ending balance
Goodwill	208,693,947	-	-	-	-	(270,593)	-	208,423,354
Development costs	97,762,214	99,347,141	-	(11,647,689)	5,101,764	(3,136,779)	-	187,426,651
Memberships	4,521,833	-	(241,240)	-	-	(9,545)	-	4,271,048
Industrial rights	6,990,137	986,902	-	(1,249,790)	-	345	-	6,727,594
Other intangibles	32,297,573	4,781,504	(103,593)	(8,218,484)	3,279,648	(417,351)	(815,325)	30,803,972
	<u>350,265,704</u>	<u>105,115,547</u>	<u>(344,833)</u>	<u>(21,115,963)</u>	<u>8,381,412</u>	<u>(3,833,923)</u>	<u>(815,325)</u>	<u>437,652,619</u>

¹ For the year ended December 31, 2018 and 2017, the amortization expense of ₩130,919 thousand and ₩222,844 thousand, respectively, were transferred to the development cost.

- (2) Carrying amount and remaining amortization period of major development projects as at December 31, 2018 are as follows:

(in thousands of Korean won)	Name of separate asset	Carrying amount	Remaining amortization year ¹
Development costs	Domestic		
	Project A	7,584,130	-
	Project B	7,144,833	-
	Project C	7,041,830	4.3
	Project D	6,627,618	-
	Project E	8,106,451	-
	Project F	7,440,228	-
	Overseas		
	Project G	7,385,721	-
	Project H	7,212,352	-

¹ The remaining amortization period are only applicable for the project of which amortization has begun.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- (3) Line items including depreciation in the statements of income for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Cost of sales	25,425,739	13,562,596
Selling and administrative expenses(including R&D cost)	8,406,462	7,330,523
	<u>33,832,201</u>	<u>20,893,119</u>

- (4) For the year ended December 31, 2018 and 2017, the Group recognized ₩170,143,674 thousand and ₩157,217,515 thousand, respectively, as expenses for research and development activities.

- (5) Impairment Tests for Goodwill

Management reviews the operating results and performance of the automobile parts business and the goodwill of Hanon Systems is identified as a single cash-generating unit (or CGU), management did not allocate the goodwill accordingly.

The recoverable amount of all CGUs has been determined based on value-in-use calculations. These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the estimated growth rates stated below. The growth rate does not exceed the long-term average growth rate included in industry report specific to the industry in which the CGU operates.

The table below summarizes goodwill allocation for each cash-generating unit.

<i>(in thousands of Korean won)</i>	2018	2017
Hanon Systems ¹	90,215,389	90,215,389
Hanon Beijing	28,540,909	28,540,909
HASI	54,830,990	54,830,990
Hanon Alabama	24,952,249	24,952,249
Thermal management and emission	6,942,228	7,146,593
Hanon Nanjing	2,729,944	2,737,224
Auto Parts Hungary	4,697,538	-
	<u>212,909,247</u>	<u>208,423,354</u>

¹ See Note 22 for summary of the litigation for the business combination.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Goodwill allocation reviews are undertaken annually. Impairment tests suggest that the carrying value of cash generating unit does not exceed the recoverable amount. The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. The growth rate assumptions for the five-year period and permanent growth rate for the period beyond are as follows:

Key Assumptions	2018						
	Hanon Systems	Hanon Beijing	HASI	Hanon Alabama	Thermal management and emission	Hanon Nanjing	Auto Parts Hungary
OP Margin	6.20%	7.92%	7.61%	2.88%	9.71%	12.93%	9.35%
Growth rate	1.84%	4.35%	12.21%	6.99%	6.93%	8.91%	12.23%
Permanent rate	1.00%	1.00%	3.00%	0.00%	1.00%	1.00%	1.00%
Discount rate	15.15%	16.82%	15.45%	11.43%	16.68%	17.40%	9.89%

Key Assumptions	2017					
	Hanon Systems	Hanon Beijing	HASI	Hanon Alabama	Thermal management and emission	Hanon Nanjing
OP Margin	7.69%	10.95%	9.01%	4.16%	6.41%	13.11%
Growth rate	3.82%	8.56%	8.84%	3.89%	6.79%	11.35%
Permanent rate	1.00%	1.50%	3.00%	0.00%	1.00%	1.00%
Discount rate	15.04%	16.52%	17.89%	15.50%	18.26%	16.72%

The Group determines sales growth rate based on expectation of market development. The applied discount rate is pre-tax discount rate that reflects specific risk of the relevant segment.

The sensitivity of value-in-use

The impairment losses could be recognized when the value in use are changed by following key assumptions:

Changes in key assumptions	Hanon Systems	Hanon Beijing	HASI	Hanon Alabama	Thermal management and emission	Hanon Nanjing	Auto Parts Hungary
Average OP margin declined to ¹	5.05%	3.40%	4.72%	1.94%	3.64%	9.37%	5.83%
Average growth rate declined to ²	(0.98)%	(11.82)%	3.80%	1.41%	(20.45)%	2.52%	3.23%
Pre-tax discount rate rises to ³	18.99%	40.69%	24.98%	17.97%	59.02%	26.14%	16.30%

¹ OP margin: Decrease in demand can lead to a decline in OP margin.

² Growth rate: Management recognizes that the speed of technology change and the likelihood of other competitors entering the market can have a significant impact on growth rates.

³ Pre-tax discount rate: The pre-tax discount rate may change due to changes in risk-free interest rates, risk premiums, and target capital structure of cash-generating units

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

15. Lease assets

Changes in carrying amounts of lease assets for the year ended December 31, 2018, are as follows.

(in thousands of
Korean won)

	2018					
	Beginning balance	Adjustments	Additions	Changes in scope of consolidation	Depreciation ¹ & Impairment	Exchange differences
Land	-	11,293,637	12,538,580	-	(1,054,470)	(434,694)
Building	-	76,782,438	79,013,504	8,967	(22,777,653)	1,649,695
Structures	-	13,673	-	-	(13,902)	229
Machinery	-	6,369,382	8,853,647	-	(2,932,924)	160,242
Vehicles	-	8,856,442	3,658,206	162,449	(7,271,730)	(92,357)
Office equipment	-	227,660	567,163	-	(459,793)	4,401
IT equipment	-	2,213,054	8,303,517	-	(5,859,165)	1,768
Others	-	1,666,752	1,728,619	6,315	(2,516,513)	(29,724)
	-	107,423,038	114,663,236	177,731	(42,886,150)	1,259,560

¹ In 2018, ₩1,612,386 thousand of depreciation was reclassified into other accounts such as development costs.

16. Other Current Payables and other Non-Current Payables

(in thousands of Korean won)	2018		2017	
	Current	Non-current	Current	Non-current
Other payables	278,724,229	-	174,045,903	-
Accrued expenses	123,255,343	-	122,215,297	-
Deposits received	863,025	-	840,000	-
Other long-term payables	-	13,206,698	-	15,503,775
	402,842,597	13,206,698	297,101,200	15,503,775

17. Other Current Liabilities and other Non-Current Liabilities

(in thousands of Korean won)	2018		2017	
	Current	Non-current	Current	Non-current
Advances from customer	13,299,245	-	6,971,989	-
VAT withheld	12,521,422	-	9,271,151	-
Withholdings	14,635,619	-	12,146,989	-
Unearned revenues and other	56,638,062	-	20,227,659	-
Other post-employment benefit liabilities	-	18,050,944	-	16,918,194
Long-term unearned revenues	-	2,721,923	-	6,890,654
	97,094,348	20,772,867	48,617,788	23,808,848

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

18. Other Provisions

Other provisions consist of warranty provisions and litigation provisions and others. Changes in other provisions for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Beginning balance	41,478,190	41,308,872
Provisions for the year	28,321,200	29,252,996
Payments for the year	(32,171,944)	(28,559,211)
Reclassification	(71,822)	-
Exchange differences	(117,287)	(492,778)
Reclassification as liabilities held-for-sale	-	(31,687)
Ending balance	37,438,337	41,478,190

19. Post-employment Benefits

Details of net defined benefit liabilities recognized in the statements of financial position as at December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Present value of defined benefit obligations	248,069,501	231,267,756
Fair value of plan assets ¹	(191,976,570)	(170,352,953)
Total	56,092,931	60,914,803

¹ The excess amount of ₩ 4,542,805 thousand is included in the defined benefit assets in the consolidated financial statements.

Changes in the defined benefit obligations for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Beginning balance	231,213,577	220,202,913
Current service cost	23,070,184	24,621,774
Interest expense	6,309,428	6,010,281
Remeasurements:		
- Actuarial gains and losses arising from changes in demographic assumptions	313,922	-
- Actuarial gains and losses arising from changes in financial assumptions	(2,110,398)	(5,470,218)
- Actuarial gains and losses arising from experience adjustments	(1,382,895)	(4,327,031)
Past service cost	385,332	-
Payments from plans		
- Benefit payments	(9,669,832)	(8,485,617)
Exchange differences	(59,817)	(1,284,346)
Ending balance	248,069,501	231,267,756

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

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

<i>(in thousands of Korean won)</i>	2018	2017
Beginning balance	170,352,953	159,983,266
Interest income	5,155,491	4,699,766
Remeasurements:		
- Return on plan assets (excluding amounts included in interest income)	(4,668,579)	1,518,491
Contributions:		
- Employers	28,714,293	10,925,288
Payments from plans		
- Benefit payments	(7,122,057)	(6,092,180)
Exchange differences	(455,531)	(681,678)
Ending balance	191,976,570	170,352,953

The actual return on plan assets for the year ended December 31, 2018 amounts to ₩ 486,912 thousand (2017: ₩ 6,218,257 thousand).

The amounts recognized as net defined benefit liability in the consolidated statements of profit or loss for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Current service cost	20,140,379	21,933,585
Past service cost	385,331	-
Net interest cost	1,154,312	1,310,369
Expenses included in salaries ¹	21,680,022	23,243,954

¹ For the year ended December 31, 2018, defined benefit expense amounting to ₩2,929,431 (2017: ₩2,688,335) thousand was transferred into the development cost and other accounts.

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

<i>(in thousands of Korean won)</i>	2018	2017
Quoted price	18,543,036	22,913,306
Unquoted price	173,433,534	147,439,647
- Corporate bonds	29,668,484	27,004,765
- Bank deposits	37,078,252	34,198,356
- Cash and cash equivalent	7,270,879	3,243,262
- Others	99,415,919	82,993,264
	191,976,570	170,352,953

The principal actuarial assumptions as at December 31, 2018 and 2017, are as follows:

<i>(in percentage)</i>	2018	2017
Discount rate	2.7%	2.8%
Salary growth rate	4.1%	4.3%

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

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

<i>(in percentage)</i>	Effect on defined benefit obligation		
	Changes in principal assumption	Increase in principal assumption	Decrease in principal assumption
Discount rate	1.0%	(34,293,182)	43,291,795
Salary growth rate	1.0%	21,974,005	(19,391,059)

The above sensitivity analyses are estimated under the premise of all other presumptions in respect of the sensitivity are unchangeable. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method which is the same method applied estimating the defined benefit obligations recognized in the consolidated statement of financial position.

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

The Group reviews the funding level on an annual basis and has a policy of eliminating deficit from the fund. Expected contributions to post-employment benefit plans for the year ending December 31, 2018, are ₩17,503,301 thousand.

Expected maturity analysis of undiscounted pension benefits as at December 31, 2018, is as follows:

<i>(in thousands of Korean won)</i>	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Between 5 and 10 years	Total
Pension benefits	5,296,188	7,488,840	37,692,103	106,053,845	156,530,976

The weighted average duration of the defined benefit obligations is 14.7 years.

For the year ended December 31, 2018, the Group recognized ₩3,332,538 thousand (2017: ₩2,908,032 thousand) as post-employment benefit cost under the defined contribution pension plan.

Changes in other post-employment benefit liabilities for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Beginning balance	16,918,194	16,358,858
Service cost	1,149,949	1,270,795
Net interest expense	392,720	336,794
Re-measurement gain	1,631,572	89,735
Past service cost	22,551	-
Other long-term employee benefits paid	(1,826,205)	(1,160,484)
Exchange differences	(237,837)	22,496
Ending balance	18,050,944	16,918,194

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

The principal actuarial assumption on other post-employment benefit liabilities as at December 31, 2018 and 2017, is as follows:

<i>(in percentage)</i>	2018	2017
Discount rate	2.4%	2.8%

20. Share-based Payments

The establishment of the Group's share option was approved by shareholders at the annual general meeting and, share options are granted to directors and selected employees. Details are as follows:

- 1st stock option
 - Type of shares issued through share option: registered share capital
 - Grant method: the Company can choose among issuance of shares and distributing treasury stock
 - Grant date: May 9, 2016
 - Vesting condition : 25% 1 year after grant date, 50% 2 years after grant date, 75% 3 years after grant date, 100% 4 years after grant date
 - Exercisable condition : By resolution of Board of Directors the options are exercisable when the largest shareholder change transaction occurs or eight years after the grant date.(whereas, if the employees have not served for more than two years from the grant date, it can be canceled by resolution of the Board of Directors)
- 2nd stock option
 - Type of shares issued through share option: registered share capital
 - Grant method: the Company can choose among issuance of shares and distributing treasury stock
 - Grant date: February 14, 2017
 - Vesting condition : 25% 1 year after grant date, 50% 2 years after grant date, 75% 3 years after grant date, 100% 4 years after grant date
 - Exercisable condition : By resolution of Board of Directors the options are exercisable when the largest shareholder change transaction occurs or eight years after the grant date.(whereas, if the employees have not served for more than two years from the grant date, it can be canceled by resolution of the Board of Directors)

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

- 3rd stock option
 - Type of shares issued through share option: registered share capital
 - Grant method: the Company can choose among issuance of shares and distributing treasury stock
 - Grant date: February 9, 2018
 - Vesting condition : 25% 1 year after grant date, 50% 2 years after grant date, 75% 3 years after grant date, 100% 4 years after grant date
 - Exercisable condition : By resolution of Board of Directors the options are exercisable when the largest shareholder change transaction occurs or eight years after the grant date.(whereas, if the employees have not served for more than two years from the grant date, it can be canceled by resolution of the Board of Directors)

Changes in the number of share options outstanding and their related weighted average exercise prices for the years ended December 31, 2018, are as follows:

	Options (unit: share)			Average exercise price per share option		
	First	Second	Third	First	Second	Third
Beginning balance	1,420,000	3,455,000	-	₩ 10,200	₩ 10,200	-
Granted	-	-	1,830,000	-	-	₩ 13,100
Eliminated	(270,000)	(360,000)	(370,000)	₩ 10,200	₩ 10,200	₩ 13,100
Ending balance	1,150,000	3,095,000	1,460,000	₩ 10,200	₩ 10,200	₩ 13,100

At the end of the reporting period, there is no available option to exercise.

Compensation costs of share options granted during the years ended December 31, 2018 are calculated by applying a fair value approach using a binomial model. The related assumptions and variables to calculate the compensation costs are as follows:

	First ³	Second	Third
Weighted average fair value of share options granted during the year	₩ 1,424.05	₩ 1,128.24	₩ 2529.66
Share price ¹	₩ 10,300	₩ 9,270	₩ 12,800
Price volatility ²	15.1%	17.1%	17.6%
Dividend yield	2.2%	2.1%	1.7%
Expected option life	10 years	10 years	10 years
Risk-free interest rate	1.8%	1.6%	2.8%

¹ The share price at amendment date of grant contract for the 1st stock option, and the share price at grant date for the 2nd and 3rd stock option.

² The volatility is measured by converting annual historical volatility over the past 180 days.

³ The grant method of 1st stock option was changed as a result of amendment of the grant contract.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

For the year ended December 31, 2018, the Group recognized ₩(870,936) (2017: ₩1,118,802) thousand as expenses for share-based payments.

21. Borrowings and Debentures

Details of short-term borrowings as at December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	Financial institution	Interest rate December 31, 2018	2018	2017
Account receivable financing	KEB Hana Bank and others	LIBOR + 0.65%~1%	2,363,024	10,735,430
	Bank of America	LIBOR or Euribor + 0.75%	133,204,718	22,210,153
	Raiffeisen	Euribor + 0.47~0.53%	25,583,200	-
Short-term borrowings in foreign currency	ING Bank	1M Euribor + 0.4%	25,536,014	-
	Citi Bank	Euribor + 0.55%~0.65%	106,170,280	81,872,000
	Deutsche Bank	-	-	6,219,670
	Komerčni Bank	-	-	12,792,500
Debenture	7-1 unsecured	2.00%	159,986,937	-
	Granite	2.68%	3,588,081	-
		9.50%	1,999,054	1,838,179
Short-term financial lease liabilities	FINSA	2.23%	1,425,991	-
	Iver Leasing and others	-	25,953,128	200,059
			485,810,427	135,867,991

When the transferred or discounted account receivables do not meet the de-recognition criteria for a financial instrument (for instance, when the Company is the obligor due to the right of recourse), the un-matured amounts are recognized as short-term borrowings.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Details of long-term borrowings as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	Financial institution	Interest rate	2018	2017
		December 31, 2018		
Debentures ¹	7-1 unsecured	2.0%	-	159,816,648
	7-2 unsecured	2.3%	139,815,739	139,726,015
	8-1 unsecured	1.9%	49,944,847	49,895,263
	8-2 unsecured	2.3%	189,729,260	189,611,809
	8-3 unsecured	2.8%	59,875,081	59,850,659
	9-1 unsecured	2.3%	149,386,551	-
	9-2 unsecured	2.6%	318,757,895	-
	9-3 unsecured	3.0%	79,666,500	-
	9-4 unsecured	3.4%	49,780,007	-
Long-term borrowings in foreign currency	JCS	1.6%	3,416,872	7,548,154
	Federal Development Loans	-	1,784,261	1,669,141
Long-term financial lease liabilities	Granite	2.7%	58,100,302	-
	FINSA	9.5%	10,466,592	11,359,075
		2.2%	7,192,222	-
	Iver Leasing and others	-	68,299,600	1,531,739
			1,186,215,729	621,008,503

¹ The Group has issued 9-1, 9-2, 9-3 and 9-4 unsecured debentures amounting to ₩150,000,000 thousand, ₩320,000,000 thousand, ₩80,000,000 thousand and ₩50,000,000 thousand, respectively, in order to obtain operating fund and repay borrowings which matured within 2018.

Changes in carrying amounts of borrowings and debentures for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018	2017
Beginning balance	741,947,442	626,985,859
Increase in bank borrowings	618,637,122	267,974,930
Repayment of bank borrowings	(461,328,683)	(449,064,202)
Issuance of debentures	597,567,404	299,216,482
Exchange differences and others	(1,822,100)	(3,165,627)
Ending balance	1,495,001,185	741,947,442

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Changes in carrying amount of lease liabilities for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Beginning balance	14,929,052	19,229,256
Increase in lease liabilities ¹	215,746,738	-
Changes in scope of consolidation	170,483	-
Repayment of lease liabilities	(58,071,053)	(2,899,355)
Amortization and others	4,249,750	(1,400,849)
Ending balance	177,024,970	14,929,052

¹ During the year ended December 31, 2018, the Group has chosen early adoption of Korean IFRS 1116 *Leases*, and the effect of beginning balance adjustment, amounting to ₩98,348,947 thousand as at January 1, 2018, was included in increase of lease liabilities.

22. Commitments and contingencies

(1) As at December 31, 2018, loan agreements of controlling company with financial institutions are as follows:

(in thousands of Korean won and foreign currency)

Principal finance institution	Agreement	Details			Remarks
		Currency	Amount	Equivalents of Korean won	
KEB Hana Bank	Bank overdrafts	KRW	10,000,000	10,000,000	Credit Line
	Export-import financing, trade financing, general loans and others	KRW	140,000,000	140,000,000	
	Account receivable financing	KRW	195,000,000	195,000,000	
	Forward contract	USD	150,000	167,715,000	
	Guarantee in foreign currency	USD	5,500	6,149,550	
Woori Bank	Export-import financing	USD	10,000	11,181,000	
	Forward contract	USD	50,000	55,905,000	
KDB Bank	General loans	KRW	100,000,000	100,000,000	
	Forward contract	KRW	14,000,000	14,000,000	
Bank of America	Forward contract	USD	100,000	111,810,000	
JP Morgan	Forward contract	USD	100,000	111,810,000	
Shinhan Bank	Forward contract	USD	25,000	27,952,500	
Kookmin Bank	Forward contract	USD	25,000	27,952,500	

(2) As at December 31, 2018, Hanon Nanjing has payment guarantees of USD 7,059 thousand provided by JCS, an associate of the Group.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(3) Loan agreements that the subsidiaries have entered into with financial institutions as at December 31, 2018 are as follows:

(in thousands of Korean won and foreign currency)

	Principal financial institution	Details	Credit Limit		
			Currency	Amount	Equivalents of Korean won
China Group Facility ¹	Bank of America	Loan agreement	USD	38,000	42,487,800
Europe Group Facility ²	Bank of America	Loan agreement	EUR	85,000	108,728,600
America Group Facility ³	Bank of America	Loan agreement	USD	100,000	111,810,000
Hanon Beijing	Bank of China	Loan agreement	CNY	100,000	16,276,000
Hanon Dalian	KEB Hana Bank	Loan agreement	USD	15,000	16,771,500
	Woori Bank	Loan agreement	CNY	50,000	8,138,000
Hanon Shanghai	Bank of America	Loan agreement	CNY	12,000	1,953,120
Hanon Nanjing	Bank of America	Loan agreement	USD	8,000	8,944,800
HASI	HDFC Bank	Loan agreement	INR	500,000	7,995,000
	Citi Bank	Loan agreement	INR	250,000	3,997,500
Hanon Bhiwadi	HDFC Bank	Loan agreement	INR	80,000	1,279,200
Hanon Japan	Bank of America	Loan agreement	USD	10,000	11,181,000
Hanon South Africa	Citi Bank	Loan agreement	ZAR	15,000	1,162,200
Hanon Slovakia	Citi Bank	Loan agreement	EUR	19,000	24,304,040
	ING Bank	Loan agreement	EUR	20,000	25,583,200
	Citi Bank	Loan agreement	USD	15,000	16,771,500
	Raiffeisenbank	Loan agreement	EUR	20,000	25,583,200
Hanon Netherlands	Citi Bank	Loan agreement	TRY	20,000	4,217,400
	Deutsche Bank	Loan agreement	EUR	5,000	6,395,800
Hanon Turkey	Garanti BANK	Loan agreement	TRY	250	52,718
	Citi Bank	Loan agreement	EUR	30,000	38,374,800
Hanon Autopal	Citi Bank	Loan agreement	EUR	35,000	44,770,600
Hanon Brazil	Bank of America	Loan agreement	USD	3,000	3,354,300
Hanon Canada	Federal Economic Development Agency for Southern Ontario	Government grant (Interest free loan)	CAD	2,175	1,784,261

¹ China Group Facility: Hanon Dalian and 6 other Chinese affiliates have been provided with loan facilities with a limit of USD 38 million for the purpose of operating funds.

² Europe Group Facility: Hanon Netherlands and other 2 affiliates have been provided with loan facilities with a limit of EUR 85 million for the purpose of operating funds.

³ America Group Facility: Hanon USA and another affiliate have been provided with loan facilities with a limit of USD 100 million for the purpose of operating funds.

(4) For the year ended December 31, 2016, the Group acquired the automotive climate control business segment from the one of its subcontractors. However, the Group filed criminal charges against the CEO of the subcontractor for his illegal action and put the acquisition cost paid by the Group under the provisional seizure. The Supreme Prosecutors' Office of Korea prosecuted the case to Cheonan Branch Daejeon District Court on July 29, 2016. On December 20, 2017, the CEO of the subcontractor was sentenced to 9 years in prison, and both the CEO of the subcontractor and prosecutor appealed against the sentence to Daejeon High Court, the court imposed 6-year sentence on him on October 12, 2018. On October 16, 2018, both the CEO of the subcontractor and District Prosecutor appealed against the Supreme Court, and on December 18, 2018, the CEO of

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

subcontractor requested the adjudication on the constitutionality of statute. On March 14, 2019, the Supreme Court confirmed the judgement by Cheonan Branch Daejeon District Court and dismissed the appeal of the above case. On the same date, the adjudication on the constitutionality of statute was also rejected. The Company filed a damage claim for compensation against him to Cheonan Branch Daejeon District Court on January 23, 2018, and also filed a claim arising out of the assignment and assumption agreement on July 6, 2018, and the first trial of the case is in progress. Details of the litigation have not been disclosed since it might put significant impact on ongoing dispute.

(5) The Company is a defendant in an ongoing litigation related to alleged patent infringement on certain components used in the manufacture of compressors. The lawsuit was filed by Toyota Jido Shokki Corp. against the Company to the Seoul Central District Court on March 18, 2014 and against Hanon Japan to the Tokyo District Court on December 26, 2014. On May 1, 2015, Hanon Japan filed the invalidation trial for the subject patent with Japanese Patent Office.

On January 16, 2015, the Seoul Central District Court ruled against the Group and its parent entity for patent infringement. The Company filed an appeal against the decision of the court on January 23, 2015 and received favorable adjudication from the Seoul High Court on January 21, 2016. The case was appealed for the final judgement in the Supreme Court on February 12, 2016, and the company won in the Supreme Court on November 9, 2018.

On January 5, 2016, Japanese Patent Office preliminarily judged Japanese patent invalid, yet on March 7, 2016, Toyota Jido Shokki Corp. requested a patent correction for maintaining the validity of patent. Hanon Japan lost the appeal on September 23, 2016 and had appealed to the Court of Appeals on November 2, 2016, but it lost again on October 26, 2017, and made an appealed again for the final judgement in the Supreme Court on November 9, 2017 and received unfavorable adjudication from the Supreme Court of Japan on July 19, 2018.

Meanwhile, Hanon Japan had lost Japanese patent infringement lawsuit on April 21, 2017 and had appealed to the Court of Appeals on May 10, 2017, but it lost again on November 28, 2017. The case was appealed for the final judgement in the Supreme Court on December 13, 2017 and received unfavorable adjudication from the Supreme Court of Japan on July 19, 2018.

In addition, Toyota Jido Shokki Corp. filed a damage claim for compensation against Hanon Japan to the Tokyo District Court on August 31, 2017, and it is still in progress. On February 7, 2018, Hanon Japan filed the additional invalidation trial against Toyota Jido Shokki Corp. for the other subject patent to Japanese Patent Office, and oral trial was held on October 10, 2018. On December 13, 2018, Hanon Japan received a notice of closure for invalidation trial of patent from Japanese Patent Office. On February 8, 2019, Hanon Japan filed a petition against the Japanese High Court to cancel the above judgment.

As at the end of the current reporting period, the Group cannot reliably determine the outcome of the appeal procedures since Toyota Jido Shokki Corp. did not provide reasonable grounds of calculation regarding the damage claim for compensation of approximately JPY 100 million and allegation of patent infringement is still in dispute, so that no provisions to settle potential contingent liabilities have been recognized accordingly.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(6) Avtovaz has filed a claim against Hanon Russia and the Parent company for damages due to default on product delivery and tooling return to the Samara Commercial Court in Russia and presented a claim amount of EUR 11 million in November 2017. Hanon Korea was served on May 25, 2018 by the Hague Service Convention. The preliminary court hearing took place on February 21, 2018, April 17, 2018 and October 31, 2018 and the hearing on the merits took place on February 5, 2019. The Group cannot reliably forecast the estimated damage as at the end of the period, since Avtovaz's claim is controversial as a one-sided claim.

(7) As at December 31, 2018, the Group holds a restricted Corporate Partnership Deposit amounting to ₩12,500,000 thousand.

(8) As at December 31, 2018, the Group holds technical license agreements with its associate and receives royalties of 0.5% ~ 3.0% on net sales under the terms of these agreements during the contract period.

(9) The Group entered into an acquisition agreement on September 20, 2018. On March 29, 2019, the Group decided to acquire Magna Group's Fluid Pressure & Controls division for USD 1,230 million (equivalent to ₩ 1,381,290 million), for business expansion and synergy with existing business.

23. Derivatives

(1) Details of financial position of outstanding derivative instruments of the Group as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

Transaction purpose	Derivatives	2018		
		Assets	Liabilities	Accumulated other comprehensive income
Cash Flow hedges	Forward foreign exchange	22,835,342	(3,132,481)	10,058,813
Fair value hedges	Forward foreign exchange	1,153,059	(83,616)	-
Trading	Forward foreign exchange	2,817,500	(3,702,769)	-

(in thousands of Korean won)

Transaction purpose	Derivatives	2017		
		Assets	Liabilities	Accumulated other comprehensive income
Cash Flow hedges	Forward foreign exchange	68,995,984	(2,345,795)	45,731,783
Fair value hedges	Forward foreign exchange	-	(1,050,819)	-

Cash flows hedge transactions include forward foreign exchange that the Group uses to manage exposures to fluctuations in cash flows relating to the revenues in foreign currencies. In addition, fair value hedge transactions include forward foreign exchange contracts that the Group uses to manage exposures to fluctuations in fair value of loan receivables in foreign currencies.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

By applying cash flows hedge accounting, the longest expected exposure to cash flows fluctuation is until February, 2021. The amount of valuation of cash flow hedge for accumulated other comprehensive income is all expected to be recognized as a gain within the same period.

(2) Gain (loss) on derivatives for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

Transaction purpose	Derivatives	2018			
		Sales	Cost of sales	Gain (loss) of valuation	Gain of transaction
Cash flow hedges	Forward foreign exchange	6,105,365	38,993,887	235,328	530,359
Fair value hedges	Forward <i>foreign</i> exchange	-	-	597,443	721,346
Trading	Forward <i>foreign</i> exchange	-	-	(894,324)	3,020,571

(in thousands of Korean won)

Transaction purpose	Derivatives	2017			
		Sales	Cost of sales	Gain (loss) of valuation	Gain of transaction
Cash flow hedges	Forward foreign exchange	3,620,381	24,634,001	829,722	3,235,985
Fair value hedges	Forward foreign exchange	-	-	(1,050,819)	237,137

24. Earnings per Share

(1) Basic earning per share for the years ended December 31, 2018 and 2017, are as follows:

(In Korean won, except number of shares)	2018	2017
Profit for the year attributable to ordinary owners of the Company ¹	277,639,204,729	288,563,135,146
Weighted average number of ordinary shares in issue	533,800,000	533,800,000
Basic earnings per shares	520	541

¹ Details of the profit for the year attributable to ordinary owners of the Company:

Due to the fact that there is no adjustment for this reporting period, the profit for the year attributable to ordinary owners of the Company equals to the profit for the year attributable to equity holders of the parent company on the consolidated statements of profit or loss.

(2) Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. The Group has only one category of dilutive potential ordinary shares: stock options. The stock options, a calculation is done to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of the Group's shares) based on the monetary value of the subscription rights attached to outstanding stock options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the stock options are exercised.

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

<i>(in Korean won, except number of shares)</i>	2018	2017
Profit for the period attributable to ordinary owners of the Company	277,639,204,729	288,563,135,146
Weighted average number of ordinary shares in issue	533,800,000	533,800,000
Adjustments		
Stock options	154,169	-
	533,954,169	533,800,000
Diluted earnings per share	520	541

25. Selling and Administrative Expenses

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

<i>(in thousands of Korean won)</i>	2018	2017
Salaries	97,816,887	95,148,910
Employee retirement benefits	6,730,469	6,491,291
Other long-term employee benefits	105,729	202,685
Employee welfare expenses	19,729,454	19,098,410
Taxes and dues	4,820,750	5,224,341
Freight cost	42,175,633	47,115,550
Warranty	20,574,295	17,805,707
Depreciation	7,609,813	6,884,617
Depreciation on lease assets	8,566,527	-
Amortization	3,014,688	2,094,660
Bad debts expenses	4,773,331	16,220,172
Travel expenses	7,643,391	8,775,745
Service fees	71,124,757	70,803,147
Research and development costs	170,143,674	157,217,515
Others	14,118,999	24,711,878
	478,948,397	477,794,628

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

26. Financial Income and Expense

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

<i>(in thousands of Korean won)</i>	2018	2017
Financial income		
Interest income	6,793,977	8,654,658
Gain on foreign currency transactions	12,239,475	2,824,113
Gain on foreign currency translation	2,741,986	1,527,106
	<u>21,775,438</u>	<u>13,005,877</u>
Financial expenses		
Interest expenses	24,424,275	19,779,955
Loss on foreign currency transactions	12,514,554	2,169,908
Loss on foreign currency translation	3,255,166	4,727,392
	<u>40,193,995</u>	<u>26,677,255</u>

27. Other Non-operating Income and Expenses

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

<i>(in thousands of Korean won)</i>	2018	2017
Other non-operating income		
Gain on foreign currency translation	58,965,804	56,776,397
Gain on foreign currency transactions	87,754,902	62,544,439
Gain on disposal of property, plant and equipment	1,066,234	6,019,718
Gain on disposal of investment in associates and joint ventures	19,365	-
Gain on transactions of derivative instruments	12,650,834	10,380,323
Gain on valuations of derivative instruments	3,863,562	841,673
Others	6,605,470	5,619,973
	<u>170,926,171</u>	<u>142,182,523</u>
Other non-operating expenses		
Loss on foreign currency translation	61,031,360	61,144,988
Loss on foreign currency transactions	85,211,378	82,090,541
Loss on disposal of property, plant and equipment	5,864,383	2,711,341
Loss on disposal of intangible assets	538,360	107,616
Loss on disposal of lease assets	7,114	-
Impairment loss on property, plant and equipment	17,785,931	933,178
Impairment loss on intangible assets	130,391	-
Impairment loss on lease assets	1,617,634	-
Loss on transactions of derivative instruments	8,378,558	6,907,201
Loss on valuations of derivative instruments	3,925,115	1,062,770
Loss on disposal of assets held-for-sale	-	14,310,719
Others	28,433,350	14,681,657
	<u>212,923,574</u>	<u>183,950,011</u>

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

28. Expenses by Nature

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

<i>(in thousands of Korean won)</i>	2018	2017
Changes in inventories excluding raw materials, merchandises and supplies	(7,339,751)	(6,485,832)
Purchase of raw materials and merchandises	3,968,846,897	3,541,970,629
Salaries	547,060,929	539,909,684
Employee retirement benefits	25,012,560	26,151,986
Employee welfare expenses	139,349,581	134,673,858
Depreciation	194,086,911	180,617,383
Depreciation on lease assets	39,656,130	-
Amortization	33,832,201	20,893,119
Freight cost	127,134,131	151,848,508
Research and development costs	17,951,006	28,006,668
Service fees	208,090,741	207,114,914
Others	210,127,753	292,535,700
Total amount of cost of goods sold and selling, general and administrative expenses	5,503,809,088	5,117,236,617

29. Tax Expense and Deferred Tax

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

<i>(in thousands of Korean won)</i>	2018	2017
Current tax:		
Current tax on profits for the year	88,983,227	106,625,244
Adjustments in respect of prior years (Tax refund due to tax appeal and reassessment)	(99,425)	405,905
Deferred tax:		
Origination and reversal of temporary differences	(6,199,697)	38,853,276
Deferred tax recognized in other comprehensive income	13,239,960	(22,782,240)
Income tax expense	95,924,065	123,102,185

Income tax effects related to components of other comprehensive income (expenses) for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018			2017		
	Before tax	Tax effect	After tax	Before tax	Tax effect	After tax
Gain (loss) on cash flow hedge derivative instruments	(47,188,902)	11,515,932	(35,672,970)	83,494,830	(20,270,817)	63,224,013
Remeasurement of the net defined benefit liability	(2,117,250)	1,081,643	(1,035,607)	11,315,740	(2,511,423)	8,804,317
	(49,306,152)	12,597,575	(36,708,577)	94,810,570	(22,782,240)	72,028,330

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

A reconciliation of income taxes applicable to profit before income taxes at the Korea statutory tax rate to provision for income taxes at the effective income tax rate of the Company are as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Income before income tax expenses (A)	379,621,485	421,505,373
Tax at the applicable income tax rate (B)	89,525,820	103,068,694
Adjustments:		
Non-deductible expenses	6,262,726	5,074,146
Non-taxable income	(4,212,741)	(1,557,865)
Tax credit	(13,803,477)	(21,264,740)
Subsidiaries/Associates/Joint ventures' results reported net of tax	13,671,625	19,573,412
Unrecognized tax deficit	7,576,213	4,787,455
Others	(3,096,101)	13,421,083
Sub-total (C)	6,398,245	20,033,491
Income tax expenses (D=B+C)	95,924,065	123,102,185

The analysis of deferred tax assets and liabilities as at December 31, 2018 and 2017, is as follows:

<i>(in thousands of Korean won)</i>	2018	2017
Deferred tax assets		
Deferred tax asset to be recovered later than 12 months	84,319,637	86,499,644
Deferred tax asset to be recovered within 12 months	49,270,841	29,489,222
	133,590,478	115,988,866
Deferred tax liabilities		
Deferred tax liability to be settled later than 12 months	101,616,164	82,873,904
Deferred tax liability to be settled within 12 months	12,463,761	19,836,364
	114,079,925	102,710,268
Deferred tax assets (liabilities), net	19,510,553	13,278,598

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Changes in deferred tax assets and liabilities for the years ended December 31, 2018 and 2017, without taking into consideration the offsetting of balances within the same tax jurisdiction, are as follows:

(in thousands of Korean won)

	2018				
	Beginning balance	Statement of profit or loss	Other comprehensive income	Business combination	Ending balance
Deferred income tax assets(liabilities)					
Net defined benefit liabilities	11,718,665	(631,922)	1,724,028	-	12,810,771
Accrued expenses	19,263,623	11,675,473	-	-	30,939,096
Warranty provision	5,287,418	85,890	-	-	5,373,308
Inventory	6,746,961	(4,421,086)	-	-	2,325,875
Depreciation	(2,670,426)	(18,364,155)	-	-	(21,034,581)
Foreign exchange translation	2,367,252	(1,694,142)	-	-	673,110
Other employment-benefit liability	3,131,906	2,019,766	-	-	5,151,672
Adjustment on sales	839,491	3,953,320	-	-	4,792,811
Accrued income	(444)	(2,640,731)	-	-	(2,641,175)
Derivatives	(15,966,603)	291,275	11,515,932	-	(4,159,396)
Investments in subsidiaries, associates and joint ventures	(7,486,740)	6,108,900	-	-	(1,377,840)
Tax credit	(2,799,968)	7,468,292	-	-	4,668,324
Other	(7,152,537)	(10,891,143)	-	32,258	(18,011,422)
	<u>13,278,598</u>	<u>(7,040,263)</u>	<u>13,239,960</u>	<u>32,258</u>	<u>19,510,553</u>

(in thousands of Korean won)

	2017			
	Beginning balance	Statement of profit or loss	Other comprehensive income	Ending balance
Deferred income tax assets(liabilities)				
Net defined benefit liabilities	11,988,557	2,241,531	(2,511,423)	11,718,665
Accrued expenses	29,309,632	(10,046,009)	-	19,263,623
Warranty provision	6,232,267	(944,849)	-	5,287,418
Inventory	4,166,036	2,580,925	-	6,746,961
Depreciation	(3,820,523)	1,150,097	-	(2,670,426)
Foreign exchange translation	(1,501,362)	3,868,614	-	2,367,252
Other employment-benefit liability	3,135,361	(3,455)	-	3,131,906
Adjustment on sales	370,804	468,687	-	839,491
Accrued income	(777,248)	776,804	-	(444)
Derivatives	5,764,958	(1,460,744)	(20,270,817)	(15,966,603)
Investments in subsidiaries, associates and joint ventures	(14,521,031)	7,034,291	-	(7,486,740)
Tax credit	1,055,322	(3,855,290)	-	(2,799,968)
Other	10,729,101	(17,881,638)	-	(7,152,537)
	<u>52,131,874</u>	<u>(16,071,036)</u>	<u>(22,782,240)</u>	<u>13,278,598</u>

Details of deductible (taxable) temporary differences which were not recognized as deferred tax assets (liabilities) as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018	2017	Reason
Interests in subsidiaries, associates and joint ventures	295,962,113	264,565,663	No plan for disposal

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

30. Cash Generated from Operations

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

<i>(In thousands of Korean won)</i>	2018	2017
Adjustment for		
Interest expenses	24,424,275	19,779,955
Interest income	(6,793,977)	(8,654,658)
Income tax expense	95,924,064	123,102,184
Loss on valuation of inventories	4,925,951	757,667
Severance benefits	21,680,022	23,243,958
Other long-term employee benefits	3,038,385	1,567,675
Shared based payment	(870,936)	1,118,802
Depreciation	194,086,911	180,617,383
Amortization	33,832,201	20,893,119
Depreciation on lease assets	39,656,130	-
Bad debt expenses	4,773,331	16,220,172
Other bad debt expenses	2,544,874	40,836
Recognition of other provisions	27,573,789	29,252,996
Impairment loss on property, plant and equipment	17,785,931	933,178
Impairment loss on intangible assets	130,391	-
Impairment loss on lease assets	1,617,634	-
Loss on disposal of property, plant and equipment	5,864,383	2,711,341
Loss on disposal of intangible assets	538,360	107,616
Gain on disposal of property, plant and equipment	(1,066,234)	(6,019,719)
Gain on disposal of investments in subsidiaries, associates and joint ventures	(19,365)	-
Loss on foreign currency translation	64,286,528	65,872,380
Gain on foreign currency translation	(61,707,791)	(58,303,503)
Loss on transaction of derivative instruments	8,378,558	6,907,201
Loss on valuation of derivative instruments	3,925,115	1,062,770
Gain on transaction of derivative instruments	(12,650,834)	(10,380,323)
Gain on valuation of derivative instruments	(3,863,562)	(841,673)
Share of profit in associates and joint ventures	(6,261,437)	(8,507,552)
Loss on disposal of assets held-for-sale	-	14,310,719
Others	7,104,815	-
	468,857,512	415,792,524

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

<i>(In thousands of Korean won)</i>	2018	2017
Changes in operating assets and liabilities		
Decrease (increase) in trade receivables	(81,958,466)	(23,741,680)
Decrease (increase) in other receivables	31,423,451	18,088,060
Increase in other current assets	(104,226,756)	(10,029,603)
Decrease in derivative financial assets	9,660,850	4,183,107
Increase in inventories	(44,634,153)	(56,328,464)
Decrease (increase) in other non-current assets	(19,674,831)	432,855
Increase (decrease) in trade payables	64,041,633	76,933,575
Increase (decrease) in other payables	(17,229,745)	7,354,208
Increase in other current liabilities	49,966,720	1,451,259
Decrease in derivative financial liabilities	(6,181,659)	(8,863,786)
Increase (decrease) in other non-current payables	(1,677,126)	1,261,023
Decrease in other non-current liabilities	(4,655,714)	(247,956)
Decrease in other provisions	(32,171,944)	(28,559,211)
Benefits paid	(8,527,587)	(8,485,617)
Increase in pension plan assets	(21,620,334)	(4,833,108)
	<u>(187,465,661)</u>	<u>(31,385,338)</u>

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

<i>(In thousands of Korean won)</i>	2018	2017
Reclassification of construction in-progress to property, plant and equipment	124,451,629	97,721,125
Other payables related to acquisition of property, plant and equipment as at December 31, 2018	176,797,398	63,077,235
Other payables related to acquisition of intangible assets as at December 31, 2018	1,261,621	11,800
Other payables related to acquisition of property, plant and equipment as at December 31, 2017	63,077,235	59,995,748
Other payables related to acquisition of intangible assets as at December 31, 2017	11,800	-

Hanon Systems and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2018 and 2017

31. Issued capital and reserves

Issued shares for the years ended December 31, 2018 and 2017, are as follows:

<i>(In Korean won and in number of shares)</i>	2018	2017
Authorized shares	1,000,000,000 units	1,000,000,000 units
Issued shares	533,800,000 units	533,800,000 units
Par value per share	100	100
Issued capital	<u>53,380,000,000</u>	<u>53,380,000,000</u>

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

<i>(In thousands of Korean won)</i>	2018	2017
Share premium	48,060,000	48,060,000
Other components of equity	(71,131,343)	(71,131,343)
Share-based Payments	1,617,440	674,090
	<u>(21,453,903)</u>	<u>(22,397,253)</u>

32. Accumulated Other Comprehensive Income

Changes in accumulated other comprehensive income for the years ended December 31, 2018 and 2017, are as follows:

<i>(in thousands of Korean won)</i>	2018			
	Beginning balance	Increase (Decrease)	Reclassification to profit or loss	Ending balance
Cash flow hedges	45,731,783	9,426,283	(45,099,252)	10,058,814
Exchange differences on translation of foreign operations	(162,977,517)	(15,539,658)	-	(178,517,175)
Share of other comprehensive income of associates and joint ventures	(8,884,067)	2,388,263	153,588	(6,342,216)
	<u>(126,129,801)</u>	<u>(3,725,112)</u>	<u>(44,945,664)</u>	<u>(174,800,577)</u>

<i>(in thousands of Korean won)</i>	2017			
	Beginning balance	Increase (Decrease)	Reclassification to profit or loss	Ending balance
Cash flow hedges	(17,492,230)	91,478,395	(28,254,382)	45,731,783
Exchange differences on translation of foreign operations	(118,150,048)	(55,530,387)	10,702,918	(162,977,517)
Share of other comprehensive income of associates and joint ventures	(3,670,197)	(5,213,870)	-	(8,884,067)
	<u>(139,312,475)</u>	<u>30,734,138</u>	<u>(17,551,464)</u>	<u>(126,129,801)</u>

Changes in accumulated other comprehensive income represent net of tax effect amounts.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

33. Retained Earnings

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

<i>(In thousands of Korean won)</i>	2018	2017
Legal reserve		
Reserve for earned surplus ¹	26,690,000	26,690,000
Reserve for industrial growth ²	2,500,000	2,500,000
	<u>29,190,000</u>	<u>29,190,000</u>
Voluntary reserve		
Reserve for business expansion ³	1,185,426,912	1,118,923,987
Reserve for business rationalization ⁴	27,976,480	27,976,480
	<u>1,213,403,392</u>	<u>1,146,900,467</u>
Unappropriated retained earnings	937,011,438	897,726,765
	<u>2,179,604,830</u>	<u>2,073,817,232</u>

¹ In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends are required to be appropriated as a legal reserve until the reserve equals 50% of issued capital. The legal reserve may not be distributed for cash dividends but may only be used to reduce a deficit, if any, or be transferred to capital.

² In accordance with the Korean Corporate Tax, the Company appropriated reserve for industrial growth which is deducted from excessive earnings over the legally accepted reserved earnings, which is based upon the calculation of accumulated earnings tax. The reserve for industrial growth may only be transferred to share capital or used to reduce accumulated deficit.

³ Reserve for business expansion is one of the voluntary reserve for the purpose of business expansion in the future.

⁴ Pursuant to the Regulation of Tax Reduction and Exemption Act (RTREA), the Company was required to appropriate, as a reserve for business rationalization, an amount equal to the tax reduction under the RTREA, and this reserve is regarded as a voluntary reserve due to abolition of relevant regulation.

The Company paid ₩ 42,704,000 thousand of dividend in respect of the year ended December 31, 2017, in April, 2018 (2017: ₩ 40,035,000 thousand). Board of Directors approved three times of interim dividends of ₩ 80 per share in current period, the interim dividends of ₩ 42,704,000 thousand was paid in May, August and November 2018, respectively.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

34. Related Party Transactions

(1) The controlling company of the Group is Hahn & Co Auto Holdings Co., Ltd. and the company that has a significant effect on the Group is Hankook Tire Co., Ltd. As at December 31, 2018, the company's related companies are Bonaire and three other companies.

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

<i>(In thousands of Korean won)</i>		2018		
Relationship	Company names	Sales	Dividends	Purchases
Associates and joint ventures	Bonaire and three other companies	84,253,928	3,903,508	5,955,383

<i>(In thousands of Korean won)</i>		2017		
Relationship	Company names	Sales	Dividends	Purchases
Associates and joint ventures	Bonaire and three other companies	83,354,703	4,393,717	10,435,937

(3) Receivables and payables to related parties as at December 31, 2018 and 2017, are as follows:

<i>(In thousands of Korean won)</i>		2018	
Relationship	Company names	Receivables	Payables¹
Associates and joint ventures	Bonaire and three other companies	13,976,982	3,768,136

¹ As at December 31, 2018, the amount of payables includes the borrowings amounting to ₩3,416,872 thousand.

<i>(In thousands of Korean won)</i>		2017	
Relationship	Company names	Receivables	Payables¹
Associates and joint ventures	Bonaire and three other companies	30,886,543	8,459,618

¹ As at December 31, 2017, the amount of payables includes the borrowings amounting to ₩7,548,154 thousand.

(4) For the years ended December 31, 2018 and 2017, the details of compensation to key management officers are as follows:

<i>(In thousands of Korean won)</i>	2018	2017
Executive compensation	2,857,774	3,645,040
Severance benefits	381,250	426,917
	3,239,024	4,071,957

Key management includes the directors and internal auditors who are responsible for plan, operation and control of the Group.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

35. Non-current Assets and Liabilities Held-for-sale

(1) Disposal of Hanon Jinan

The Group has decided to sell its entire shares of Hanon Jinan, and the sale is expected to be completed in the first half of 2019. The assets and liabilities of Hanon Jinan are reclassified as assets held-for-sale and liabilities held-for-sale, and Hanon Jinan does not form a significant line of business, the related gain or loss is not presented as discontinued operations.

(2) Disposal of property, plant and equipment of Hanon Portugal

In 2017, the Group has decided to sell a portion of its property, plant and equipment in Hanon Portugal, and the disposal was completed on December 21, 2018.

(3) Details of assets and liabilities held-for-sale as at December 31, 2018 and 2017, are as follows:

<i>(In thousands of Korean won)</i>	2018	2017
Assets held-for-sale		
Cash and cash equivalents	3,152,435	2,653,334
Trade receivables	2,427	42,759
Property, plant and equipment	1,151,768	2,719,364
Intangible assets	810,891	815,325
Other assets	35,381	686,096
	<u>5,152,902</u>	<u>6,916,878</u>
Liabilities held-for-sale		
Trade payables	56,250	76,829
Other liabilities	208,974	92,265
	<u>265,224</u>	<u>169,094</u>

(4) Accumulated other comprehensive income recognized related to assets and liabilities held-for-sale for the years ended December 31, 2018 and 2017, are as follows:

<i>(In thousands of Korean won)</i>	2018	2017
Foreign currency translation adjustments	(441,394)	(560,926)

36. Changes in accounting policies

36.1 Application of Korean IFRS 1109, *Financial instruments*

As explained in Note 2, the Group has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures have not been restated with the exception of certain aspects of hedge accounting. The application of Korean IFRS 1109 has following impacts on the consolidated financial statements.

(a) Classification and Measurement of Financial Instruments

(i) Reclassification of equity investments from available-for-sale to fair value through other comprehensive income

The Group elected to present changes in the fair value of all its equity investments previously classified as available-for-sale, in other comprehensive income because these investments are not held for trading. As a result, assets with a fair value of ₩1 million were reclassified from available-for-sale financial assets to financial assets at fair value through other comprehensive income. As at January 1, 2018, there is no accumulated other comprehensive income recognized in relation to these assets from the adoption of Korean IFRS 1109.

(ii) Reclassification from held-to-maturity financial assets to financial assets at amortized cost

Local development bonds were reclassified from held-to-maturity financial assets to financial assets at amortized cost. The Group hold the assets to collect contractual cash flows which consist solely of payments of principal and interest on the principal amount outstanding.

Other financial assets which had been previously measured at amortized cost continued to be at amortized cost.

(iii) Other financial assets

Equity securities held for trading and contingent consideration are all required to be held as fair value through profit or loss under Korean IFRS 1109. There was no impact on the amounts recognized in relation to these assets from the adoption of Korean IFRS 1109.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(iv) Reclassifications of financial instruments on adoption of Korean IFRS 1109

On the date of initial application, January 1, 2018, the financial instruments of the Group with any reclassifications noted, were as follows:

	Measurement category		Carrying amount		
	Korean IFRS 1039	Korean IFRS 1109	Korean IFRS 1039	Korean IFRS 1109	Difference
Current financial assets					
Cash and cash equivalents	Amortized costs	Amortized costs	567,258,577	567,258,577	-
Other financial assets	Amortized costs	Amortized costs	7,500,000	7,500,000	-
Derivative financial assets	Financial instruments at fair value through profit or loss ²	Fair value through profit or loss ²	47,134,417	47,134,417	-
Trade receivables	Amortized costs	Amortized costs	883,122,373	883,122,373	-
Other receivables	Amortized costs	Amortized costs	80,481,377	80,481,377	-
Non-current financial assets					
Other financial assets	Amortized costs	Amortized costs	42,508	42,508	-
Equity instruments	Available-for-sale financial assets	Fair value through other comprehensive income ¹	1,000	1,000	-
Held-to-maturity investments	Held-to-maturity investments	Amortized costs	3,285	3,285	-
Other receivables	Amortized costs	Amortized costs	8,649,684	8,649,684	-
Derivative financial assets	Financial instruments at fair value through profit or loss ²	Fair value through profit or loss ²	21,861,567	21,861,567	-
Current financial liabilities					
Trade payables	Amortized costs	Amortized costs	732,889,386	732,889,386	-
Other payables	Amortized costs	Amortized costs	297,101,200	297,101,200	-
Borrowings	Amortized costs	Amortized costs	135,867,991	135,867,991	-
Derivatives financial liabilities	Financial instruments at fair value through profit or loss ²	Fair value through profit or loss ²	2,151,040	2,151,040	-
Non-current financial liabilities					
Other payables	Amortized costs	Amortized costs	15,503,775	15,503,775	-
Borrowings	Amortized costs	Amortized costs	22,108,109	22,108,109	-
Debentures	Amortized costs	Amortized costs	598,900,394	598,900,394	-
Derivatives financial liabilities	Financial instruments at fair value through profit or loss ²	Fair value through profit or loss ²	1,245,574	1,245,574	-

¹ Financial instruments measured at fair value through other comprehensive income: investments in equity instruments and debt instruments.

² Financial assets measured at fair value through profit or loss.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

(b) Impairment of financial instruments

The Group has two types of financial assets subject to Korean IFRS 1109's new expected credit loss model:

- trade receivables for sales of goods and rendering of services
- debt instrument carried at amortized cost.

Upon adoption of Korean IFRS 1109, accounting policies for recognition of impairment have changed. There is no impact of the change in impairment methodology on the Group's beginning balance of retained earnings.

(i) Trade receivables

The Group applies the simplified approach to measure the loss allowance at an amount equal to lifetime expected credit losses for trade receivables.

(ii) Debt instruments

Debt investments at amortized cost and those at fair value through other comprehensive income are considered to be low risk.

36.2 Adoption of Korean IFRS 1115 *Revenue from contracts with customers*

As explained in Note 2, Group has applied Korean IFRS 1115 *Revenue from contracts with customers* from January 1, 2018. In accordance with the transitional provisions in Korean IFRS 1115, comparative figures have not been restated. The application of Korean IFRS 1115 has impact on the consolidated financial statements as follows.

There is no impact on the consolidated statements of financial position at the date of initial application (January 1, 2018).

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Financial statement line items affected by the adoption of Korean IFRS 1115 in the current period are as follows:

Statement of income and comprehensive income

<i>(in thousands of Korean won)</i>	Reported amount	Adjustments	Amount before application of Korean IFRS 1115
Sales ¹	5,937,585,095	(95,538,906)	5,842,046,189
Cost of sales ¹	(5,024,860,691)	95,538,906	(4,929,321,785)
Selling and administrative expenses	(478,948,397)	-	(478,948,397)
Financial income and expenses	(18,418,557)	-	(18,418,557)
Other non-operating income and expenses	(41,997,404)	-	(41,997,404)
Share of profit in associates	6,261,437	-	6,261,437
Income tax expenses	(95,924,065)	-	(95,924,065)
Profit for the period	283,697,418	-	283,697,418
Total comprehensive income for the period	<u>232,201,224</u>	<u>-</u>	<u>232,201,224</u>

¹ In accordance with Korean IFRS 1115, the Group adjusted CFT sales (Customer Funded Tooling) into gross amount.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

36.3 Adoption of Korean IFRS 1116 Leases

As explained in Note 2, Group has early applied Korean IFRS 1116 *Leases* from January 1, 2018. In accordance with the transitional provisions in Korean IFRS 1116, comparative figures have not been restated. The application of Korean IFRS 1116 has impact on the consolidated financial statements as follows.

In summary, the following adjustments were made to the amounts recognized in the consolidated statements of financial position at the date of initial application (January 1, 2018):

<i>(in thousands of Korean won)</i>	December 31, 2017 (before adjustments)	Adjustments	January 1, 2018 (after adjustments)
Other current assets	180,208,003	(4,705,839)	175,502,164
Other non-current assets	5,980,113	(296,454)	5,683,659
Intangible assets	437,652,619	(4,071,798)	433,580,821
Lease assets	-	107,423,038	107,423,038
Total assets	4,119,580,910	98,348,947	4,217,929,857
Short-term borrowings	135,867,991	25,835,822	161,703,813
Long-term borrowings	22,108,109	72,513,124	94,621,233
Total liabilities	2,088,135,770	98,348,947	2,186,484,717
Total equity	2,031,445,140	-	2,031,445,140

There is no impact on the consolidated statements of income and comprehensive income affected by the adoption of Korean IFRS 1116 in the current period.

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

37. Business Combination

On November 30, 2018, the Group acquired 100% shares of and obtained control over Hanon Systems Auto Parts Hungary. The Group applies the acquisition method to account for the business acquisition in accordance with Korean IFRS 1103, *Business Combination*.

Details of the purchase consideration, the assets and liabilities recognized as a result of the acquisition are as follows:

<i>(in thousands of Korean won)</i>	Amount
Cash and cash equivalents	2,014,424
Trade and other receivables	2,821,338
Inventories	2,540,109
Property, plant and equipment	4,041,344
Intangible assets	38,001
Other assets	180,030
Total assets	<u>11,635,245</u>
Trade payables	1,867,292
Other payables	815,763
Other liabilities	85,514
Total liabilities	<u>2,768,569</u>
Identifiable net assets at fair value	8,866,676
Total consideration transferred	<u>13,528,806</u>
Goodwill	<u>4,662,129</u>

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

38. Information for Non-controlling Interests

38.1 Changes in Accumulated Non-controlling Interests

The profit or loss allocated to non-controlling interests and accumulated non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of
Korean won)

		2018					
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Increase due to paid-in capital	Others	Accumulated non-controlling interests at the end of the year
Hanon Beijing	20%	22,456,949	4,050,121	(1,633,600)	-	(204,727)	24,668,743
Hanon Nanjing	49%	9,448,827	717,848	-	-	(66,678)	10,099,998
CSG JV	50%	-	(805,873)	-	35,317,278	(1,119,986)	33,391,419
Hanon Bhiwadi	39%	12,257,658	2,663,725	-	-	(588,363)	14,333,020

(in thousands of
Korean won)

		2017					
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Increase due to paid-in capital	Others	Accumulated non-controlling interests at the end of the year
Hanon Beijing	20%	25,546,545	5,824,121	(7,362,000)	-	(1,551,718)	22,456,949
Hanon Nanjing	49%	7,961,581	1,973,748	-	-	(486,501)	9,448,827
Hanon Bhiwadi	39%	12,745,746	2,472,296	(2,222,793)	-	(737,591)	12,257,658

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

38.2 Summarized Financial Information on Subsidiaries

Set out below is summarized financial information for each subsidiary that has non-controlling interests that are material to the Group. The amounts disclosed for each subsidiary are before inter-company eliminations.

Summarized consolidated statements of financial position

(in thousands of Korean won)	2018				
	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity
Hanon Beijing	184,487,177	63,662,646	123,606,838	1,199,269	123,343,716
Hanon Nanjing	21,332,419	11,437,442	8,681,689	3,475,931	20,612,240
CSG JV	56,357,621	61,601,548	51,166,441	9,889	66,782,839
Hanon Bhiwadi	29,430,625	17,866,922	9,467,161	1,079,054	36,751,333

(in thousands of Korean won)	2017				
	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity
Hanon Beijing	225,450,951	53,626,353	165,167,373	1,625,186	112,284,746
Hanon Nanjing	20,874,965	12,583,068	6,585,190	7,589,523	19,283,320
Hanon Bhiwadi	26,681,820	14,069,904	8,725,631	596,200	31,429,892

Summarized consolidated statements of comprehensive income

(in thousands of Korean won)	2018			
	Revenue	Profit (loss) for the year	Other comprehensive income	Total comprehensive income
Hanon Beijing	328,002,696	20,250,606	(204,727)	20,045,878
Hanon Nanjing	32,217,266	1,464,997	(67,090)	1,397,907
CSG JV	8,516,165	(1,611,746)	(1,120,050)	(2,731,796)
Hanon Bhiwadi	61,589,843	6,830,064	(555,014)	6,275,050

(in thousands of Korean won)	2017			
	Revenue	Profit (loss) for the year	Other comprehensive income	Total comprehensive income
Hanon Beijing	392,366,875	29,120,607	(1,551,718)	27,568,889
Hanon Nanjing	33,601,350	4,028,056	(486,501)	3,541,555
Hanon Bhiwadi	60,518,092	6,339,221	(777,177)	5,562,044

Hanon Systems and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Summarized consolidated statements of cash flows

(in thousands of Korean won)

	2018			
	Hanon Beijing	Hanon Nanjing	CSG JV	Hanon Bhiwadi
Cash flows from operating activities	49,113,788	4,427,090	(46,175,413)	9,011,744
Cash flows from investing activities	(41,382,011)	(1,974,740)	(13,635,665)	(5,183,433)
Cash flows from financing activities	(10,265,383)	(5,013,007)	60,554,134	(223,211)
Net increase (decrease) in cash and cash equivalents	(2,533,606)	(2,560,657)	743,056	3,605,100
Cash and cash equivalents at beginning of year	35,479,571	6,335,762	-	14,382,794
Effects of exchange rate changes on cash and cash equivalents	(331,441)	76,271	(16,254)	(654,811)
Cash and cash equivalents at end of year	32,614,524	3,851,377	726,802	17,333,084

(in thousands of Korean won)

	2017		
	Hanon Beijing	Hanon Nanjing	Hanon Bhiwadi
Cash flows from operating activities	(14,234,451)	4,301,080	8,421,846
Cash flows from investing activities	(13,724,341)	556,047	(3,490,573)
Cash flows from financing activities	(35,300,212)	(3,328,582)	(5,702,754)
Net increase (decrease) in cash and cash equivalents	(63,259,004)	1,528,545	(771,481)
Cash and cash equivalents at beginning of year	102,947,124	5,086,338	16,093,359
Effects of exchange rate changes on cash and cash equivalents	(4,208,549)	(279,121)	(939,084)
Cash and cash equivalents at end of year	35,479,571	6,335,762	14,382,794

38.3 Transactions with Non-controlling Interests

There is no effects of transactions with non-controlling interests on the equity attributable to owners of the Parent Company for the year ended December 31, 2018.

39. Events after the Reporting Period

On March 14, 2019, the Company resolved to grant additional 3,160,000 shares of ordinary shares purchase option with the exercise price of ₩ 12,200, and the actual grant date is the date specified in the grant contract.