Financial Statements 2021

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SONGWON

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INTRODUCTION TO THE CONSOLIDATED FINANCIAL STATEMENTS

On the following pages (4 – 97), consolidated financial statements for the year 2021 are presented. The financial statements disclosed are prepared according to the Korean International Financial Reporting Standards ("K-IFRS") and represent the statements submitted for approval to the Annual General Shareholders' Meeting on March 18, 2022 in Ulsan, Korea.

While the management of the Group is responsible for the preparation and presentation of the financial statements, the Group's independent auditor is responsible for expressing an opinion on these financial statements. The report on the consolidated financial statements – issued by our Group auditor, Ernst & Young Han Young – can be found on pages (4 – 6).

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Independent auditor's report

The Shareholders and Board of Directors
Songwon Industrial Co., Ltd.

Opinion

We have audited the consolidated financial statements of Songwon Industrial Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2021 and 2020, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2021 and 2020, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("KIFRS").

Basis for opinion

We conducted our audits in accordance with Korean Auditing Standards ("KGAAS"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audits of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audits of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our 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.

The Group consists of the Company, its 13 subsidiaries and a joint venture, and the volume of intragroup transactions, such as sales and purchases, are significant. Due to the significant impact of the completeness and accuracy of the elimination of intragroup sales and purchases as well as related receivables and payables on the preparation of the consolidated financial statements, we have selected this area as a key audit matter.

The main audit procedures we have performed in relation to this key audit matter are as follows:

- We performed an analytical procedure by comparing the Group's significant intragroup sales and purchases as well as related receivables and payables of the current reporting period to prior reporting period.
- We assessed the consistency of the major intragroup sales, purchases and related balances that are subject to elimination by comparing to the input data used in the consolidation system.
- We reviewed whether all intragroup sales and purchases aggregated during the consolidation closing process were eliminated.

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

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

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

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

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

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

Building a better working world

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

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 *Kim, Doo-Bong*.

Ernst & Young Han Young

February 25, 2022

This audit report is effective as of February 25, 2022, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

As of December 31, 2021 and 2020

Assets	Notes	**2021** Million KRW	2020 Million KRW
Non-current assets		487,268	478,975
Property, plant and equipment	6.3.2, 7, 26, 27	424,301	426,212
Right-of-use assets	6.3.2, 8	17,901	19,757
Investment properties	6.3.2, 9, 26, 27	3,467	3,483
Intangible assets	6.3.2, 10, 11, 26	9,650	7,757
Investments accounted for using the equity method	1.2.3, 12	6,466	5,912
Other non-current assets	21	6,028	245
Other non-current financial assets	13, 25, 32	12,068	9,889
Deferred tax assets	29	7,387	5,720
Current assets		628,381	412,167
Inventories	14, 26	335,880	192,057
Trade and other receivables	15, 25.2, 32	179,720	133,691
Income tax receivables		308	446
Other current assets	16	13,584	9,172
Other current financial assets	13, 25	1,145	4,017
Cash and cash equivalents	17, 25.2	97,744	72,784
Total assets		1,115,649	891,142
Equity and liabilities			
Equity		543,254	463,497
Non-controlling interests		–	*4,788*
Equity attributable to owners of the parent		*543,254*	*458,709*
Issued capital	18.1	12,000	12,000
Capital surplus	18.2	20,482	22,359
Reserves	18.3	28,623	28,335
Retained earnings	18.3	483,732	405,105
Other components of equity	18.4	-1,583	-9,090
Non-current liabilities		128,396	134,523
Bonds, interest-bearing loans and borrowings	19, 25, 27	60,502	59,647
Pension liability	21	5,945	13,865
Other long-term employee-related liabilities	22	8,544	7,431
Non-current lease liabilities	8, 25	15,454	16,143
Other non-current financial liabilities	23, 25	1	940
Other non-current liabilities		428	446
Deferred tax liabilities	29	37,522	36,051
Current liabilities		443,999	293,122
Interest-bearing loans and borrowings	19, 25, 26, 27	235,311	158,940
Trade and other payables	24, 25, 32	173,266	114,614
Current lease liabilities	8, 25	2,480	2,429
Other current financial liabilities	23, 25	689	2,521
Other current liabilities	20	4,043	3,064
Income tax payable		28,210	11,554
Total liabilities		572,395	427,645
Total equity and liabilities		1,115,649	891,142

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

As of December 31, 2021 and 2020 (see note 2.3)

Assets	**2021** Thousand USD	2020 Thousand USD
Non-current assets	409,935	402,958
Property, plant and equipment	356,961	358,569
Right-of-use assets	15,060	16,621
Investment properties	2,917	2,930
Intangible assets	8,118	6,526
Investments accounted for using the equity method	5,440	4,974
Other non-current assets	5,071	206
Other non-current financial assets	10,153	8,320
Deferred tax assets	6,215	4,812
Current assets	528,651	346,752
Inventories	282,573	161,576
Trade and other receivables	151,197	112,473
Income tax receivables	259	375
Other current assets	11,428	7,716
Other current financial assets	963	3,379
Cash and cash equivalents	82,231	61,233
Total assets	938,586	749,710
Equity and liabilities		
Equity	457,034	389,936
Non-controlling interests	*–*	*4,028*
Equity attributable to owners of the parent	*457,034*	*385,908*
Issued capital	10,096	10,096
Capital surplus	17,231	18,810
Reserves	24,079	23,837
Retained earnings	406,960	340,812
Other components of equity	-1,332	-7,647
Non-current liabilities	108,018	113,174
Bonds, interest-bearing loans and borrowings	50,900	50,181
Pension liability	5,001	11,665
Other long-term employee-related liabilities	7,188	6,252
Non-current lease liabilities	13,001	13,581
Other non-current financial liabilities	1	791
Other non-current liabilities	360	375
Deferred tax liabilities	31,567	30,329
Current liabilities	373,534	246,600
Interest-bearing loans and borrowings	197,965	133,715
Trade and other payables	145,767	96,424
Current lease liabilities	2,086	2,043
Other current financial liabilities	580	2,120
Other current liabilities	3,403	2,578
Income tax payable	23,733	9,720
Total liabilities	481,552	359,774
Total equity and liabilities	938,586	749,710

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

for the years ended December 31, 2021 and 2020

	Notes	**2021** Million KRW	2020 Million KRW
Sales	6.1, 6.2, 32	998,190	807,768
Cost of sales	28.5, 32	-753,165	-643,795
Gross profit		245,025	163,973
Selling and administration costs	28.2, 28.5, 32	-139,311	-95,963
Operating profit		105,714	68,010
Other income	28.3	6,038	3,712
Other expenses	28.4	-7,233	-9,897
Share of result from investments accounted for using the equity method	12	1,103	1,064
Finance income	28.6	27,863	23,002
Finance expenses	28.7	-32,301	-34,734
Profit before tax		101,184	51,157
Income tax expenses	29	-29,975	-22,792
Profit for the period		71,209	28,365
Other comprehensive income, net of taxes			
Net other comprehensive income to be reclassified to profit or loss in subsequent periods		*7,863*	*-5,398*
Losses on valuation of interest rate swaps	18.4	1,182	-210
Exchange differences on translation of foreign operations	18.4	6,681	-5,188
Net other comprehensive income not to be reclassified to profit or loss		*9,270*	*9,489*
Losses on valuation of financial assets at FVOCI	18.4	-252	-318
Re-measurement gain on defined benefit plans	18.4, 21	9,522	9,807
Total other comprehensive income, net of taxes		17,133	4,091
Total comprehensive income		88,342	32,456
Profit for the period attributable to:			
Owners of the parent	30	72,273	27,453
Non-controlling interests		-1,064	912
Profit for the period		71,209	28,365
Total comprehensive income attributable to:			
Owners of the parent		89,302	31,654
Non-controlling interests		-960	802
Total comprehensive income		88,342	32,456
Earnings per share		KRW	KRW
Basic / diluted, profit for the period attributable to ordinary equity holders of the parent	30	3,011	1,144

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

for the years ended December 31, 2021 and 2020 (see note 2.3)

	2021 Thousand USD	2020 Thousand USD
Sales	839,769	679,569
Cost of sales	-633,632	-541,620
Gross profit	206,137	137,949
Selling and administration costs	-117,201	-80,733
Operating profit	88,936	57,216
Other income	5,080	3,123
Other expenses	-6,084	-8,326
Share of result from investments accounted for using the equity method	928	895
Finance income	23,441	19,351
Finance expenses	-27,175	-29,221
Profit before tax	85,126	43,038
Income tax expenses	-25,218	-19,175
Profit for the period	59,908	23,863
Other comprehensive income, net of taxes		
Net other comprehensive income to be reclassified to profit or loss in subsequent periods	*6,614*	*-4,541*
Losses on valuation of interest rate swaps	994	-177
Exchange differences on translation of foreign operations	5,620	-4,364
Net other comprehensive income not to be reclassified to profit or loss	*7,799*	*7,983*
Losses on valuation of financial assets at FVOCI	-212	-268
Re-measurement gain on defined benefit plans	8,011	8,251
Total other comprehensive income, net of taxes	14,413	3,442
Total comprehensive income	74,321	27,305
Profit for the period attributable to:		
Owners of the parent	60,803	23,096
Non-controlling interests	-895	767
Profit for the period	59,908	23,863
Total comprehensive income attributable to:		
Owners of the parent	75,129	26,630
Non-controlling interests	-808	675
Total comprehensive income	74,321	27,305
Earnings per share	USD	USD
Basic / diluted, profit for the period attributable to ordinary equity holders of the parent	2.53	0.96

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

for the years ended December 31, 2020 and 2021

	Attributable to owners of the parent									
					Other components of equity					
	Issued capital	Capital surplus	Reserves	Retained earnings	Cash flow hedge reserve	Fair value reserve of financial assets at FVOCI	Foreign currency translation reserve	Total	Non-controlling interests	Total equity
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KR W
As of January 1, 2020	12,000	22,359	27,975	371,805	-997	-44	-2,443	430,655	3,986	434,641
Profit for the period	–	–	–	27,453	–	–	–	27,453	912	28,365
Other comprehensive income	–	–	–	9,807	-210	-318	-5,078	4,201	-110	4,091
Total comprehensive income	–	–	–	37,260	-210	-318	-5,078	31,654	802	32,456
Dividends	–	–	–	-3,600	–	–	–	-3,600	–	-3,600
Appropriation to reserves	–	–	360	-360	–	–	–	–	–	–
As of December 31, 2020	12,000	22,359	28,335	405,105	-1,207	-362	-7,521	458,709	4,788	463,497
As of January 1, 2021	12,000	22,359	28,335	405,105	-1,207	-362	-7,521	458,709	4,788	463,497
Profit for the period	–	–	–	72,273	–	–	–	72,273	-1,064	71,209
Other comprehensive income	–	–	–	9,522	1,182	-252	6,577	17,029	104	17,133
Total comprehensive income	–	–	–	81,795	1,182	-252	6,577	89,302	-960	88,342
Dividends	–	–	–	-2,880	–	–	–	-2,880	–	-2,880
Appropriation to reserves	–	–	288	-288	–	–	–	–	–	–
Change in non-controlling interest due to interest increase	–	-1,877	–	–	–	–	–	-1,877	-1,230	-3,107
Change in non-controlling interest due to disposal of subsidiary*	–	–	–	–	–	–	–	–	-2,598	-2,598
As of December 31, 2021	12,000	20,482	28,623	483,732	-25	-614	-944	543,254	–	543,254

* refer to note 5 for further details

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

for the years ended December 31, 2020 and 2021 (see note 2.3)

	Attributable to owners of the parent									
					Other components of equity					
	Issued capital	Capital surplus	Reserves	Retained earnings	Cash flow hedge reserve	Fair value reserve of financial assets at FVOCI	Foreign currency translation reserve	Total	Non-controlling interests	Total equity
	Thous. USD	Thous. USD	Thous. USD	Thous. USD	Thous. USD	Thous. USD	Thous. USD	Thous. USD	Thous. USD	Thous. USD
As of January 1, 2020	10,096	18,810	23,534	312,797	-839	-37	-2,055	362,306	3,354	365,660
Profit for the period	–	–	–	23,096	–	–	–	23,096	767	23,863
Other comprehensive income	–	–	–	8,251	-177	-268	-4,271	3,535	-93	3,442
Total comprehensive income	–	–	–	31,347	-177	-268	-4,271	26,631	674	27,305
Dividends	–	–	–	-3,029	–	–	–	-3,029	–	-3,029
Appropriation to reserves	–	–	303	-303	–	–	–	–	–	–
As of December 31, 2020	10,096	18,810	23,837	340,812	-1,016	-305	-6,326	385,908	4,028	389,936
As of January 1, 2021	10,096	18,810	23,837	340,812	-1,016	-305	-6,326	385,908	4,028	389,936
Profit for the period	–	–	–	60,803	–	–	–	60,803	-895	59,908
Other comprehensive income	–	–	–	8,011	994	-212	5,533	14,326	87	14,413
Total comprehensive income	–	–	–	68,814	994	-212	5,533	75,129	-808	74,321
Dividends	–	–	–	-2,424	–	–	–	-2,424	–	-2,424
Appropriation to reserves	–	–	242	-242	–	–	–	–	–	–
Change in non-controlling interest due to interest increase	–	-1,579	–	–	–	–	–	-1,579	-1,035	-2,614
Change in non-controlling interest due to disposal of subsidiary	–	–	–	–	–	–	–	–	-2,185	-2,185
As of December 31, 2021	10,096	17,231	24,079	406,960	-22	-517	-793	457,034	–	457,034

CONSOLIDATED STATEMENTS OF CASH FLOWS

for the years ended December 31, 2021 and 2020

	Notes	**2021** Million KRW	2020 Million KRW
Profit for the period		71,209	28,365
Total adjustments	31	81,365	84,068
Changes in operating assets and liabilities	31	-155,285	-3,856
Interest received		247	229
Payments of income tax		-15,833	-32,387
Net cash flow from operating activities		-18,297	76,419
Proceeds from sale of property, plant and equipment	7, 31	438	107
Proceeds from sale of intangible assets	10, 31	2,196	–
Purchases of property, plant and equipment	7	-24,296	-21,227
Purchases of intangible assets	10	-2,270	-874
Dividends received from investments using equity method	12	519	519
Disposal of subsidiary, net of cash disposed	5	5,584	–
Decrease / (increase) in other financial assets, net		973	-5,078
Net cash flow from investing activities		-16,856	-26,553
Proceeds from borrowings	31	666,819	344,396
Repayments of borrowings	31	-589,361	-369,239
Payment of lease liabilities		-3,461	-3,554
Decrease in other financial liabilities, net	31	-1,242	-1,589
Interest paid	31	-5,254	-5,851
Acquisition of additional interest in subsidiary	1.2.1	-3,107	–
Dividends paid	18	-2,880	-3,600
Net cash flow from financing activities	18	61,514	-39,437
Increase in cash and cash equivalents		26,361	10,429
Net foreign exchange differences		-1,401	-777
Cash and cash equivalents as of January 1	17	72,784	63,132
Cash and cash equivalents as of December 31	17	97,744	72,784

CONSOLIDATED STATEMENTS OF CASH FLOWS

for the years ended December 31, 2021 and 2020 (see note 2.3)

	2021 Thousand USD	2020 Thousand USD
Profit for the period	59,908	23,863
Total adjustments	68,452	70,726
Changes in operating assets and liabilities	-130,640	-3,244
Interest received	208	193
Payments of income tax	-13,320	-27,247
Net cash flow from operating activities	-15,392	64,291
Proceeds from sale of property, plant and equipment	368	90
Proceeds from sale of intangible assets	1,847	–
Purchases of property, plant and equipment	-20,440	-17,858
Purchases of intangible assets	-1,910	-735
Dividends received from investments using equity method	437	437
Disposal of subsidiary, net of cash disposed	4,698	–
Decrease / (increase) in other financial assets, net	819	-4,272
Net cash flow from investing activities	-14,181	-22,338
Proceeds from borrowings	560,990	289,738
Repayments of borrowings	-495,825	-310,638
Payment of lease liabilities	-2,912	-2,990
Decrease in other financial liabilities, net	-1,045	-1,337
Interest paid	-4,420	-4,922
Acquisition of additional interest in subsidiary	-2,614	–
Dividends paid	-2,423	-3,029
Net cash flow from financing activities	51,751	-33,178
Increase in cash and cash equivalents	22,178	8,775
Net foreign exchange differences	-1,180	-655
Cash and cash equivalents as of January 1	61,233	53,112
Cash and cash equivalents as of December 31	82,231	61,233

1. CORPORATE INFORMATION

1.1 THE GROUP

SONGWON Industrial Group (the "Group") consists of the parent company Songwon Industrial Co., Ltd. (the "Company") and its consolidated subsidiaries as listed below. The Company was incorporated on December 15, 1965, under the law of the Republic of Korea to engage in the manufacture and commercial sale of polymer stabilizers, tin intermediates, PVC stabilizers and specialty chemicals, among others. The Company's main manufacturing plants are located in Korea in Ulsan, Maeam and Suwon and in India in Ankleshwar. The address of the registered office (Songwon Industrial Co., Ltd.) can be found at the end of the annual report.

The Company has listed its common shares on the Korea Exchange since June 1977, pursuant to the Korean Securities and Exchange Act.

1.2 SCOPE OF CONSOLIDATION

1.2.1 CHANGE IN THE SCOPE OF CONSOLIDATION

As of December 31, 2021, the scope of consolidation for the consolidated financial statements encompasses 14 entities (2020: 14 entities). Additionally, one entity is classified as a joint venture (2020: one entity) and accounted for using the equity method.

During the twelve months of 2021, the following changes in the legal structure of the Group and in scope of consolidation took place:

- Establishment of a new distribution entity in China, Songwon International-Qingdao Co., Ltd. in April 2021.

- Sale of 72% interest in Qingdao Long Fortune Songwon Chemical Co. Ltd effective as of April 30, 2021. Therefore, the Group's control in Qingdao Long Fortune Songwon Chemical Co. Ltd. ceased and the entity was deconsolidated (refer to note 5. for further details).

- Acquisition of an additional 18.5% interest in Songwon Polysys Additives-Sole Proprietorship LLC effective as of March 23, 2021. Therefore, the Group's interest in Songwon Polysys Additives-Sole Proprietorship LLC, which had already been fully consolidated as of April 1, 2014, increased from 81.5% to 100% for a consideration of 2.75 Million USD (3,107 Million KRW)..

The consolidated financial statements include the financial statements of the Company and of the subsidiaries listed in the following table. The table also includes joint ventures which are accounted for using the equity method.

		2021		2020	
		December 31		December 31	
Consolidated entities	Location	Status	Interest	Status	Interest
Songwon Industrial Co., Ltd.	Korea	Parent		Parent	
Songwon International – Japan K.K.	Japan	Subsidiary	100%	Subsidiary	100%
Songwon Specialty Chemicals-India Pvt. Ltd.	India	Subsidiary	100%	Subsidiary	100%
Songwon International – Americas Inc.	USA	Subsidiary	100%	Subsidiary	100%
Songwon International AG	Switzerland	Subsidiary	100%	Subsidiary	100%
Songwon Group Holding AG	Switzerland	Subsidiary	100%	Subsidiary	100%
Songwon Management AG	Switzerland	Subsidiary	100%	Subsidiary	100%
Songwon ATG GmbH	Germany	Subsidiary	100%	Subsidiary	100%
Songwon Europe GmbH	Germany	Subsidiary	100%	Subsidiary	100%
Songwon Chemicals GmbH	Germany	Subsidiary	100%	Subsidiary	100%
Songwon Trading GmbH	Germany	Subsidiary	100%	Subsidiary	100%
Songwon International – Qingdao Co., Ltd.	China	Subsidiary	100%	–	–
Qingdao Long Fortune Songwon Chemical Co., Ltd.*	China	–	–	Subsidiary	72%
Songwon International Middle East FZE	UAE	Subsidiary	100%	Subsidiary	100%
Songwon Polysys Additives-Sole Proprietorship LLC	UAE	Subsidiary	100%	Subsidiary	81.5%
Entities accounted for using the equity method (joint venture)					
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	China	Joint venture	30%	Joint venture	30%

*refer to note 5 for further details

1.2.2 SUMMARIZED STATEMENTS OF FINANCIAL POSITION AND COMPREHENSIVE INCOME OF SUBSIDIARIES

The summarized statements of financial position and comprehensive income of subsidiaries are as follows:

2021 as of December 31	**Total assets** Million KRW	**Total liabilities** Million KRW	**Total equity** Million KRW	**Total revenue** Million KRW	**Net income** Million KRW	**Total comp. income** Million KRW
Songwon International – Japan K.K.	49,060	36,729	12,331	95,047	1,504	1,504
Songwon Specialty Chemicals-India Pvt. Ltd.	50,735	10,916	39,819	30,152	5,836	5,944
Songwon International – Americas Inc.	109,679	76,476	33,203	212,348	5,347	5,347
Songwon International AG	104,526	75,276	29,250	270,572	18,611	19,117
Songwon Group Holding AG	127,741	4,318	123,423	–	11,736	11,736
Songwon Management AG	22,387	19,545	2,842	–	-1,196	4,523
Songwon-ATG GmbH	7,817	3,713	4,104	8,894	301	301
Songwon Europe GmbH	162	15	147	1,336	33	33
Songwon Chemicals GmbH	139	4	135	1,145	26	26
Songwon Trading GmbH	113	4	109	942	17	17
Songwon International – Qingdao Co., Ltd.	13,847	9,462	4,385	15,333	690	690
Songwon International – Middle East FZE	10,165	7,149	3,016	22,957	1,579	1,579
Songwon Polysys Additives-Sole Proprietorship LLC	34,788	14,504	20,284	24,903	406	406

2020 as of December 31						
Songwon International - Japan K.K.	30,884	19,843	11,041	76,840	1,305	1,305
Songwon Specialty Chemicals-India Pvt. Ltd.	42,405	10,351	32,054	24,786	5,461	5,447
Songwon International - Americas Inc.	71,271	43,810	27,461	178,366	3,734	3,734
Songwon International AG	67,826	52,026	15,800	223,502	6,622	6,525
Songwon Group Holding AG	125,665	2,628	123,037	–	10,803	10,803
Songwon Management AG	22,289	23,248	-959	–	280	-665
Songwon-ATG GmbH	8,186	3,810	4,376	7,969	-4,656	-4,656
Songwon Europe GmbH	130	16	114	1,386	37	37
Songwon Chemicals GmbH	142	34	108	1,415	38	38
Songwon Trading GmbH	274	183	91	956	21	21
Qingdao Long Fortune Songwon Chemical Co., Ltd.	20,423	7,441	12,982	30,091	2,226	2,226
Songwon International – Middle East FZE	5,153	3,546	1,607	19,208	430	430
Songwon Polysys Additives-Sole Proprietorship LLC	26,919	18,172	8,747	25,897	1,441	1,441

1.2.3 INTEREST IN JOINT VENTURES

The Group has a 30% interest in Songwon Baifu Chemicals (Tangshan) Co., Ltd., classified as a jointly controlled entity which primarily engages in the production of thioesters. Determination was driven by the contractually agreed sharing of control with regard to relevant activities, requiring unanimous consent of the control-sharing parties.

The summarized statements of financial position and summarized statements of comprehensive income of joint ventures (accounted for using the equity method) are as follows:

Statement of financial position	Cash and cash equivalents Million KRW	Total current assets Million KRW	Total non-current assets Million KRW	Current financial liabilities Million KRW	Total current liabilities Million KRW	Non-current financial liabilities Million KRW	Total non-current liabilities Million KRW	Equity Million KRW	Carrying amount Million KRW
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	2,987	12,062	9,003	908	1,264	76	94	19,707	5,912
December 31, 2020	2,987	12,062	9,003	908	1,264	76	94	19,707	5,912
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	1,803	10,744	12,954	1,670	2,056	58	89	21,553	6,466
December 31, 2021	1,803	10,744	12,954	1,670	2,056	58	89	21,553	6,466

Statement of comprehensive income	Revenue Million KRW	Depreciation & Amortization Million KRW	Interest income Million KRW	Interest expense Million KRW	Profit before tax Million KRW	Income tax expenses Million KRW	Profit for the period Million KRW	Other comp. income Million KRW	Total comp. income Million KRW
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	24,239	-141	5	-9	4,783	-1,238	3,545	67	3,612
December 31, 2020	24,239	-141	5	-9	4,783	-1,238	3,545	67	3,612
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	31,813	-163	23	-6	4,944	-1,269	3,675	-100	3,575
December 31, 2021	31,813	-163	23	-6	4,944	-1,269	3,675	-100	3,575

The investment in the joint venture is accounted for as using the equity method. The joint venture is continuing its operations as of December 31, 2021, and its reporting period is the same as that of the Group. In 2021, dividends of 519 Million KRW were received from Songwon Baifu Chemicals (Tangshan) Co., Ltd. (2020: 519 Million KRW), refer to note 12.

1.2.4 NON-CONTROLLING INTERESTS

The Group acquired an additional 18.5% interest in Songwon Polysys Additives-Sole Proprietorship LLC as of March 23, 2021 and increased its shareholding to 100%. In addition, the sale of the 72% interest in Qingdao Long Fortune Songwon Chemical Co. Ltd., effective April 30, 2021, led to loss of control in Qingdao Long Fortune Songwon Chemical Co. Ltd. and the entity was deconsolidated (refer to note 5). As at December 31, 2021, the Group disposed all of its non-controlling interests. The net loss attributable to the non-controlling interests for the year 2021 amounted to 1,064 Million KRW (net gain 2020: 912 Million KRW). Summarized cash flow information of the partly owned subsidiaries as of December 31, 2020, is as follows:

	2020 Million KRW
Operating cash flow	5,069
Investing cash flow	-113
Financing cash flow	-4,662
Net cash flow	294

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

2.1 BASIS OF PREPARATION

The Group prepares statutory financial statements in the Korean language in accordance with Korean International Financial Reporting Standards (K-IFRS) enacted by the *Act on External Audit of Stock Companies.*

The consolidated financial statements have been prepared on a historical cost basis, except for certain items, such as financial instruments, which are mentioned separately in the following accounting principles. The consolidated financial statements are presented in Korean won (KRW) and all values are rounded to the nearest million (000,000), except when otherwise indicated.

The Group maintains its official accounting records in Korean won. In the event of any differences in the interpretation of the consolidated financial statements or the independent auditor's report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail.

2.2 BASIS OF CONSOLIDATION

The consolidated financial statements comprise the financial statements of the Group and its subsidiaries as of December 31, 2021. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if, and only if, the Group has:

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

Generally, there is a presumption that a majority of voting rights results in control. To support this presumption and when the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

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

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

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

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

2.3 CONVENIENCE TRANSLATION INTO UNITED STATES DOLLAR AMOUNTS

The parent company operates primarily in Korean won and its official accounting records are maintained in KRW. The USD amounts provided in the financial statements represent supplementary information solely for the convenience of the reader. All KRW amounts are expressed in USD at the rate of 1,188.65 KRW to 1 USD, the exchange rate in effect on December 31, 2021. Such a presentation is not in accordance with generally accepted accounting principles and should not be construed as a representation that the KRW amounts shown could be readily converted, realized or settled in USD at this or at any other rate.

2.4. BUSINESS COMBINATIONS AND GOODWILL

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

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

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

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

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

2.5 INTEREST IN JOINT ARRANGEMENTS

Joint ventures

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control. The considerations made in determining joint control are similar to those necessary to determine control over subsidiaries.

The Group's investments in its joint ventures are accounted for using the equity method. Under the equity method, the investment in a joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the joint venture since the acquisition date.

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

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

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

At each reporting date, the Group determines whether there is objective evidence that the investment in the joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the joint venture and its carrying value, and then recognizes the loss as "Share of profit of a joint venture" in the statements of comprehensive income.

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

Joint operations

A joint operation is defined as an arrangement in which the parties with joint control have rights to the assets and obligations for the liabilities relating to that arrangement. In respect of its interest in a joint operation, a joint operator must recognize all of its assets, liabilities, revenues and expenses, including its relative share of jointly controlled assets, liabilities, revenue and expenses.

The considerations made in determining joint control are similar to those necessary to determine control over subsidiaries.

2.6 FOREIGN CURRENCY TRANSLATION

The consolidated financial statements are presented in KRW, which is the parent company's functional currency. Each entity in the Group determines its own functional currency, and items included in the financial statements of each entity are measured using that functional currency.

Transactions in foreign currencies are initially recorded by the companies at their respective functional currency rates prevailing at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange ruling at the reporting date. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined.

The assets, including goodwill and liabilities of foreign subsidiaries, where the functional currency is other than the KRW, are translated using the exchange rate at the end of the reporting period, while the statements of comprehensive income are translated using the average exchange rates during the period. Differences arising from such translations are recognized within equity and reclassified to net income when the gain or loss on disposal of the foreign subsidiary is recognized.

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

2.7 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are valued at cost less accumulated depreciation and accumulated impairment losses. If the recognition criteria are met, such costs include the cost of replacing part of the property, plant and equipment and borrowing costs for long-term construction projects. Other repair and maintenance costs are recognized in the statements of comprehensive income as incurred. If the costs of certain components of an item of property, plant and equipment are significant in relation to the total cost of the item, they are accounted for and depreciated separately.

Depreciation expenses are calculated by using the straight-line method. The following useful lives are assumed:

Land	No depreciation
Buildings	18-60 years
Structures	10-40 years
Machinery	10-20 years
Other	1-39 years

Residual values and useful lives are reviewed annually and adjusted accordingly if expectations differ from previous estimates.

The gain or loss arising from the derecognition of a property, plant or equipment shall be determined as the difference between the net disposal proceeds and the carrying amount of the asset. It shall be recognized in the income statement when the asset is derecognized.

2.8 INTANGIBLE ASSETS

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value as at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses.

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

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

Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset, and are recognized in the income statement when the asset is derecognized.

Intangible assets with finite useful lives are amortized using the straight-line method with the following useful lives:

Software	3-10 years
Industrial rights	10 years

2.9 INVESTMENT PROPERTY

The Group classifies the property to earn rentals or for capital appreciation, or both, as investment properties. As investment properties are accounted for using a cost model, the same accounting policies applied to property, plant and equipment are used for their accounting treatment, except for their classification and presentation.

2.10 LEASES

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

Group as a lessee

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

- *Right-of-use assets*
  The Group recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any re-measurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Unless the Group is reasonably certain to obtain ownership of the leased asset at the end of the lease term, the recognized right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life and the lease term. Right-of-use assets are subject to impairment (see note 8).

- *Lease liabilities*
  At the commencement date of the lease, the Group recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating a lease, if the lease term reflects the Group exercising the option to terminate (see note 25.3.3).

In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. The carrying amount of the right-of-use asset and lease liability is re-measured if there is a modification, a change in the lease term, a change in the in-substance fixed lease payments or a change in the assessment to purchase the underlying asset.

- *Short-term leases and leases of low-value assets*
  The Group applies the short-term lease recognition exemption to its short-term leases of tools and other equipment (i.e., those leases that have a lease term of twelve months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered of low value (i.e., below 5,000 USD). Lease payments on short-term leases and leases of low-value assets are recognized as an expense on a straight-line basis over the lease term.

- *Significant judgement in determining the lease term of contracts with renewal options*
  The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The Group has the option, under some of its leases to lease the assets for additional terms. The Group applies judgement in evaluating whether it is reasonably certain to exercise the option to renew. That is, it considers all relevant factors that create an economic incentive for it to exercise the renewal. After the commencement date, the Group reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise (or not to exercise) the option to renew (e.g., a change in business strategy).

Group as a lessor

Leases in which the Group does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. Rental income arising is accounted for on a straight-line basis over the lease terms and is included in revenue in the statement of profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned. In the financial year 2021, the Group has not entered into lease agreements as a lessor.

2.11 IMPAIRMENT OF NON-FINANCIAL ASSETS

The Group reviews non-financial assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If any indication exists, or when annual impairment testing for assets, such as membership is required, the Group estimates the asset's recoverable amount. Recoverability of assets is measured by the comparison of the carrying amount of the asset to the recoverable amount, which is the higher of the asset's value in use and its fair value less costs to sell. If assets do not generate cash inflows that are largely independent of those from other assets or groups of assets, the impairment test is not performed at an individual asset level; instead, it is performed at the level of the cash-generating unit (CGU) that the asset belongs to.

Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, recent market transactions are taken into account, if available. If no such transactions can be identified, an appropriate valuation model is used.

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

The following criteria are also applied in assessing impairment of specific assets:

Goodwill

Goodwill is tested for impairment annually as of December 31, and whenever there are events or changes in circumstances (triggering events), which suggest that the carrying amount may not be recoverable. Goodwill is carried at cost less accumulated impairment losses.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to the (groups of) cash-generating unit(s) that is expected to benefit from the synergies of the business combination. If the carrying amount of the cash-generating unit(s), to which the goodwill is allocated, exceeds its recoverable amount, an impairment loss on goodwill is recognized. The recoverable amount is the higher of the cash-generating unit(s) fair value less costs to sell and its value in use.

Impairment losses relating to goodwill cannot be reversed in future periods.

Intangible assets with indefinite useful lives

Intangible assets with indefinite useful lives are tested for impairment annually as of December 31, either individually, or at the cash-generating unit level, as appropriate and when circumstances indicate that the carrying value may be impaired.

2.12 BORROWING COSTS

Borrowing costs directly attributable to the acquisition, construction or production of an asset, that requires a substantial period of time to get ready for its intended use or sale, are capitalized as part of the cost of the respective assets.

2.13 INVENTORIES

Inventory is valued at the lower of the acquisition or production cost and net realizable value, cost being generally determined on the basis of a weighted average. Production costs comprise direct material and labor and applicable manufacturing overheads, including depreciation charges based on normal operating capacity. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

2.14 CASH AND CASH EQUIVALENTS

Cash and cash equivalents in the statements of financial position comprise cash at banks, as well as on hand and short-term deposits with a maturity of three months or less.

2.15 PROVISIONS

A provision is recognized when the Group has a present legal or constructive obligation as a result of a past event. It is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. If the effect is material, provisions are recognized at present value by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money.

Greenhouse gas emissions

The Group receives free emission rights as a result of emission trading schemes. The rights are received on an annual basis and, in return, the Group is required to remit rights equal to its actual emissions. The Group has adopted the net liability approach to the emission rights granted. Therefore, a provision is recognized only when actual emissions exceed the emission rights granted and still held. The emission costs are recognized as other operating costs. Where emission rights are purchased from other parties, they are recorded at cost, and treated as a reimbursement right, whereby they are matched to the emission liabilities and re-measured to fair value. The changes in fair value are recognized in the statement of profit or loss and other comprehensive income.

2.16 PENSIONS AND OTHER LONG-TERM EMPLOYMENT BENEFITS

Pensions

The Group operates three defined benefit pension plans: one in Korea, one in Switzerland and one in India. The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method.

Re-measurements, comprising actuarial gains and losses, the effect of the asset ceiling, excluding net interest and the return on plan assets (excluding net interest), are recognized immediately in the statements of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Re-measurements are not reclassified to profit or loss in subsequent periods.

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

- the plan amendment or curtailment
- that the Group recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The pension expenses are recognized in the income statement under cost of sales and selling and administration costs.

Other long-term employment benefits

The parent company also implements a bonus plan designed to present a prescribed quantity of gold and entitles compensated vacation to long-term service employees. Accounting policies of the bonus plan are mostly the same as the defined benefit plan, except that re-measurements are recognized immediately in profit or loss.

2.17 TAXES

Current income tax

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

Deferred tax

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

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

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

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

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

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

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

Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

2.18 REVENUE FROM CONTRACTS WITH CUSTOMERS

The Group's business is the manufacture and commercial sale of antioxidants, stabilizers and polyurethane. Revenue from contracts with customers is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The Group has generally concluded that it is the principal in its revenue arrangements, except for the agency services below, because it typically controls the goods or services before transferring them to the customer.

Sales of Goods

The Group has concluded that revenue from sale of goods should be recognized at the point in time when control of the asset is transferred to the customer, generally on delivery of the goods.

Sale of services

The Group provides transportation service in combination with the sales of goods. The services can be provided by others and are not significantly modified or customized. There are two performance obligations in a contract for bundled sales of goods and transportation services, because its promises to transfer goods and provide transportation services, are capable of being distinct and separately identifiable. The Group allocates the transaction price based on the relative stand-alone selling prices of goods and transportation services. The Group concluded that revenue for transportation services, will be recognized over time because the customer simultaneously receives and consumes the benefits provided by the Group.

Contract balances

1) *Contract assets*

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

2) *Trade receivables*

A receivable represents the Group's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due). Refer to accounting policies of financial assets in the note 2.19.

3) *Contract liabilities*

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

2.19 FINANCIAL INSTRUMENTS

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

Financial assets

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

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

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

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

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

1) *Subsequent measurement*

For purposes of subsequent measurement, financial assets are classified in four categories:

- Financial assets at amortized cost (debt instruments);
- Financial assets at FVOCI with recycling of cumulative gains and losses (debt instruments);
- Financial assets designated at FVOCI with no recycling of cumulative gains and losses upon derecognition (equity instruments);
- Financial assets at FVtPL.

2) *Financial assets at amortized cost (debt instruments)*

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

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

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

3) *Financial assets at FVOCI (debt instruments)*

The Group measures debt instruments at FVOCI if both of the following conditions are met:

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

For debt instruments at FVOCI, interest income, foreign exchange revaluation and impairment losses or reversals are recognized in the statement of profit or loss and computed in the same manner as for financial assets measured at amortized cost. The remaining fair value changes are recognized in OCI. Upon derecognition, the cumulative fair value change recognized in OCI is recycled to profit or loss. The Group's debt instruments at FVOCI includes investments in quoted debt instruments included under other non-current financial assets.

4) *Financial assets designated at FVOCI (equity instruments)*

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity instruments designated at FVOCI when they meet the definition of equity under K-IFRS 1032 and are not held for trading. The classification is determined on an instrument-by-instrument basis.

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

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

5) *Financial assets at FVtPL*

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

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

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

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

6) *Derecognition*

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

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

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

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

7) *Impairment of financial assets*

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

- significant accounting judgments, estimates and assumptions
- debt instruments at FVOCI
- trade and other receivables

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

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

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

For debt instruments at FVOCI, the Group applies the low credit risk simplification. At every reporting date, the Group evaluates whether the debt instrument is considered to have low credit risk using all reasonable and supportable information that is available without undue cost or effort. In making that evaluation, the Group reassesses the internal credit rating of the debt instrument. In addition, the Group considers that there has been a significant increase in credit risk when contractual payments are more than 30 days past due.

The Group considers a financial asset in default when contractual payments are 180 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Financial liabilities

1) *Initial recognition and measurement*

Financial liabilities are classified, at initial recognition, as financial liabilities at FVtPL, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

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

The Group's financial liabilities include mainly trade and other payables, interest-bearing loans and borrowings as well as derivative liabilities.

2) *Subsequent measurement*

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

3) *Financial liabilities at FVtPL*

Financial liabilities at FVtPL include financial liabilities held for trading and financial liabilities designated upon initial recognition as at FVtPL.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. This category also includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by K-IFRS 1109. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments.

Gains or losses on liabilities held for trading are recognized in the statement of profit or loss.

Financial liabilities designated upon initial recognition at FVtPL are designated at the initial date of recognition, and only if the criteria in K-IFRS 1109 are satisfied.

4) *Loans and borrowings*

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

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

This category generally applies to interest-bearing loans and borrowings. For more information, refer to note 25.

5) *Derecognition*

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

Offsetting of financial instruments

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

Derivative financial instruments and hedge accounting

1) *Initial recognition and subsequent measurement*

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

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

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

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

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

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

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

2) *Fair value hedges*

The change in the fair value of a hedging instrument is recognized in the statement of profit or loss as other expense. The change in the fair value of the hedged item attributable to the risk hedged is recorded as part of the carrying value of the hedged item and is also recognized in the statement of profit or loss as other expenses.

For fair value hedges relating to items carried at amortized cost, any adjustment to carrying value is amortized through profit or loss over the remaining term of the hedge using the EIR method. The EIR amortization may begin as soon as an adjustment exists and no later than when the hedged item ceases to be adjusted for changes in its fair value attributable to the risk being hedged.

If the hedged item is derecognized, the unamortized fair value is recognized immediately in profit or loss.

When an unrecognized firm commitment is designated as a hedged item, the subsequent cumulative change in the fair value of the firm commitment attributable to the hedged risk is recognized as an asset or liability with a corresponding gain or loss recognized in profit or loss. The Group has forward exchange contracts as well as currency and interest rate swaps (CRS) in order to hedge the risk of foreign exchange rate fluctuation of assets and liabilities denominated in foreign currencies and floating interest rates on corporate bonds. The Group applies fair value hedge accounting for forward exchange contracts (note 25.1.1) and currency and interest rate swaps (note 25.1.2).

3) *Cash flow hedges*

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

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

For any other cash flow hedges, the amount accumulated in OCI is reclassified to profit or loss as a reclassification adjustment in the same period or periods during which the hedged cash flows affect profit or loss.

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

The Group had interest rate swap agreements about some borrowings which had been terminated early. The Group applied cash flow hedge accounting for interest rate swap contracts (note 25.1.3).

4) *Hedges of a net investment*

Hedges of a net investment in a foreign operation, including a hedge of a monetary item that is accounted for as part of the net investment, are accounted for in a way similar to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized as OCI while any gains or losses relating to the ineffective portion are recognized in the statement of profit or loss. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in equity is transferred to the statement of profit or loss.

Fair value measurement

The Group measures financial instruments such as derivatives at fair value at each balance sheet date.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

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

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

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

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

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

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

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

For assets and liabilities that are recognized in the financial statements at fair value on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period. The Group determines the policies and procedures for both recurring fair value measurement, such as investment properties and unquoted AFS financial assets, and for non-recurring measurement, such as assets held for sale in discontinued operation.

External valuers are involved for valuation of significant assets, such as AFS financial assets, and significant liabilities. Selection criteria include market knowledge, reputation, independence and whether professional standards are maintained.

At each reporting date, the Group analyses the movements in the values of assets and liabilities which are required to be remeasured or re-assessed as per the Group's accounting policies. For this analysis, the Group verifies the major inputs applied in the latest valuation by agreeing the information in the valuation computation to contracts and other relevant documents. The Group, in conjunction with the Group's external valuers, also compares the change in the fair value of each asset and liability with relevant external sources to determine whether the change is reasonable.

On an interim basis, the Group and the Group's external valuers present the valuation results to the Group's independent auditors. This includes a discussion of the major assumptions used in the valuations. For the purpose of fair value disclosures, the Group has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy, as explained above.

2.20 GOVERNMENT GRANTS

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

When the Group receives grants of non-monetary assets, the asset and the grant are recorded at nominal amounts and released to profit or loss over the expected useful life of the asset, based on the pattern of consumption of the benefits of the underlying asset by equal annual instalments.

2.21 CHANGES IN DISCLOSURE AND PRESENTATION

In the 2nd quarter of 2021, a decision was made to change the structure of SONGWON's internal organization in a manner which has caused the composition of the reportable segments to change. Chemicals used in the coatings industry have been reclassified from Division Performance Chemicals to Division Industrial Chemicals. As a result of this reclassification, the segment information for the twelve months ended December 31, 2020 (comparable period), have been restated. For the twelve months ended December 31, 2020, the sales for Division Industrial Chemicals increased by 29,114 Million KRW (Division Performance Chemicals: sales decreased by 29,114 Million KRW). The operating profit of Division Industrial Chemicals for the twelve months ended December 31, 2020, decreased by 3,121 Million KRW (Division Performance Chemicals: operating profit increased by 3,121 Million KRW). The changes in disclosure have had no impact on the consolidated statements of financial position and the consolidated statements of comprehensive income.

2.22 RESTATEMENT OF PRIOR YEAR FIGURES IN CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

The Group applied certain standards and amendments for the first-time, which are effective for annual periods beginning on or after January 1, 2021 (unless otherwise stated). The Group has not adopted early any other standard, interpretation or amendment that has been issued but is not yet effective.

Interest Rate Benchmark Reform – Phase 2: Amendments to K-IFRS 1109, K-IFRS 1039, K-IFRS 1107, K-IFRS 1104 and K-IFRS 1116

The amendments provide temporary relief which address the financial reporting effects when an interbank offered rate (IBOR) is replaced with an alternative nearly risk-free interest rate (RFR). The amendments include the following practical expedients:

- A practical expedient to require contractual changes, or changes to cash flows that are directly required by the reform, to be treated as changes to a floating interest rate, equivalent to a movement in a market rate of interest;
- Permit changes required by IBOR reform to be made to hedge designations and hedge documentation without the hedging relationship being discontinued;
- Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component.

These amendments had no impact on the consolidated financial statements of the Group. The Group intends to use the practical expedients in future periods if they become applicable.

COVID-19-Related Rent Concessions beyond June 30, 2021 Amendments to K-IFRS 1116

On May 28, 2020, the IASB issued COVID-19-Related Rent Concessions - amendment to K-IFRS 1116 Leases. The amendments provide relief to lessees from applying K-IFRS 1116 guidance on lease modification accounting for rent concessions arising as a direct consequence of the COVID-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a COVID-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the COVID-19 related rent concession the same way it would account for the change under K-IFRS 1116, if the change were not a lease modification.

The amendment was intended to apply until June 30, 2021, but as the impact of the COVID-19 pandemic is continuing, the IASB extended the period of application of the practical expedient on March 31, 2021 to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. However, the Group has not received COVID-19-related rent concessions, but plans to apply the practical expedient if it becomes applicable within allowed period of application.

3. SIGNIFICANT ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The preparation of the Group's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods. The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, which have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below.

Notes	Description	Nature of estimation
7, 8, 9, 10, 11	**Impairment of non-financial assets / goodwill**	Impairment exists when the carrying value of an asset or cash-generating unit exceeds its recoverable amount, which is the higher of its fair value less costs to sell and its value in use. The determination of the recoverable amount of a cash-generating unit involves the use of estimates by management. The fair value less costs to sell calculation is based on available data from binding sales transactions in an arm's length transaction of similar assets or observable market prices less incremental costs for disposing of the asset. The value in use calculation is based on a discounted cash flow model. The cash flows are derived from the expectations for the next three to five years and do not include restructuring activities that the Group is not yet committed to or significant future investments that will enhance the asset's performance of the cash-generating unit being tested. The recoverable amount based on the value in use is most sensitive to the discount rate used for the discounted cash flow model (WACC), as well as the expected future cash-inflows and the growth rate used for extrapolation purposes. The recoverable amount based on the fair value less cost to sell is most sensitive to the market prices, premiums and the estimate of cost to sell. These estimates, including the methodologies used, can have a material impact on the fair value and ultimately, the amount of any goodwill impairment.
21, 22	**Pension and other employment benefits**	The cost of defined benefit pension plans and other similar long-term employee benefits, and the present value of the pension obligation are determined using actuarial valuations. An actuarial valuation involves making various assumptions, which may differ from actual developments in the future. These include the determination of the discount rate, future salary increases, mortality rates and future pension increases. Due to the complexity of the valuation, the underlying assumptions and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions.
29.1, 29.2	**Income tax / deferred tax assets**	The Group applies significant judgement in identifying uncertainties over income tax treatments. Since the Group operates in a complex multinational environment, it assesses on a yearly base whether these uncertainties have an impact on its consolidated financial statements. Deferred tax assets are recognized for all unused tax losses, to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits together with future tax planning strategies.
25.2	**Fair value of financial instruments**	Where the fair value of financial assets and financial liabilities recorded in the statement of financial position cannot be derived from active markets, their fair value is determined using valuation techniques including the discounted cash flow model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. The judgments include consideration of inputs, such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

25.3.3 **Leases – determination of lease term and incremental borrowing rate**

The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The Group applies judgement in evaluating whether it is reasonably certain whether or not to exercise the option to renew or terminate the lease. That is, it considers all relevant factors that create an economic incentive for it to exercise either the renewal or termination. After the commencement date, the Group reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not to exercise the option to renew or to terminate (e.g., construction of significant leasehold improvements or significant customization to the leased asset).

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

4. STANDARDS ISSUED BUT NOT YET EFFECTIVE

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

Classification of Liabilities as Current or Non-current – Amendments to K-IFRS 1001

The amendments to paragraphs 69 to 76 of K-IFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

- What is meant by a right to defer settlement;
- That a right to defer must exist at the end of the reporting period;
- That classification is unaffected by the likelihood that an entity will exercise its deferral right;
- That only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification.

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and must be applied retrospectively. The Group is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require renegotiation.

The amendments are not expected to have a material impact on the Group.

Reference to the Conceptual Framework – Amendments to K-IFRS 1103

The amendments are intended to replace a reference to the Framework for the Preparation and Presentation of Financial Statements, issued in 1989, with a reference to the Conceptual Framework for Financial Reporting issued in March 2018 without significantly changing its requirements.

The Board also added an exception to the recognition principle of K-IFRS 1103 to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of K-IFRS 1037 or K-IFRS 2121 Levies, if incurred separately. At the same time, the Board decided to clarify existing guidance in K-IFRS 1103 for contingent assets that would not be affected by replacing the reference to the Framework for the Preparation and Presentation of Financial Statements. The amendments are effective for annual reporting periods beginning on or after January 1, 2022 and apply prospectively.

The amendments are not expected to have a material impact on the Group.

Property, Plant and Equipment: Proceeds before Intended Use – Amendments to K-IFRS 1016

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

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 and must be applied retrospectively to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment.

The amendments are not expected to have a material impact on the Group.

Onerous Contracts – Costs of Fulfilling a Contract – Amendments to K-IFRS 1037

Amendments to K-IFRS 1037 have been issued to specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making.

The amendments apply a "directly related cost approach". The costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract.

The amendments are effective for annual reporting periods beginning on or after January 1, 2022. The Group will apply these amendments to contracts for which it has not yet fulfilled all its obligations at the beginning of the annual reporting period in which it first applies the amendments.

K-IFRS 1101 *First-time Adoption of International Financial Reporting Standards* – Subsidiary as a first-time adopter

The amendment permits a subsidiary that elects to apply paragraph D16(a) of K-IFRS 1101 to measure cumulative translation differences using the amounts reported by the parent, based on the parent's date of transition to K-IFRS. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(a) of K-IFRS 1101.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted.

The amendment is not expected to have a material impact on the Group.

K-IFRS 1109 *Financial Instruments* – Fees in the '10 per cent' test for derecognition of financial liabilities

An amendment to K-IFRS 1109 has been issued. The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted. The Group will apply the amendments to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

The amendments are not expected to have a material impact on the Group.

Definition of Accounting Estimates – Amendments to K-IFRS 1008

The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates.

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted as long as this fact is disclosed.

The amendments are not expected to have a material impact on the Group.

Disclosure of Accounting Policies – Amendments to K-IFRS 1001

The amendments provide guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures.

The amendments to K-IFRS 1001 are applicable for annual periods beginning on or after January 1, 2023 with earlier application permitted.

The Group is currently assessing the impact of the amendments to determine the impact they will have on the Group's accounting policy disclosures.

Narrowing the scope of the initial recognition exception of deferred income taxes – Amendments to KIFRS 1012

The amendments narrowed the scope of the initial recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary difference, thus to resolve accounting diversity in the recognizing of deferred tax assets and liabilities.

Paragraphs 15 and 24 (initial recognition exemption of deferred income taxes) of KIFRS 1012 were amended to include an additional condition (3) where a deferred tax asset and liability shall be recognized for a temporary difference that arises on initial recognition of an asset or liability in a single transaction if that transaction give rise to equal amounts of taxable and deductible temporary differences.

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 with earlier adoption permitted. The amendments are not expected to have a material impact on the Group.

5. SALE OF A SUBSIDIARY

The Group sold its 72% interest in Qingdao Long Fortune Songwon Chemical Co. Ltd. with the effective date April 30, 2021. The financial information for the period to the date of disposal is set out below.

5.1 FINANCIAL PERFORMANCE AND CASH FLOW INFORMATION

The financial performance and cash flow information of Qingdao Long Fortune Songwon Chemical Co. Ltd. presented in the tables below are for the four months ended April 30, 2021, and the year ended December 31, 2020:

	2021	2020
	YTD April 30	Financial year
Description	Million KRW	Million KRW
Sales	13,482	30,091
Cost os sales	-11,691	-25,191
Gross profit	1,791	4,900
Selling and administration costs	-1,082	-2,656
Operating profit	709	2,244
Other income	194	591
Osther expenses	-992	-48
Finance income	77	444
Finance expenses	-42	-249
(Loss)/profit before tax	-54	2,982
Income tax expenses	-125	-756
(Loss)/profit before tax	-179	2,226

	2021	2020
	YTD April 30	Financial year
	Million KRW	Million KRW
Net cash flow from operating activities	-2,066	1,729
Net cash flow from investing activities	49	-3
Net cash flow from financing activities	-138	-116
Net (decrease)/increase in cash generated by the subsidiary	-2,155	1,610

The net of cash disposed from the sale of 72% interest in Qingdao Long fortune Songwon Chemical Co. Ltd. with effective date April 30, 2021, is as follows:

	2021
	As of April 30
	Million KRW
Cash and cash equivalents of subsidiary	-1,524
Total consideration received from sale of subsidiary	7,108
Disposal of a subsidiaty, net of cash disposed	5,584

5.2 DETAILS ON SALE OF SUBSIDIARY

The net impairment losses resulting from the sale of 72% interest in Qingdao Long fortune Songwon Chemical Co. Ltd. (SWDM-CN) of 2,378 Million KRW have been recognized as "Other expenses" within the interim condensed consolidated statements of comprehensive income for the year ended December 31, 2021:

	2021
	Million KRW
Impairment losses from revaluation of SWDM-CN as of March 31, 2021	-3,331
Reversal of 28% impairment losses allocated to non-controlling interests	953
Net impairment losses from sale of 72% interest in SWDM-CN	-2,378

The total consideration received from the sale of 72% interest in Qingdao Long fortune Songwon Chemical Co. Ltd. was derived as follows:

	2021
	As of April 30
Description	Million KRW
Property, plant and equipment	70
Right-of-use assets	588
Inventories	928
Trade and other receivables	8,512
Cash and cash equivalents	1,524
Other non-current and current assets	201
Total asstes	11,823
Non-current lease liabilities	-734
Trade and other payables	-907
Other non-current and current liabilities	-476
Total Liabilities	-2,117
Net assets of subsidiary	9,706
Non-controlling interests of 28%	-2,598
Total consideration received from sale of 72% interest	7,108

6. SEGMENT INFORMATION

The Group is organized into two main reporting segments "Industrial Chemicals" and "Performance Chemicals". The segments are defined based on SONGWON's product portfolio and its respective product families. In the second quarter of 2021, a decision was made to change the structure of SONGWON's internal organization in a manner that caused the composition of the reportable segments to change. Chemicals used in the coatings industry have been reclassified from Division Performance Chemicals to Division Industrial Chemicals (refer to note 2.21 for further details):

- **Industrial Chemicals**
  Industrial Chemicals operating segment mainly includes the product lines "Polymer Stabilizers", "Fuel and Lubricant Additives" and "Coatings".

- **Performance Chemicals**
  Performance Chemicals operating segment mainly includes the product lines "Thermoplastic Polyurethanes / Solution Polyurethanes", "Tin Intermediates / PVC Stabilizers and Plasticizers" and "Specialty Chemicals".

The Chief Operating Decision Makers (CODM), at Songwon, leaders of respective divisions, monitor the sales and operating profits or losses of its operating segments separately for the purpose of making decisions about resource allocation and performance assessment. However, certain income and expense positions such as other income / expenses, finance income / expenses and income tax expenses are managed on a Group basis and therefore not allocated to operating segments. The Group does not disclose a measure of total assets and liabilities for each reportable segment as such amounts are not reported to the CODM.

There are no inter-company transactions between the two operating segments.

6.1. REPORTED KEY FIGURES

The following key figures are presented each month to the CODM. For the segment reporting, the same accounting policies and methods of computation as were followed in the most recent annual financial statement are used.

	2021	2020	**2021**	2020	**2021**	2020
	Industrial Chemicals		**Performance Chemicals**		**Total**	
Description	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Sales	735,654	613,593	262,536	194,175	998,190	807,768
Operating profit	95,621	67,347	10,093	663	105,714	68,010

6.2 REVENUE FROM CONTRACTS WITH CUSTOMERS

	2021	2020	**2021**	2020	**2021**	2020
	Industrial Chemicals		**Performance Chemicals**		**Total**	
Description	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Sales of goods	734,175	612,085	261,766	193,698	995,941	805,783
Sales of services	1,479	1,508	770	477	2,249	1,985
Total sales	735,654	613,593	262,536	194,175	998,190	807,768

6.3. GEOGRAPHIC INFORMATION

6.3.1. SALES

The sales information below is based on the location of the customer. Korea is disclosed separately due to the size of the Korean market whereas all other countries have been summarized into regions. Therefore, no other country's revenues are disclosed separately.

	2021	2020
	Million KRW	Million KRW
Korea	212,843	164,250
Rest of Asia	281,754	232,039
Europe	230,546	180,259
North and South America	211,418	176,936
Australia	4,503	2,198
Middle East and Africa	57,126	52,086
Total sales	998,190	807,768

The Group has no customer who accounts for more than 10% of the Group's total sales during the reporting periods.

6.3.2. NON-CURRENT ASSETS

Non-current assets information presented below consists of property, plant and equipment, right-of-use assets, investment properties and intangible assets.

	2021	2020
	Million KRW	Million KRW
Korea	389,764	389,584
Rest of Asia	27,268	28,988
Europe	8,164	8,869
North and South America	10,851	11,193
Middle East and Africa	19,272	18,575
Total	455,319	457,209

7. PROPERTY, PLANT AND EQUIPMENT

	Land	Buildings	Structures	Machinery	Other	Construction in progress	Total
Acquisition cost	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
As of January 1, 2020	149,550	88,362	63,805	494,049	47,400	14,251	857,417
Additions	–	100	111	1,002	688	21,011	22,912
Disposals	–	-27	-549	-20,775	-2,084	–	-23,435
Reclassifications	–	4,330	2,622	17,104	526	-24,582	–
Net exchange differences	–	-1,485	–	-2,091	-252	-40	-3,868
As of December 31, 2020	149,550	91,280	65,989	489,289	46,278	10,640	853,026
As of January 1, 2021	149,550	91,280	65,989	489,289	46,278	10,640	853,026
Additions	–	1	339	1,883	297	25,801	28,321
Disposals	-44	-158	-1,186	-9,172	-2,046	–	-12,606
Reclassifications	150	474	6,714	13,752	228	-21,318	–
Disposal of subsidiary*	–	–	–	-464	-75	-48	-587
Net exchange differences	–	1,780	–	2,518	344	52	4,694
As of December 31, 2021	149,656	93,377	71,856	497,806	45,026	15,127	872,848
Accumulated depreciation and impairment							
As of January 1, 2020	–	-25,585	-40,213	-315,033	-37,134	–	-417,965
Depreciation charge	–	-2,533	-2,993	-23,088	-2,432	–	-31,046
Disposals	–	12	543	19,087	1,870	–	21,512
Impairment	–	-1	–	-49	-5	–	-55
Net exchange differences	–	203	–	413	124	–	740
As of January 1, 2021	–	-27,904	-42,663	-318,670	-37,577	–	-426,814
Depreciation charge	–	-2,548	-3,047	-22,510	-2,249	–	-30,354
Disposals	–	60	1,034	7,287	1,999	–	10,380
Impairment	–	–	–	-931	-62	-49	-1,042
Disposal of subsidiary*	–	–	–	395	74	48	517
Net exchange differences	–	-283	–	-749	-205	1	-1,236
As of December 31, 2021	–	-30,675	-44,676	-335,178	-38,020	–	-448,547
Net book value							
As of December 31, 2021	149,656	62,703	27,180	162,628	7,007	15,127	424,301
As of December 31, 2020	149,550	63,376	23,326	170,619	8,701	10,640	426,212

*refer to note 5 for further details

During the year ending 2021, there were impairment losses of property, plant and equipment within Qingdao Long Fortune Songwon Chemical Co., Ltd., occurred during the ordinary course of business (828 Million KRW, not related to the COVID-19 pandemic) and impairment losses related to the sale of 72% interest in Qingdao Long Fortune Songwon Chemical Co., Ltd. of 175 Million KRW totaling 1,003 Million KRW. Additional impairment losses of 39 Million KRW have been recognized within Songwon International-Americas Inc., occurred during the ordinary course of business and not related to the COVID-19 pandemic (2020: impairment losses of fixed assets of 55 Million KRW within Songwon Specialty Chemicals-India Pvt. Ltd. occurred in the ordinary course of business).

Non-cash acquisition of property, plant and equipment during the year ending 2021 amounted to 4,025 Million KRW (2020: 1,685 Million KRW) and accounts payables relating to non-cash transactions amounted to 9,104 Million KRW as at year ending 2021 (2020: 5,078 Million KRW).

Capitalized borrowing costs

Borrowing costs, which are directly attributable to the acquisition or production of a qualified asset, are capitalized as part of the cost of that asset. As at year end 2021, borrowing costs of 94 Million KRW have been capitalized (2020: no borrowing costs capitalized).

Contractual commitments and pledged assets

A pledged asset is an asset that is transferred to a lender for the purpose of securing debt. The lender of the debt maintains possession of the pledged asset but does not have ownership unless a default occurs (refer to note 26). For contractual commitments to purchase property, plant and equipment refer to note 26.3.

8. RIGHT-OF-USE ASSETS AND LEASES

Set out below are the carrying amounts of right-of-use assets recognized and the movements during the period:

	Right-of-use assets				
	buildings	structures	machinery	other	Total
Acquisition cost	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
As of January 1, 2020	21,273	1,144	84	977	23,478
Additions	117	–	1,067	347	1,531
Disposals	-28	-144	–	-310	-482
Modification of contract	349	526	81	2	958
Net exchange differences	-537	-1	-129	-2	-669
As of December 31, 2020	21,174	1,525	1,103	1,014	24,816
As of January 1, 2021	21,174	1,525	1,103	1,014	24,816
Additions	982	–	–	133	1,115
Disposals	-262	–	–	-184	-446
Modification of contract	-193	653	47	67	574
Disposal of subsidiary*	-2,293	–	–	–	-2,293
Net exchange differences	1,296	–	85	47	1,428
As of December 31, 2021	20,704	2,178	1,235	1,077	25,194
Accumulated depreciation					
As of January 1, 2020	-1,616	-658	-58	-346	-2,678
Depreciation charge	-1,751	-638	-151	-399	-2,939
Disposals	28	144	–	247	419
Net exchange differences	123	–	14	2	139
As of December 31, 2020	-3,216	-1,152	-195	-496	-5,059
As of January 1, 2021	-3,216	-1,152	-195	-496	-5,059
Depreciation charge	-1,620	-578	-148	-330	-2,676
Disposals	262	–	–	184	446
Impairment	-1,454	–	–	–	-1,454
Disposal of subsidiary*	1,705	–	–	–	1,705
Net exchange differences	-207	-1	-21	-26	-255
As of December 31, 2021	-4,530	-1,731	-364	-668	-7,293
Net book value					
As of December 31, 2021	16,174	447	871	409	17,901
As of December 31, 2020	17,958	373	908	518	19,757

*refer to note 5 for further details

In 2021, impairment losses of 1,454 Million KRW have been recognized in relation to the sale of 72% interest in Qingdao Long Fortune Songwon Chemical Co., Ltd. (2020: no impairment). Further, the Group recognized rent expenses from short-term leases of 134 Million KRW (2020: 282 Million KRW), leases of low-value assets of 82 Million KRW (2020: 71 Million KRW) and variable lease payments of 452 Million KRW (2020: 620 Million KRW) in the consolidated statements of comprehensive income.

Set out below are the carrying amounts of lease liabilities and the movements during the year:

	2021	2020
Description	Million KRW	Million KRW
As of January 1	18,572	19,523
Additions	1,115	1,531
Modifications	574	958
Net exchange differences	499	-628
Accretion of interest	635	742
Payments	-3,461	-3,554
As of December 31	17,934	18,572

The maturity analysis of lease liabilities is disclosed in note 25.3.3.

9. INVESTMENT PROPERTIES

Acquisition cost	Land Million KRW	Buildings Million KRW	Structures Million KRW	Total Million KRW
As of January 1, 2020	3,280	509	29	3,818
Disposals	–	–	-29	-29
Net exchange differences	–	-2	–	-2
As of December 31, 2020	3,280	507	–	3,787
Disposals	–	–	–	–
Net exchange differences	–	-3	–	-3
As of December 31, 2021	3,280	504	–	3,784
Accumulated depreciation				
As of January 1, 2020	–	-292	-24	-316
Depreciation charge	–	-14	-1	-15
Disposals	–	–	25	25
Net exchange differences	–	2	–	2
As of December 31, 2020	–	-304	–	-304
Depreciation charge	–	-15	–	-15
Disposals	–	–	–	–
Net exchange differences	–	2	–	2
As of December 31, 2021	–	-317	–	-317
Net book value				
As of December 31, 2021	3,280	187	–	3,467
As of December 31, 2020	3,280	203	–	3,483

Investment properties are stated at cost less any accumulated depreciation and impairment losses, if any. The same useful lives have been applied for property, plant and equipment.

Description	2021 Million KRW	2020 Million KRW
Rental income	17	17
Operational expenses	-39	-53

The Company owns an office building in Busan which is subleased. The fair value of the office building amounts to 7,950 Million KRW as of December 31, 2021. In addition, Songwon International - Japan K.K. owns an object which is subleased. The fair value of the building and land is 25 Million KRW. The fair value of investment properties is calculated based on the valuation of an independent rating agency taking into consideration the location and category of the investment property being valued. It is classified as Level 3 based on valuation technique of the fair value hierarchy.

During the current year, the Company did not dispose of any investment properties (2020: disposed investment properties comprising structures which led to a loss of 4 Million KRW).

Disclosure of pledged assets can be found in note 27.

10. INTANGIBLE ASSETS

Acquisition cost	Industrial rights Million KRW	Software Million KRW	Memberships Million KRW	Goodwill Million KRW	Construction in progress Million KRW	Total Million KRW
As of January 1, 2020	6,036	2,846	831	43,075	98	52,886
Additions	–	124	–	–	749	873
Disposals	-181	-172	–	–	–	-353
Reclassifications	177	–	–	–	-177	–
Net exchange differences	–	-27	–	-1,959	–	-1,986
As of December 31, 2020	6,032	2,771	831	41,116	670	51,420
As of January 1, 2021	6,032	2,771	831	41,116	670	51,420
Additions	2	214	–	–	2,054	2,270
Disposals	-1	-4	–	–	–	-5
Reclassifications	610	–	–	–	-610	–
Net exchange differences	–	77	–	2,922	–	2,999
As of December 31, 2021	6,643	3,058	831	44,038	2,114	56,684
Accumulated amortization and impairment						
As of January 1, 2020	-2,686	-2,586	–	-32,983	–	-38,255
Amortization charge	-575	-115	–	–	–	-690
Disposals	181	172	–	–	–	353
Impairment	-22	–	–	-6,889	-1	-6,912
Reclassifications	-1	–	–	–	1	–
Net exchange differences	–	35	–	1,806	–	1,841
As of December 31, 2020	-3,103	-2,494	–	-38,066	–	-43,663
As of January 1, 2021	-3,103	-2,494	–	-38,066	–	-43,663
Amortization charge	-500	-114	–	–	–	-614
Disposals	1	4	–	–	–	5
Net exchange differences	–	-69	–	-2,693	–	-2,762
As of December 31, 2021	-3,602	-2,673	–	-40,759	–	-47,034
Net book value						
As of December 31, 2021	3,041	385	831	3,279	2,114	9,650
As of December 31, 2020	2,929	277	831	3,050	670	7,757

Intangible assets with a definite useful life are amortized over the useful life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. During the year ended 2021, the Group did not recognized any impairment loss on intangible assets (financial year 2020: impairment loss on industrial rights of 23 Million KRW).

The intangible assets with an indefinite useful life are tested for impairment on an annual basis. An impairment test was carried out for goodwill and memberships based on the recoverable amount of each asset. For further details of the impairment test, refer to note 11. The goodwill items consist of items acquired in a business combination. In the financial years 2021 and 2020, no business combination took place that led to a recognition of goodwill.

10.1 DETAILS OF INDIVIDUALLY SIGNIFICANT INTANGIBLE ASSETS

		2021	2020	
		December 31	December 31	
Description	**Remark**	Million KRW	Million KRW	**Remaining life**
Industrial rights	REACH	2,705	2,508	6.8
Industrial rights	1330 Technology	475	388	4
Membership	New Seoul Country	778	778	Indefinite
Goodwill	Acquisition of Business SeQuent Scientific Limited	3,279	3,050	Indefinite
Construction-in-progress	D-365	1,365	–	n/a
Construction-in-progress	REACH	749	670	n/a
Significant intangible assets total		9,351	7,394	

11. IMPAIRMENT TESTING OF GOODWILL AND INTANGIBLES WITH INDEFINITE USEFUL LIFE

11.1. IMPAIRMENT TESTING OF GOODWILL AND INTANGIBLE ASSETS WITH INDEFINITE USEFUL LIFE

Goodwill acquired through business combinations and memberships with an indefinite useful life have been allocated to the cash-generating units (CGUs) according to their business activities. Goodwill acquired in a business combination is allocated to each CGU expected to benefit from the synergies of the business combination. The goodwill acquired from the acquisition of Songwon Group Holding AG (former: Songwon International AG), Songwon-ATG GmbH, Songwon Polysys Additives-Sole Proprietorship LLC, were allocated to the Group's CGU comprising the acquired entities and the parent company, which correspond almost to the entire Group. The goodwill related to the acquisition of these entities was fully impaired as of December 31, 2020. The goodwill resulting from the business acquisition of SeQuent Scientific Limited was allocated to the individual CGU of Songwon Specialty Chemicals – India Pvt. Ltd., India (SWDM-IN).

Details of the allocation of goodwill and intangible assets with an indefinite useful life to the CGU is as follows:

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Goodwill of Songwon Specialty Chemicals-India Pvt. Ltd., India (SWDM-IN)	3,279	3,050
Goodwill of the rest of the Group (main CGU)	–	6,889
Memberships with indefinite useful lives of the rest of the Group (main CGU)	831	831
Total tested goodwill and intangible assets with indefinite useful lives	4,110	10,770

The Group performed its annual impairment test in December 2021 and 2020. The recoverable amount of the CGU – to which goodwill and intangible assets with an indefinite useful life are allocated – has been determined based on its value in use, calculated using the discounted cash flow (DCF) model.

CGU OF SWDM-IN

As of December 31, 2021, the recoverable amount of the CGU of Songwon Specialty Chemicals – India Pvt. Ltd., India amounts to 56,939 Million KRW or 3,565 Million INR (2020: 73,794 Million KRW or 4,967 Million INR) and exceeded the carrying amount of the respective CGU.

After goodwill impairment recognition, allocation details of goodwill and intangible assets with indefinite useful lives to the CGU are as follows:

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Goodwill of Songwon Specialty Chemicals-India Pvt. Ltd., India (SWDM-IN)	3,279	3,050
Goodwill of the rest of the Group (main CGU)	–	–
Memberships with indefinite useful lives of the rest of the Group (main CGU)	831	831
Total tested goodwill and intangible assets with indefinite useful lives	4,110	3,881

MEMBERSHIPS WITH INDEFINITE USEFUL LIVES OF THE REST OF THE GROUP

There was no impairment loss recognized in the financial year 2021 and 2020, according to the impairment test on memberships with indefinite useful lives.

11.2. KEY ASSUMPTIONS USED IN CALCULATION OF VALUE IN USE

The calculation of the CGU value in use reflects the future free cash flows for the next five years for SWDM-IN discounted to the present value at the WACC and an estimated residual value. The projected free cash flows for SWDM-IN's CGU is estimated on the basis of the Budget 2022 and the Business Plan 2022 – 2026, respectively, as approved by management, and mid-term assumptions. For the free cash flows extending beyond the detailed planning period, a terminal value was computed by capitalizing the normalized cash flows using a constant growth rate. The long-term growth rate was calculated in consideration of the long-term inflation expectations for relevant countries.

In addition, a market risk premium of 6.50% (2020: 6.50%) and a small cap premium of 3.21% (2020: 3.16%) were applied for the calculation of the WACC.

The key assumptions underlying the calculation are as follows:

Parameters for the determination of the recoverable amount of the CGU	Description
Average annual growth	Average annual growth is calculated on the basis of mid-term assumptions.
WACC	WACC, which is the weighted average of cost of equity and cost of debt, is calculated using the Capital Asset Pricing Model (CAPM). The application of pre-tax WACC and post-tax WACC yield the same value in use.
Long-term growth rate	Long-term growth rate is calculated based on the long-term inflation expectations for the relevant countries.

Parameters for the determination of the recoverable amount of the main CGU	2020
Average annual growth	3.61%
Pre-tax WACC	11.72%
Post-tax WACC	9.40%
Long-term growth rate	1.77%

The parameters for the determination of the recoverable amount of the main CGU for 2021 are no longer shown because it was written off in 2020.

Parameters for the determination of the recoverable CGU amount of SWDM-IN	2021	2020
Average annual growth	4.88%	6.97%
Pre-tax WACC	15.53%	15.17%
Post-tax WACC	11.57%	11.88%
Long-term growth rate	3.05%	3.06%

The following changes in key assumptions in 2021 led to a situation where the value in use for the CGU SWDM-IN equals the carrying amount:

Parameters for the determination of the recoverable CGU amount	Sensitivity analysis SWDM-IN
Average annual growth	0.00%
Pre-tax WACC	22.47%
Post-tax WACC	16.23%
Long-term growth rate	0.00%

12. INVESTMENT ACCOUNTED FOR USING THE EQUITY METHOD

Changes in the investments in joint ventures are summarized as follows:

2020	As of January 1 Million KRW	Dividends Million KRW	Share of result from equity method revaluation Million KRW	Exchange rate effects Million KRW	As of December 31 Million KRW
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	5,347	-519	1,064	20	5,912
Total	5,347	-519	1,064	20	5,912
2021					
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	5,912	-519	1,103	-30	6,466
Total	5,912	-519	1,103	-30	6,466

13. OTHER FINANCIAL ASSETS

	2021 December 31		2020 December 31	
	Non-current	**Current**	**Non-current**	**Current**
Description	Million KRW	Million KRW	Million KRW	Million KRW
Financial instruments at amortized cost (bank deposit)	349	408	420	1,913
Financial instrument at FVtPL	9,530	–	8,210	1,570
Derivative assets at FVtPL (note 25)	505	25	–	33
Equity instrument at FVOCI	102	–	429	–
Guarantee and other deposits at amortized cost	1,582	712	830	501
Total	12,068	1,145	9,889	4,017

As of December 31, 2021 and 2020, financial instruments at amortized cost (bank deposit) include restricted cash of 7 Million KRW.

13.1 EQUITY INSTRUMENTS AT FVOCI

Details of equity instruments at FVOCI as of December 31, 2021 and 2020 are as follows:

	2021 December 31				2020 December 31			
	Number of shares	**% to equity**	**Cost**	**Fair value**	**Number of shares**	**% to equity**	**Cost**	**Fair value**
Description			Million KRW	Million KRW			Million KRW	Million KRW
Ulsan Broadcasting Corporation	180,000	3.00%	900	102	180,000	3.00%	900	429
Total			900	102			900	429

Investments in equity instruments that do not have a quoted market price in an active market are measured using an appropriate valuation technique.

14. INVENTORIES

Description	2021 December 31 Million KRW	2020 December 31 Million KRW
Raw materials and supplies	83,529	34,532
Work in progress	2,374	1,171
Finished and semi-finished goods	177,085	114,625
Goods in transit	70,978	39,758
Consignment stocks	1,914	1,971
Total inventories at the lower of cost and net realizable value	335,880	192,057

For the year ended 2021, impairment losses of 749 Million KRW have been recognized in relation to the sale of 72% interest in Qingdao Long Fortune Songwon Chemical Co., Ltd. (2020: no impairment recognized). As of December 31, 2021, inventory allowance balance amounted to 5,129 Million KRW for raw materials, work in progress, finished and semi-finished goods (December 31, 2020: 3,991 Million KRW). The Group recognized inventory allowance expenses of 2,021 Million KRW in the financial year 2021 (financial year 2020: 475 Million KRW).

15. TRADE AND OTHER RECEIVABLES

Description	2021 December 31 Million KRW	2020 December 31 Million KRW
Trade and notes receivables	179,814	133,057
Allowances for trade and notes receivables	-1,269	-1,249
Trade and notes receivables (related parties)	–	49
Other accounts receivables	1,164	1,827
Allowances for other accounts receivables	-26	-34
Accrued income	37	41
Total	179,720	133,691

Other accounts receivables include customs duty refunds, rental income receivables and others.

Changes in the allowance for doubtful accounts for trade and other receivables are as follows:

	Million KRW
January 1, 2020	-1,491
Charge for the period	-815
Utilized	–
Unused amounts reversed	1,023
December 31, 2020	-1,283
January 1, 2021	-1,283
Charge for the period	-353
Utilized	66
Unused amounts reversed	275
December 31, 2021	-1,295

The ageing analysis of trade and other receivables is as follows:

			Days past due			
	Total	Current	≤ 90	91-120	121-180	> 180
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
December 31, 2021	181,015	169,676	10,773	–	–	566
December 31, 2020	134,974	126,727	7,058	167	8	1,014

Refer to note 25.3.2 on credit risk of trade receivables, which describes how the Group manages and measures credit quality of trade receivables that are neither past due, nor impaired.

As the right of recourse is granted to the transferee, the balance of trade receivable that are not derecognized at the end of the financial year amounts to 55,531 Million KRW (2020: 47,616 Million KRW). The total amount of deposits received was carried in the financial statements under interest-bearing loans and borrowings.

16. OTHER CURRENT ASSETS

Other current assets as of December 31, 2021 and 2020, consist of the following:

Description	2021 December 31 Million KRW	2020 December 31 Million KRW
Advance payments	1,273	1,157
Prepaid expenses	5,322	3,775
VAT refundables	6,989	4,240
Total	13,584	9,172

17. CASH AND CASH EQUIVALENTS

Description	2021 December 31 Million KRW	2020 December 31 Million KRW
Cash on hand	52	53
Bank accounts	89,727	69,627
Time deposits (< 3 months)	7,965	3,104
Total	97,744	72,784

Cash at banks earns interest at floating rates based on daily bank deposit rates. Time deposits are made for various periods from one day to three months, depending on the Group's immediate cash requirements, and earn interest at the respective short-term deposit rates.

18. ISSUED CAPITAL AND RESERVES

18.1 SHARE CAPITAL

In accordance with the Articles of Incorporation, the Company is authorized to issue 100,000,000 shares of common stock with a par value of 500 KRW per share. As of December 31, 2021 and 2020, the Company issued 24,000,000 shares of common stocks outstanding with a carrying value of 12,000 Million KRW.

18.2 CAPITAL SURPLUS

As of December 31, 2021 and 2020, the Group's capital surplus is composed of the following:

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Paid-in capital in excess of par value	20,065	20,065
Gain on disposal of treasury stock	4,296	4,296
Loss on change in non-controlling interest due to interest acquisition	-3,879	-2,002
Total	20,482	22,359

18.3 RESERVES

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Legal reserve	2,808	2,520
Asset revaluation surplus	25,815	25,815
Total	28,623	28,335

Legal reserves

In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends is required to be appropriated as a legal reserve until the reserve equals 50% of paid-in capital. The legal reserve may not be utilized for cash dividends, but may only be used to offset a deficit, if any, or be transferred to capital. Appropriation to the legal reserve from retained earnings, pursuant to the approval of the General Meeting of Shareholders on March 19, 2021 amounted to 288 Million KRW (2020: 360 Million KRW).

Asset revaluation reserve

The Group re-valued certain parts of its property, plant and equipment in accordance with the Korean Asset Revaluation Act on January 1, 1984, and January 1, 1999, resulting in a revaluation surplus of 2,884 Million KRW and 64,277 Million KRW, respectively. An asset revaluation surplus amounting to 62,343 Million KRW, net of related revaluation tax, was credited to capital surplus. As of December 31, 2021 and 2020, the asset revaluation surplus is 25,815 Million KRW. The asset revaluation surplus of 23,312 Million KRW and 13,216 Million KRW were utilized in disposition of accumulated deficit pursuant to the approval of the stockholders on March 6, 2008, and March 7, 2009, respectively. The asset revaluation surplus may not be utilized for cash dividends, but may only be used to offset a deficit, if any, or be transferred to capital.

Dividends

Dividends approved by the shareholders are as follows:

Description	**2021** December 31	2020 December 31
Subject to the year	2020	2019
Dividends on ordinary shares in KRW	2,880,000,000	3,600,000,000
Number of shares	24,000,000	24,000,000
Dividends per share in KRW	120	150

18.4 ACCUMULATED OTHER COMPREHENSIVE INCOME

Accumulated other comprehensive income, net of tax, as of December 31, 2021 and 2020, is composed of the following:

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Re-measurement of defined benefit plans	-16,935	-26,457
OCI recognized within retained earnings	-16,935	-26,457
Cash flow hedge reserve	-25	-1,207
Fair value reserve of financial assets at FVOCI	-614	-362
Foreign currency translation reserve	-944	-7,662
Share of foreign currency translation reserve associated with non-controlling interests	–	141
OCI recognized within other components of equity	-1,583	-9,090

Details of other comprehensive income for the year ended December 31, 2020 and 2019, are as follows:

Description	**2021** Million KRW	2020 Million KRW
Pre-tax amounts		
Losses on valuation of interest rate swaps	1,534	-275
Losses on valuation of financial assets at FVOCI	-326	-413
Exchange differences on translation of foreign operations	6,681	-5,188
Re-measurement gains on defined benefit plans	11,568	13,101
Pre-tax amounts total	19,457	7,225
Tax effects		
Gains on valuation of interest rate swaps	-352	65
Gains on valuation of financial assets at FVOCI	74	95
Re-measurement losses on defined benefit plans	-2,046	-3,294
Tax effects total	-2,324	-3,134
Net amounts		
Losses on valuation of interest rate swaps	1,182	-210
Losses on valuation of financial assets at FVOCI	-252	-318
Exchange differences on translation of foreign operations	6,681	-5,188
Re-measurement gains on defined benefit plans	9,522	9,807
Net amounts total	17,133	4,091

19. BONDS, INTEREST-BEARING LOANS AND BORROWINGS

Interest-bearing loans and borrowings as of December 31, 2021 and 2020, are as follows:

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Corporate bonds	54,832	–
Long-term borrowings	5,670	59,647
Non-current interest-bearing loans and borrowings	60,502	59,647
Current portion of long-term borrowings	1,780	8,780
Short-term borrowings	233,531	150,160
Current interest-bearing loans and borrowings	235,311	158,940
Total	295,813	218,587

Details of corporate bonds which the Group entered in the form of a private placement bond and floating rate note (FRN) as of December 31, 2021 are as follows (December 31, 2020: none):

					2021 December 31
Contractual party	**Form**	**Contract amount**	**Carrying amount** Million KRW	**Maturity dates**	**Interest rate**
Hana Bank	Private placement bond	26,000 Million KRW	26,000	24.09.2021 – 24.09.2024	2.09% (fixed rate)
Woori Bank	Private placement bond (FRN)	24,500 Thousand USD	28,832	17.09.2021 – 13.09.2024	3M Libor +0.8%
Total			54,832		

Details of long-term borrowings as of December 31, 2021 and 2020, are as follows:

Banks	**Description**	**Maturity date**	**Annual interest rate (%)**	**2021** December 31 Million KRW	2020 December 31 Million KRW
Woori Bank	General Loan	08.05.2024	3MCD+1.43	–	29,700
Busan Bank	General Loan	08.05.2024	6M Base rate +1.39	2,950	4,130
Hana Bank	General Loan	08.05.2024	3MCD+1.70	–	28,050
Kyongnam Bank	General Loan	08.05.2024	12MBBR+1.32	4,500	5,100
Pan Gulf Holding Company W.L.L.	General Loan	31.12.2022	2.25	–	1,447
Subtotal				7,450	68,427
Less current portion				-1,780	-8,780
Non-current portion				5,670	59,647

Details of short-term borrowings as of December 31, 2021 and 2020, are as follows:

Banks	Description	Annual interest rate (%)	**2021** December 31 Million KRW	2020 December 31 Million KRW
Woori Bank	Trade loan	0.75~3.62	46,810	16,203
Hana Bank	Trade loan	0.82~1.47	13,868	6,729
Korea Development Bank	General & trade loan	0.35~2.65	103,122	79,800
Busan Bank	General & trade loan	2.52~2.63	15,000	11,295
Kyongnam Bank	General & trade loan	1.06~2.82	14,731	15,589
NH Bank	General loan	2.33~2.65	30,000	20,000
KB Bank	General loan	2.83	10,000	–
KEB Abu Dhabi	General loan	1.62	–	544
Subtotal			233,531	150,160

20. EMISSION RIGHTS AND EMISSION LIABILITIES

Details of annual quantity of allocated emission allowances as of December 31, 2021, are as follows (Unit: Korean Allowance Unit – KAU):

	2021	2022	2023	2024	2025	Total
Allocated emission allowance	138,875	138,875	138,875	137,574	137,574	691,773

Changes in emission rights and emission allowances during each planned period are as follows (Units: KAU and Million KRW):

	2020*		2021		2022	
	Quantity	Book value	Quantity	Book value	Quantity	Book value
Beginning	12,996	–	23,735	375	–	–
Allocation	122,199	–	138,875	–	138,875	–
Allocation cancelled	-436	–	–	–	–	–
Additional allocation	14,320	–	–	–	–	–
Purchase	22,366	375	–	–	–	–
Delivery to government	-147,710	–	–	–	–	–
Carryforward	-23,735	-375	–	–	–	–
Ending	–	–	162,610	375	138,875	–

*Emission rights 2020 approved by government during 2021.

	2023		2024		2025	
	Quantity	Book value	Quantity	Book value	Quantity	Book value
Beginning	–	–	–	–	–	–
Allocation	138,875	–	137,574	–	137,574	–
Ending	138,875	–	137,574	–	137,574	–

There are no emission rights provided as collateral as of December 31, 2021.

Changes in emission liabilities included in other current liabilities during the current and prior reporting period are as follows (in Million KRW):

	2021	2020
As of January 1	725	512
Increase	14	668
Decrease	-725	-455
As of December 31	14	725

Allocated greenhouse gas emissions free of charge in 2021 were 138,875 KAU.

Estimated greenhouse gas emissions in 2021 were 163,000 KAU (2020: 150,051 KAU).

21. PENSION LIABILITY

Pension plan	2021 Million KRW	2020 Million KRW
Net defined benefit liability (incl. in pension liability)	5,945	13,865
Korean	–	2,290
Swiss	5,907	11,568
Indian	38	7
Net defined benefit asset (incl. in other non-current assets)	6,017	–
Korean	6,017	–

The Group has three defined benefit pension plans: one pension plan in Korea, one in Switzerland and one in India.

The following tables summarize the components of net benefit expense recognized in the consolidated statements of comprehensive income and the funded status and amounts recognized in the consolidated statement of financial position for the respective plans.

21.1 DEFINED BENEFIT OBLIGATION

Changes in the defined benefit obligation:

	Korean plan Million KRW	**Swiss plan** Million KRW	**Indian plan** Million KRW	**Total** Million KRW
Defined benefit obligation as of January 1, 2020	85,678	43,140	228	129,046
Pension cost charged to profit or loss				
Service costs	6,900	1,906	24	8,830
Interest	2,421	111	16	2,548
Sub-total included in profit or loss	*9,321*	*2,017*	*40*	*11,378*
Benefits paid	-2,016	-2,730	-5	-4,751
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	4,287	–	-2	4,285
Actuarial changes arising from changes in financial assumptions	-19,590	331	7	-19,252
Experience adjustments	302	-426	3	-121
Sub-total included in OCI	*-15,001*	*-95*	*8*	*-15,088*
Employee contributions	–	981	–	981
Plan amendment	–	-2,043	–	-2,043
Exchange differences	–	1,494	-20	1,474
Defined benefit obligation as of December 31, 2020	77,982	42,764	251	120,997
Pension cost charged to profit or loss				
Service costs	5,637	1,987	27	7,651
Interest	2,321	67	17	2,405
Sub-total included in profit or loss	*7,958*	*2,054*	*44*	*10,056*
Benefits paid	-5,903	-8,229	-32	-14,164
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	–	-1,220	2	-1,218
Actuarial changes arising from changes in financial assumptions	-4,162	-865	29	-4,998
Experience adjustments	-1,097	-3,737	79	-4,755
Sub-total included in OCI	*-5,259*	*-5,822*	*110*	*-10,971*
Employee contributions	–	900	–	900
Exchange differences	–	2,118	20	2,138
Defined benefit obligation as of December 31, 2021	74,778	33,785	393	108,956
Weighted average duration 2020 (years)	11.10	16.91	8.88	
Weighted average duration 2021 (years)	11.60	14.10	7.40	

21.2 PLAN ASSETS

Changes in the fair value of plan assets:

	Korean plan Million KRW	**Swiss plan** Million KRW	**Indian plan** Million KRW	**Total** Million KRW
Plan assets as of January 1, 2020	66,823	31,743	228	98,794
Pension cost charged to profit or loss				
Interest	1,874	86	14	1,974
Administration expenses	-131	-18	–	-149
Sub-total included in profit or loss	*1,743*	*68*	*14*	*1,825*
Benefits paid	-1,982	-2,730	-5	-4,717
Re-measurement gains / (losses) in OCI				
Return on plan assets (excluding amounts included in interest expenses)	-892	-1,091	-4	-1,987
Sub-total included in OCI	*-892*	*-1,091*	*-4*	*-1,987*
Employer contributions	10,000	1,142	34	11,176
Employee contributions	–	981	–	981
Exchange differences	–	1,083	-23	1,060
Plan assets as of December 31, 2020	75,692	31,196	244	107,132
Pension cost charged to profit or loss				
Interest	2,251	49	15	2,315
Administration expenses	-122	-16	–	-318
Sub-total included in profit or loss	*2,129*	*33*	*15*	*2,177*
Benefits paid	-6,187	-8,229	-32	-14,448
Re-measurement gains / (losses) in OCI				
Return on plan assets (excluding amounts included in interest expenses)	-839	1,433	3	597
Sub-total included in OCI	*-839*	*1,433*	*3*	*597*
Employer contributions	10,000	1,062	105	11,167
Employee contributions	–	900	–	900
Exchange differences	–	1,483	20	1,503
Plan assets as of December 31, 2021	80,795	27,878	355	109,028

The Group expects to make a contribution in the following year at the amount comparable to the contribution made during the current reporting period, and the composition of plan assets as at December 31, 2021 and 2020 is as follows:

	Korean plan		**Swiss plan**		**Indian plan**	
Structure of plan assets:	**2021**	2020	**2021**	2020	**2021**	2020
Equity	–	–	35%	34%	–	–
Debt instruments	–	–	25%	24%	–	–
Real estate	–	–	19%	20%	–	–
Investment funds	95%	86%	–	–	100%	100%
Alternative investments	–	–	20%	21%	–	–
Cash and cash equivalent	5%	14%	1%	1%	–	–
Total	100%	100%	100%	100%	100%	100%

The category equity, debt instruments, real estate and alternative investments are quoted or daily traded with exception of cash and cash equivalent. With only a few exceptions, there is no active market for plan assets in investment funds.

21.3 NET PENSION LIABILITY/ASSET

Changes in the net defined benefit liability are as follows:

	Korean plan Million KRW	**Swiss plan** Million KRW	**Indian plan** Million KRW	**Total** Million KRW
Net defined benefit liability as of January 1, 2020	-18,855	-11,397	–	-30,252
Pension cost charged to profit or loss				
Service costs	-6,900	-1,906	-24	-8,830
Administration expenses	-131	-18	–	-149
Net interests	-547	-25	-2	-574
Sub-total included in profit or loss	*-7,578*	*-1,949*	*-26*	*-9,553*
Benefits paid	34	–	–	34
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	-4,287	–	2	-4,285
Actuarial changes arising from changes in financial assumptions	19,590	-331	-7	19,252
Return on plan assets (excluding amounts included in interest expenses)	-892	-1,091	-4	-1,987
Experience adjustments	-302	426	-3	121
Sub-total included in OCI	*14,109*	*-996*	*-12*	*13,101*
Employer contributions	10,000	1,142	34	11,176
Employee contributions	–	–	–	–
Plan amendment	–	2,043	–	2,043
Exchange differences	–	-411	-3	-414
Net defined benefit liability as of December 31, 2020	-2,290	-11,568	-7	-13,865
Pension cost charged to profit or loss				
Service costs	-5,637	-1,987	-27	-7,651
Administration expenses	-122	-16	–	-138
Net interests	-70	-18	-2	-90
Sub-total included in profit or loss	*-5,829*	*-2,021*	*-29*	*-7,879*
Benefits paid	-284	–	–	-284
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	–	1,220	-2	1,218
Actuarial changes arising from changes in financial assumptions	4,162	865	-29	4,998
Return on plan assets (excluding amounts included in interest expenses)	-839	1,433	3	597
Experience adjustments	1,097	3,737	-79	4,755
Sub-total included in OCI	*4,420*	*7,255*	*-107*	*11,568*
Employer contributions	10,000	1,062	105	11,167
Employee contributions	–	–	–	–
Exchange differences	–	-635	–	-635
Net defined benefit asset as of December 31, 2021	6,017	–	–	6,017
Net defined benefit liability as of December 31, 2021	–	-5,907	-38	-5,945

The re-measurement gains recognized in the statements of other comprehensive income were gains of 9,522 Million KRW (2020: gains of 9,807 Million KRW), net of tax. The total amount as of December 31, 2021, of accumulated losses included in retained earnings is -16,935 Million KRW (2020: accumulated losses of -26,457 Million KRW), net of tax.

The principal assumptions used in determining pension benefit obligations for the Group's plans are shown below:

	Determining net benefit expense		Determining pension benefit obligation	
	2021	2020	**2021** December 31	2020 December 31
Discount rate				
Korean plan	3.05%	2.90%	3.58%	3.05%
Swiss plan	0.35%	0.15%	0.35%	0.15%
Indian plan	6.50%	6.80%	6.50%	6.20%
Future salary increases				
Korean plan	3.80%	5.60%	3.75%	3.80%
Swiss plan	1.75%	1.50%	1.75%	1.50%
Indian plan	7.00%	5.00%	7.00%	5.00%

A quantitative sensitivity analysis for significant assumptions as of December 31, 2021, is as follows:

	Sensitivity level	Impact on defined benefit obligation
Discount rate	Change	Million KRW
Korean plan	+1.00%	7,156
	-1.00%	-8,554
Swiss plan	+0.25%	-1,164
	-0.25%	1,242
Indian plan	+1.00%	375
	-1.00%	412
Salary increase		
Korean plan	+1.00%	-7,325
	-1.00%	8,610
Swiss plan	+0.25%	114
	-0.25%	-111
Indian plan	+1.00%	412
	-1.00%	375

The sensitivity analysis above has been determined based on a method that extrapolates the impact on defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period.

22. OTHER LONG-TERM EMPLOYEE-RELATED LIABILITIES

Other long-term employee-related liabilities consist of the following:

Description	**2021** December 31 Million KRW	2020 December 31 Million KRW
Other long-term employee benefits – Korea	4,911	4,630
Other long-term employee benefits – Others	765	671
Share-based payment-related liability	2,868	2,130
Total other long-term employee-related liabilities	8,544	7,431

22.1 OTHER LONG-TERM EMPLOYEE BENEFITS – KOREA

The parent company implements a bonus plan designed to compensate employees with a prescribed quantity of gold and entitle compensated vacation to long-term service employees. Accounting policies of the bonus plan are mostly the same as that of the defined benefit plan, except that all the past service costs and actuarial variances are recognized immediately in profit or loss.

Description	Million KRW
As of January 1, 2020	3,334
Current service costs	364
Interest costs	86
Re-measurement gains	1,149
Total payment	-303
As of December 31, 2020	4,630
Current service costs	468
Interest costs	131
Re-measurement losses	-58
Total payment	-260
As of December 31, 2021	4,911

Description	**2021** December 31	2020 December 31
Discount rate	3.46%	3.01%
Compensation increase	2.00%	3.80%
Compensation per day for vacation	KRW 101,760 - 222,480	KRW 101,760 - 222,480
Rate of increase in gold price	6.25%	5.68%
Gold price per 3.75 grams	302,000	261,000

22.2 OTHER LONG-TERM EMPLOYEE BENEFITS – OTHERS

The remaining other long-term employee benefits refer to legally established termination benefits of subsidiaries located in United Arab Emirates of 612 Million KRW (as of December 31, 2020: 527 Million KRW) and expenses for the defined contribution plan of Songwon Specialty Chemicals India Pvt. Ltd. of 153 Million KRW (as of December 31, 2020: 144 Million KRW).

22.3 SHARE-BASED PAYMENT RELATED LIABILITY

On March 31, 2013, the Group granted virtual stock options to eligible employees of subsidiaries according to the Virtual Stock Option and Long-term Incentive Plan ("LTIP"). The virtual stock options granted are an entitlement of cash compensation, and are neither a stock option, nor any other listed or unlisted security and do not grant any right to physically acquire stocks. Settlement of options exercised is in cash only. When the virtual stock option is exercised, the Group shall pay to the holder the greater of the difference between the fair market value at the exercise date (the listed stock price of Songwon Industrial Co., Ltd.) minus the strike price or nil (zero). The virtual stock options, granted under the LTIP, are subject to a vesting period of two to four years during which the holder of the options must be continuously employed by the Group.

The fair value of options, granted as of December 31, 2021 and 2020, was estimated using the following assumptions:

Description	2021	2020
Dividend yield	0.70%	0.88%
Expected volatility	45.00%	45.00%
Risk-free interest rate	1.70%	1.67%
Weighted average expected life of share options (years)	3.2	4.1
Model used	Binomial tree	Binomial tree

The carrying amount of the liability relating to the LTIP on December 31, 2021 amounts to 2,868 Million KRW (December 31, 2020: 2,130 Million KRW) and the corresponding number of share options vested as of December 31, 2021 and 2020 is 188,126 and 207,714, respectively.

The expenses for employee services received during the year 2021, recognized in the statements of comprehensive income, amounted to 1,255 Million KRW (2020: 355 Million KRW). There were no cancellations and modifications to the awards during the years 2021 and 2020.

Movements during the year

The following table illustrates the number and weighted average exercise prices (WAEP) of, and movements in, share options during the reporting period:

	2021		2020	
Description	Number	KRW	Number	KRW
Outstanding as of January 1	551,676	17,468	449,451	17,780
Granted during the year	109,513	15,950	126,850	15,508
Forfeited during the year	-102,350	19,492	-11,625	16,776
Exercised during the year	-87,750	12,763	-13,000	9,739
Outstanding as of December 31	471,089	17,552	551,676	17,468
Exercisable as of December 31	188,126	17,334	207,714	14,640

The weighted average of remaining contractual life for the share options, outstanding as of December 31, 2021, was 4.0 years (December 31, 2020: 5.0 years). The weighted average fair value of options granted during the reporting period was 9,732 KRW (2020: 6,114 KRW).

The exercise price for options outstanding at the end of the reporting period ranges from 8,120 KRW – 27,000 KRW (2020: 8,120 KRW – 27,000 KRW).

23. OTHER FINANCIAL LIABILITIES

Other financial liabilities as of December 31, 2021 and 2020, are as follows:

	2021 December 31		2020 December 31	
Description	**Non-current** Million KRW	**Current** Million KRW	**Non-current** Million KRW	**Current** Million KRW
Derivative liabilities (note 25)	–	249	901	741
Deposits	1	–	39	1,360
Accrued interest expenses	–	440	–	420
Total	1	689	940	2,521

24. TRADE AND OTHER PAYABLES

	2021 December 31	2020 December 31
Description	Million KRW	Million KRW
Trade payables	116,139	71,279
Trade payables (related parties)	1,145	917
Other accounts payables	30,636	19,542
Other accounts payables (related parties)	7	6
Withholdings	1,501	1,857
Accrued expenses	23,826	20,996
Guarantee deposits	12	17
Total	173,266	114,614

Trade and other payables do not bear interest and usually become due within 30-60 days.

25. ADDITIONAL INFORMATION ON FINANCIAL INSTRUMENTS

25.1 DERIVATIVES FINANCIAL INSTRUMENTS

	2021 December 31		2020 December 31	
	Assets	**Liabilities**	**Assets**	**Liabilities**
Description	Million KRW		Million KRW	
Forward exchange contracts (current portion)	25	38	33	75
Interest rate swaps (current portion)	–	33	–	666
Interest rate swaps (non-current portion)	–	–	–	901
Currency and interest rate swaps (current portion)	–	178	–	–
Currency and interest rate swaps (non-current portion)	505	–	–	–
Total	530	249	33	1,642

25.1.1 FORWARD EXCHANGE CONTRACTS

Details of forward exchange contracts which the Group entered into with financial institutions in order to hedge the risk of foreign exchange rate fluctuation of assets denominated in foreign currencies as of December 31, 2021 and 2020 are as follows:

2021
December 31

Contractual party	**Position**	**Contract amount**	**Maturity dates**	**Contractual exchange rate (KRW)**
Citibank Korea	sell	JPY 264,000,000	28.01.2022~30.06.2022	10.8210
Citibank Korea	sell	EUR 7,200,000	28.01.2022~30.06.2022	1,371.00~1,383.50
Woori Bank	sell	JPY 264,000,000	28.01.2022~30.06.2022	10.6210
Woori Bank	sell	EUR 10,800,000	28.01.2022~30.06.2022	1,365.00~1,378.00

2020
December 31

Contractual party	**Position**	**Contract amount**	**Maturity dates**	**Contractual exchange rate (KRW)**
Citibank Korea	sell	EUR 5,490,000	19.01.2021~28.06.2021	1,330.00~1,343.00
Woori Bank	sell	EUR 3,570,000	29.01.2021~26.02.2021	1,331.10~1,334.00
Woori Bank	sell	JPY 720,000,000	19.01.2021~21.06.2021	10.9950~11.0230

25.1.2 CURRENCY AND INTEREST RATE SWAPS

The Group is exposed to exchange rate and interest rate risks due to the corporate bond issuance in the form of a floating rate note (refer to note 19). To hedge these risks, the Group has entered into the following currency and interest rate swaps (CRS) as of December 31, 2021 and the details are as follows (December 31, 2020: none):

2021 December 31 **Contractual party**	**Target**	**Contract amount**	**Interest exchange condition**	**Contract date**	**Maturity date**
Hongkong Woori Investment	Corporate bond (foreign currency FRN)	Receipt: 24,500 TUSD	3M Libor +0.8%	17.09.2021	13.09.2024
		Payment: 28,643 MKRW	Fixed 1.96%		

25.1.3 INTEREST RATE SWAPS

As of December 31, 2021, the Group has entered into the following interest rate swap contracts to hedge the risk in floating interest rate:

2021 December 31 **Description**		**Interest rate swap contract**
Contract date		17.12.2021
Maturity date		19.12.2022
Contract amount		10,000 Million KRW
Fixed interest rate		3.62%
Floating interest rate		3MCD+1.72%

The balances included in accumulated other comprehensive income are -25 Million KRW (expenses) as of December 31, 2021 and -1,207 Million KRW (expenses) as of December 31, 2020, respectively (refer to note 18.4), net of income tax.

Due to the early repayment of the hedged long-term interest-bearing loans and borrowings in September 2021, the Group discontinued hedge accounting and terminated the existing interest rate swaps. The termination of the interest rate swaps resulted in a recycling of accumulated net losses of 527 Million KRW from OCI to P&L and a gain on derivative transactions of 58 Million KRW.

2020 December 31 **Description**	**Bonds contract**	**Interest rate swap contract**
Contract date	08.05.2019	08.05.2019
Maturity date	08.05.2024	08.05.2024
Contract amount	36,000 Million KRW	36,000 Million KRW
Fixed interest rate	n/a	3.47%
Floating interest rate	3MCD+1.43%	3MCD+1.43%
Contract date	08.05.2019	08.05.2019
Maturity date	08.05.2024	08.05.2024
Contract amount	34,000 Million KRW	34,000 Million KRW
Fixed interest rate	n/a	3.52%
Floating interest rate	3MCD+1.70%	3MCD+1.70%

25.2 FAIR VALUES

Set out below is a comparison by class of the carrying amounts and fair value of the Group's financial instruments that are carried in the financial statements.

2021 December 31	**Carrying amount**		**Fair value**	
Description	Non-current Million KRW	Current Million KRW	Non-current Million KRW	Current Million KRW
Financial assets				
Financial assets at amortized cost				
Other financial assets	1,931	1,120	1,931	1,120
Trade and other receivables	–	179,720	–	179,720
Cash and cash equivalents	–	97,744	–	97,744
Total financial assets at amortized cost	*1,931*	*278,584*	*1,931*	*278,584*
Financial assets at FVOCI				
Other financial assets	102	–	102	–
Total financial assets at FVOCI	*102*	–	102	–
Financial assets at FVtPL				
Forward exchange contracts	–	25	–	25
Currency and interest rate swaps	505	–	505	–
Other financial assets	9,530	–	9,530	–
Total financial assets at FVtPL	*10,035*	*25*	*10,035*	*25*
Total financial assets	12,068	278,609	12,068	278,609
Financial liabilities				
Financial liabilities at amortized cost				
Other financial liabilities	1	440	1	440
Lease liabilities	15,454	2,480	15,454	2,480
Trade and other payables	–	173,266	–	173,266
Interest-bearing loans and borrowings	60,502	235,311	60,502	235,311
Total financial liabilities at amortized cost	*75,957*	*411,497*	*75,957*	*411,497*
Financial liabilities at FVOCI				
Interest rate swaps	–	33	–	33
Total financial liabilities at FVOCI	–	*33*	–	*33*
Financial liabilities at FVtPL				
Forward exchange contracts	–	38	–	38
Currency and interest rate swaps	–	178	–	178
Total financial liabilities at FVtPL	–	*216*	–	*216*
Total financial liabilities	75,957	411,746	75,957	411,746

2020 December 31		Carrying amount		Fair value	
		Non-current	Current	Non-current	Current
	Description	Million KRW	Million KRW	Million KRW	Million KRW
Financial assets	Financial assets at amortized cost				
	Other financial assets	1,250	2,414	1,250	2,414
	Trade and other receivables		133,691	–	133,691
	Cash and cash equivalents	–	72,784	–	72,784
	Total financial assets at amortized cost	*1,250*	*208,889*	*1,250*	*208,889*
	Financial assets at FVOCI				
	Other financial assets	429	–	429	–
	Total financial assets at FVOCI	*429*	*–*	*429*	*–*
	Financial assets at FVtPL				
	Forward exchange contracts	–	33	–	33
	Other financial assets	8,210	1,570	8,210	1,570
	Total financial assets at FVtPL	*8,210*	*1,603*	*8,210*	*1,603*
Total financial assets		9,889	210,492	9,889	210,492
Financial liabilities	Financial liabilities at amortized cost				
	Other financial liabilities	39	1,780	39	1,780
	Lease liabilities	16,143	2,429	16,143	2,429
	Trade and other payables	–	114,614	–	114,614
	Interest-bearing loans and borrowings	59,647	158,940	59,647	158,940
	Total financial liabilities at amortized cost	*75,829*	*277,763*	*75,829*	*277,763*
	Financial liabilities at FVOCI				
	Interest rate swaps	901	666	901	666
	Total financial liabilities at FVOCI	*901*	*666*	*901*	*666*
	Financial liabilities at FVtPL				
	Forward exchange contracts	–	75	–	75
	Total financial liabilities at FVtPL	*–*	*75*	*–*	*75*
Total financial liabilities		76,730	278,504	76,730	278,504

The fair value of the financial assets and liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The following methods and assumptions were used to estimate the fair values:

- cash and cash equivalents, trade and other receivables, trade payables and other current liabilities approximate their carrying amounts largely due to the short-term maturities of these instruments;
- fair value of financial assets at FVOCI and financial assets at FVtPL are derived from quoted market prices in active markets, if available;
- fair value of unquoted financial assets at FVOCI and financial assets at FVtPL are estimated using appropriate valuation techniques (refer to note 25.2.1).

25.2.1 FAIR VALUE HIERARCHY

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

Description	Valuation technique
Level 1	Quoted (unadjusted) prices in active markets for identical assets or liabilities
Level 2	Other techniques for which all inputs which have a significant effect on the recorded fair value are observable either directly or indirectly
Level 3	Techniques which use inputs that have a significant effect on the recorded fair value that are not based on observable market data

As of December 31, 2021 and 2020, the Group held the following financial instruments carried at fair value on the statements of financial position:

		December 31, 2021	Level 1	Level 2	Level 3
		Million KRW	Million KRW	Million KRW	Million KRW
Financial assets	Derivatives				
	Forward exchange contracts	25	–	25	–
	Currency and interest rate swaps	505	–	505	–
	Total derivatives	*530*	–	*530*	–
	Debt instruments				
	Exchange traded fund at FVtPL	9,530	–	9,530	–
	Total debt instruments	*9,530*	–	*9,530*	–
	Equity instruments				
	Equity instruments at FVOCI	102	–	–	102
	Total equity instruments	*102*	–	–	*102*
	Total financial assets	10,162	–	10,060	102
Financial liabilities	Derivatives				
	Forward exchange contracts	38	–	38	–
	Interest rate swaps	33	–	33	–
	Currency and interest rate swaps	178	–	178	–
	Total derivatives	*249*	–	*249*	–
	Total financial liabilities	249	–	249	–

		December 31, 2020 Million KRW	**Level 1** Million KRW	**Level 2** Million KRW	**Level 3** Million KRW
Financial assets	Derivatives				
	Forward exchange contracts	33	–	33	–
	Total derivatives	*33*	*–*	*33*	*–*
	Debt instruments				
	Exchange traded fund at FVtPL	9,780	–	9,780	–
	Total debt instruments	*9,780*	*–*	*9,780*	*–*
	Equity instruments				
	Equity instruments at FVOCI	429	–	–	429
	Total equity instruments	*429*	*–*	*–*	*429*
	Total financial assets	10,242	–	9,813	429
Financial liabilities	Derivatives				
	Forward exchange contracts	38	–	38	–
	Interest rate swaps	33	–	33	–
	Currency and interest rate swaps	178	–	178	–
	Total derivatives	*249*	*–*	*249*	*–*
	Total financial liabilities	249	–	249	–

During the reporting periods ended December 31, 2021 and 2020, there were no transfers between Level 1 and Level 2 fair value measurements. For the financial assets and financial liabilities for which the fair values are disclosed (refer to note 25.2) the carrying amounts are reasonable approximations of fair values and are measured using Level 3 measurement methods, except for cash and cash equivalents.

25.3 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES

The Group's principal financial liabilities comprise loans and borrowings, trade and other payables, and other financial liabilities. The main purpose of these financial liabilities is to finance the Group's operations. The Group has trade accounts and other accounts receivables, cash and cash equivalents and other financial assets that arrive directly from its operations. The Group also holds financial instruments at FVOCI and financial instruments at FVtPL and enters into derivative transactions and applies hedge accounting for cash flow hedges if applicable.

The Group is exposed to market, credit and liquidity risks. The Group's management oversees the management of these risks through appropriate risk assessment and monitoring activities to minimize their effects.

25.3.1 MARKET RISK

Market risk refers to the risk that a financial instrument's fair value of future cash flows will fluctuate because of changes in market prices. Market prices comprise two types of risk:

- interest rate risk; and,
- foreign currency risk.

Financial instruments affected by market risk include loans and borrowings, deposits, financial instruments at FVOCI, financial instruments at FVtPL and derivative financial instruments. The sensitivity analyses in the following sections relate to the position as of December 31, 2021 and 2020.

Interest rate risk

Interest rate risk refers to the risk that a financial instrument's fair value or future cash flows will fluctuate because of changes in market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's interest-bearing loans and borrowings as well as bank deposits with floating interest rates.

The Group's exposure to the risk of changes in market interest rates relates substantially to the Group's interest-bearing loans and borrowings with floating interest rates, which exposes the Group to cash flows risk. In response, the Group is minimizing the risk partially through a currency and interest rate swap contract or choosing the most favorable financing instruments by switching to the loans with more favorable conditions or improving the Group's credit rating.

Interest rate sensitivity

The following table demonstrates the sensitivity to a reasonably possible change in interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's interest-bearing loans and borrowings as well as bank deposits with floating interest rates. With all other variables held constant, the Group's profit before tax is affected through the impact on floating rate borrowings as follows:

	Increase / (decrease) in %	**Effect on profit before tax** Million KRW
December 31, 2021	1.00	-1,013
	-1.00	1,013
December 31, 2020	1.00	-984
	-1.00	984

Foreign currency risk

The Group's exposure to the risk of changes in foreign exchange rates relates primarily to the Group's operating activities. The risk of foreign exchange primarily relates to US Dollar (USD), Euro (EUR), Japanese Yen (JPY), Swiss Franc (CHF), United Arab Emirates Dirham (AED) and to the Indian Rupee (INR).

Foreign exchange risks arise when commercial transactions, recognized assets or liabilities are denominated in a currency that is not the entity's functional currency.

The objective of the management of foreign currency risk is to maximize the value of the firm through minimizing the fluctuation of net profit and uncertainty arising from the fluctuation in foreign currency. To accomplish this, the Group uses a strategy to accord the collection terms of receivables and payment terms of payables denominated in USD considering the similar volume of exports and imports. In regard to EUR and JPY, the Group manages the risk through currency forward contracts.

Foreign currency sensitivity

The Group carries out a sensitivity analysis for the dominant foreign currencies: US Dollar (USD), Euro (EUR), Japanese Yen (JPY), Swiss Franc (CHF), United Arab Emirates Dirham (AED) and to the Indian Rupee (INR). The assumed possible currency fluctuations are based on historical observations and future prognoses. The financial instruments are incorporated into calculations. The following table demonstrates the sensitivity of consolidated net profit before tax to a reasonably possible shift in exchange rates related to financial instruments held in the balance sheet. Assuming that all the other variables are constant and only the foreign exchange rate changes by 10%, the impacts on net profit for the years ended on December 31, 2021 and 2020, are as follows:

		2021 December 31		2020 December 31
Currency	**10% increase** Million KRW	**10% decrease** Million KRW	**10% increase** Million KRW	**10% decrease** Million KRW
USD	2,380	-2,380	4,365	-4,365
EUR	1,418	-1,418	198	-198
JPY	2,783	-2,783	762	-762
CHF	272	-272	174	-174
AED	-225	225	-221	221
INR	209	-209	261	-261
Total	6,837	-6,837	5,539	-5,539

The Group's exposure to foreign currency changes for all other currencies is not material.

25.3.2 CREDIT RISK

Credit risk is the risk that the counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group is exposed to credit risk from its operating activities (primarily for trade and other receivables) and investing activities.

The Group maintains a policy to keep trade relationship only with the customers with high credit rating assessed by credit assessment, considering their financial position, past experience of defaults and other indicators of default. If the credit rating of a customer worsens, the Group sets an individual credit limit on that customer and intensively manages its credit risk. In addition, the Group minimizes the credit risk by maintaining the exposure to the credit risk at an insignificant level through ongoing management including periodical reviews of all the customers. The maximum exposure to credit risk at the reporting date is the carrying value of each class of financial assets disclosed in note 25.2.

The Group is also exposed to the credit risk with regard to bank deposits, as well as cash and cash equivalents in which the maximum exposure to credit risk at the reporting date is the carrying value. The exposure to the related credit risk, however, is relatively restricted because the Group maintains relationships with the financial institutions with high credit ratings.

25.3.3 LIQUIDITY RISK

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with financial liabilities due to the unfavorable economy of the industry or financial markets.

The Group manages its liquidity risk through its own strategy and plans which consider the maturity of financial instruments and expected operating cash flows and include the policy to map out the maturity of financial assets and liabilities.

In addition, the Group maintains credit facilities with the banks including overdraft to respond to an unexpected shortage in liquidity. In response to expansion of the business, the Group manages funding schedules and ongoing review procedures, considering the appropriate mix of long-term and short-term loans and borrowings, to maintain the consistency and flexibility in obtaining liquidity and stable financing.

The details of maturity profile of the Group's financial liabilities and lease liabilities, excluding financial derivative instruments, based on contractual undiscounted payments as of December 31, 2021 and 2020, are as follows:

	Less than a month	1 to 3 months	3 to 12 months	1 to 5 years	> 5 years	Total
2021 December 31	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Interest-bearing loans and borrowings	23,834	33,581	177,896	60,502	–	295,813
Trade and other payables	146,162	26,776	328	–	–	173,266
Lease liabilities	269	545	2,211	7,899	10,206	21,130
Other financial liabilities	320	96	24	1	–	441
Total	170,585	60,998	180,459	68,402	10,206	490,650

	Less than a month	1 to 3 months	3 to 12 months	1 to 5 years	> 5 years	Total
2020 December 31	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Interest-bearing loans and borrowings	5,963	92,503	60,474	59,647	–	218,587
Trade and other payables	92,967	20,598	1,049	–	–	114,614
Lease liabilities	509	1,170	1,264	7,823	12,850	23,616
Other financial liabilities	317	1,452	11	39	–	1,819
Total	99,756	115,723	62,798	67,509	12,850	358,636

25.3.4 CAPITAL MANAGEMENT

The capital managed by the Group is identical to the total amount of equity presented in the consolidated statements of financial position. The primary objective of the Group's capital management is to ensure its continued ability to provide consistency for its equity shareholders through a combination of capital growth and distribution. In order to achieve this objective, the Group monitors its gearing to balance risk and returns at an acceptable level, and also maintains a sufficient funding base to enable the company to meet its working capital and strategic investment needs. To maintain or adjust the capital structure, the company may adjust the dividend payment to shareholders, return capital to shareholders or issue new shares considering not only the short-term position, but also its long-term operational and strategic objectives. At Group level the debt ratio is reviewed regularly. The debt-equity ratio as of December 31, 2021 and 2020, is 105% and 92%, respectively.

On a monthly basis, all subsidiaries have to report key performance indicators, which also include capital management information.

26. COMMITMENTS AND CONTINGENCIES

26.1 CONTINGENT LIABILITY

There are no current proceedings of lawsuits, claims, investigations and negotiations in relation to the product liability, mercantile law, environmental protection, health and safety etc., which could have a significant impact on the business operations and on the Group's consolidated financial position or income. Contingent liabilities in the Group are related to tax appeals of 235 Million KRW (2020: 439 Million KRW) and a customer complaint concerning the quality of a SONGWON product. The assessed damage was valued at 600,000 EUR. Further investigations are being carried however it was considered improbable in the fiscal year under review that there would be an outflow of economic resources relating to the contingent liability.

26.2 OTHER LEASE COMMITMENTS

The Group has entered into short-term and low-value leases on certain buildings, vehicles, furniture and fixtures. The lease periods for low-value leases are below 5 years. There are no restrictions placed upon the Group by entering into these leases. Future minimum short-term and low-value lease payments as of December 31, 2021 and 2020 are as follows:

	2021	2020
	December 31	December 31
Description	Million KRW	Million KRW
Short-term lease commitments		
Within one year	-6	-80
Total short-term lease commitments	*-6*	*-80*
Low-value lease commitments		
Within one year	-70	-63
After one year but not more than five years	-121	-141
Total low-value lease commitments	*-191*	*-204*
Total	-197	-284

26.3 OTHER COMMITMENTS

As part of the ordinary business activities, the Group enters into various contractual commitments for the purchase of inventories, property, plant and equipment, intangible assets and investment properties. As of December 31, 2021, the Group entered into commitments to purchase property, plant and equipment, as well as raw materials amounting to 4,244 Million KRW (December 31, 2020: 1,624 Million KRW).

Details of the Group's available short-term credit line facilities (excluding general loans) as of December 31, 2021, are as follows:

Description	**Currency**	**Credit limit**	**Used**	**Unused**
USANCE and L/C for import	Thousand USD	24,500	14,055	10,445
D/A and D/P	Thousand USD	95,800	42,851	52,949
	Million KRW	22,000	4,731	17,269
Secured loan of credit sales	Million KRW	9,000	6,995	2,005
Other foreign currency guarantees	Thousand USD	14,410	5,730	8,680
Bond issuance payment guarantee	Thousand USD	24,990	24,990	–
	Million KRW	26,000	26,000	–
	Total Million KRW	57,000	37,726	19,274
	Total Thousand USD	159,700	87,626	72,074

27. ASSETS PLEDGED AS COLLATERAL AND GUARANTEES

Details of property, plant and equipment and investment property pledged by the Group as collateral for interest-bearing loans and borrowings as of December 31, 2021 and 2020, presented in the maximum pledge amount, are as follows:

Pledged to	Pledged assets		2021 December 31	2020 December 31
Property, plant and equipment (Joint collateral in connection with long-term loan)				
Busan Bank	Land, buildings and machinery	Million KRW	30,000	30,000
Kyongnam Bank	Land, buildings and machinery	Million KRW	18,000	18,000
Property, plant and equipment and investment property (Collateral for other than long-term loan)				
Woori Bank	Land, buildings and machinery	Million KRW	120,000	120,000
Hana Bank	Land, buildings and machinery	Million KRW	60,000	60,000
Korea Development Bank	Land, buildings, investment properties and machinery	Million KRW	57,000	57,000
Busan Bank	Land, buildings and machinery	Thousand USD	24,000	24,000
Total		Million KRW	285,000	285,000
		Thousand USD	24,000	24,000

No other items of property, plant and equipment are pledged as collateral for interest-bearing loans and borrowings as of December 31, 2021 and 2020.

In the first quarter 2021, the payment guarantees provided by Jongho Park, the Chairman of the Board of Directors of the Group, in connection with the Group's borrowings, have been completely released by Korean banks (December 31, 2020: 10,800 Million KRW).

28. OPERATING PROFIT AND OTHER INCOME / EXPENSES

28.1 RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses of 7,375 Million KRW (2020: 7,618 Million KRW) are recorded in the income statement. Development expenses are not capitalized because the conditions for capitalization have not been met.

28.2 SELLING AND ADMINISTRATION EXPENSES

	2021	2020
Description	Million KRW	Million KRW
Sales-related costs	-68,138	-26,109
Personnel expenses	-52,253	-49,672
Travelling and entertainment	-2,348	-2,782
Depreciation and amortization	-2,369	-2,670
Administration expenses	-10,135	-10,165
IT expenses	-3,036	-3,223
Others	-1,032	-1,342
Total	-139,311	-95,963

Presentation of selling and administration expenses has been revised to disclose IT expenses separately from other expenses due to its materiality. As at December 31, 2020, expenses of administrative nature amounting to 1,243 Million KRW were reclassified from other expenses to administration expenses and personnel expenses of 182 Million KRW from travel and entertainment to personnel expenses.

28.3 OTHER INCOME

	2021	2020
Description	Million KRW	Million KRW
Fee income	120	132
Income resulting from government grants received	911	1,971
Miscellaneous income	1,682	1,292
Gains on disposal of property, plant and equipment	269	33
Gains on disposal of intangible assets	2,196	–
R&D sales income	843	267
Rental income	17	17
Total	6,038	3,712

28.4 OTHER EXPENSES

Description	2021 Million KRW	2020 Million KRW
Miscellaneous expenses	-1,882	-1,081
Losses on disposal of property, plant and equipment	-2,058	-1,849
Impairment of tangible assets	-1,042	-55
Impairment of right-of-use asset	-1,454	–
Impairment of inventory	-749	–
Impairment of other non-current assets	-48	–
Impairment of goodwill	–	-6,889
Impairment of other intangible assets	–	-23
Total	-7,233	-9,897

28.5 EXPENSES CLASSIFIED BY NATURE

Description	2021 Million KRW	2020 Million KRW
Purchased material	-555,695	-450,314
Freight and logistic costs	-65,871	-24,290
Energy costs	-43,612	-38,539
Personnel expenses	-128,288	-126,487
Depreciation and amortization	-35,138	-34,057
Other expenses	-71,105	-75,968
Total	-899,709	-749,655
Thereof recorded in cost of sales	-753,165	-643,795
Thereof recorded in selling and administration costs	-139,311	-95,963
Thereof recorded in other expenses	-7,233	-9,897
Total	-899,709	-749,655

28.6 FINANCE INCOME

Description	2021 Million KRW	2020 Million KRW
Gains on foreign exchange transactions	14,491	17,125
Gains on foreign exchange translations	11,397	4,670
Gains on derivative transactions	1,364	730
Gains on valuation of derivatives	352	33
Gain on disposal of financial assets FVtPL	–	228
Interest on loans and receivables	259	216
Total finance income	27,863	23,002

28.7 FINANCE EXPENSES

Description	2021 Million KRW	2020 Million KRW
Interest on borrowings	-5,874	-6,668
Total interest expenses	-5,874	-6,668
Losses on foreign exchange transactions	-13,145	-21,161
Losses on foreign exchange translations	-12,338	-4,734
Losses on derivative transactions	-689	-1,755
Losses on valuation of derivatives	-38	-75
Bank charges	-217	-341
Total finance expenses	-32,301	-34,734

28.8 NET GAINS AND LOSSES OF FINANCIAL INSTRUMENT CLASSES

Description	2021 Million KRW	2020 Million KRW
Financial assets at amortized cost	6,907	-5,450
Financial assets at FVOCI	929	-529
Financial assets at FVtPL	1,027	-765
Financial liabilities at amortized cost	-12,117	-5,101
Financial liabilities at FVtPL	-38	-75
Total net gains and losses of the classes of financial instruments	-3,292	-11,920
Net gains / (losses) of financial instruments recognized in the consolidated statement of comprehensive income		
Finance expense*	-32,084	-34,393
Finance income	27,863	23,002
Total	*-4,221*	*-11,391*
Net gains / (losses) of financial instruments recognized in the consolidated statement of other comprehensive income		
Financial assets at FVOCI	929	-529
Total	*929*	*-529*
Total	-3,292	-11,920

*excluding bank charges

29. INCOME TAX EXPENSES

The major components of income tax expense in the statements of comprehensive income are as follows:

29.1 CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Description	2021 Million KRW	2020 Million KRW
Current income tax charge	-33,685	-20,688
Adjustments in respect of current income tax of previous year	1,113	-8,128
Deferred income taxes related to changes of temporary differences, net	8,661	7,528
Deferred income taxes related to tax loss carry forwards	96	99
Deferred income taxes related to changes in tax rate	-3,836	1,531
Deferred income taxes recognized directly in other comprehensive income	-2,324	-3,134
Income tax expenses	-29,975	-22,792

Description	2021 Million KRW	2020 Million KRW
Accounting profit before income taxes	101,184	51,157
At parent company's statutory income tax rate of 23.65% (2020: 22.92%)	-23,929	-11,726
(Increase) / decrease in income tax expenses resulting from:		
Adjustments in respect of current income tax of previous years	1,113	-8,128
Non-temporary differences	-487	-573
Tax credits	274	2,879
Non-deductible expenses / (non-taxable income)	-29	-32
Tax audit	–	-4,587
Effect of different tax rates in tax jurisdiction	-6,888	-533
Others	-29	-92
At the effective income tax rate 29,62% (2020: 44.55%)	-29,975	-22,792

In August 2019, the Korean National Tax Service started with the tax audit for FY 2015-2017 within the parent company Songwon Industrial Co., Ltd. As per year end 2019, 1,350 Million KRW were recognized for the known tax risks resulting from this tax audit. In October 2020, the tax authority issued the final invoices with the total amount of 10,499 Million KRW related to the investment valuation in course of the changes in the legal structure of the Group of 6,815 Million KRW, Group cost recharge of Global Business Unit services of 2,729 Million KRW and other minor issues of 955 Million KRW for the period inspected. After the tax assessment result recognition and reversal of the tax risk provision of 1,350 Million KRW as well as the deferred tax liability of 4,562 Million KRW recorded on timing difference resulting from the investment valuation, the net impact of the tax audit on the financial year 2020 was 4,587 Million KRW.

29.2 DEFERRED TAX

Deferred tax relates to the following:

Description	Consolidated statements of financial position 2021 December 31 Million KRW	Consolidated statements of financial position 2020 December 31 Million KRW	Consolidated statements of comprehensive income 2021 December 31 Million KRW	Consolidated statements of comprehensive income 2020 December 31 Million KRW
Net pension obligation	864	1,606	1,304	159
Other long-term employment benefits	1,400	1,265	135	330
Trade receivables	176	152	24	17
Inventories	2,237	1,709	528	-399
Fixed assets	-9,488	-9,820	332	828
Right-of-use assets	–	–	–	244
Gain on revaluation of land	-27,396	-27,474	78	-167
Other non-current financial assets	-279	-225	-54	-238
Other current financial assets	227	55	98	-16
Other current assets	1,186	905	281	904
Other non-current financial liabilities	-101	-170	69	93
Current lease liabilities	294	240	54	-13
Other current financial liabilities	546	716	-170	-889
Other current liabilities	210	195	15	-54
Intangible assets	60	150	-90	692
Loss on interest swaps	8	360	–	–
Loss available for offsetting against future taxable income	195	99	96	99
Investments in subsidiaries	-274	-94	-180	4,539
Translation difference	–	–	77	-105
Deferred tax income			2,597	6,024
Net deferred tax liabilities	-30,135	-30,331		

Reflected in the statements of financial positions as follows:

Deferred tax assets	7,387	5,720
Deferred tax liabilities	-37,522	-36,051

The Group offsets tax assets and liabilities if, and only if, it has a legally enforceable right to do so, and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same tax authority.

Reconciliation of deferred tax liabilities, net:

Description	2021 Million KRW	2020 Million KRW
Opening balance as of January 1	-30,331	-33,326
Deferred tax recognized in statements of comprehensive income	2,597	6,024
Deferred tax recognized in other comprehensive income (note 18.4)	-2,324	-3,134
Translation differences	-77	105
Closing balance as of December 31	-30,135	-30,331

Expecting sufficient taxable income, the Group recognized deferred income tax assets to the extent of future taxable income. For the following deductible temporary differences, no deferred tax assets as of December 31, 2021 and 2020, were recognized.

Description	**2021** Million KRW	2020 Million KRW
Temporary differences related to investments in subsidiaries	7,979	7,633
Total	7,979	7,633

Expected timing of expiration of recognized tax loss carry forwards and tax credit carry forwards, as of December 31, 2021 and 2020, are as follows:

	Recognized deferred tax assets	
2021 December 31	**Tax loss carry forwards** Million KRW	**Tax credit carry forwards** Million KRW
less 1 year	–	–
1-5 years	–	–
5 years and later	195	–
Total	195	–

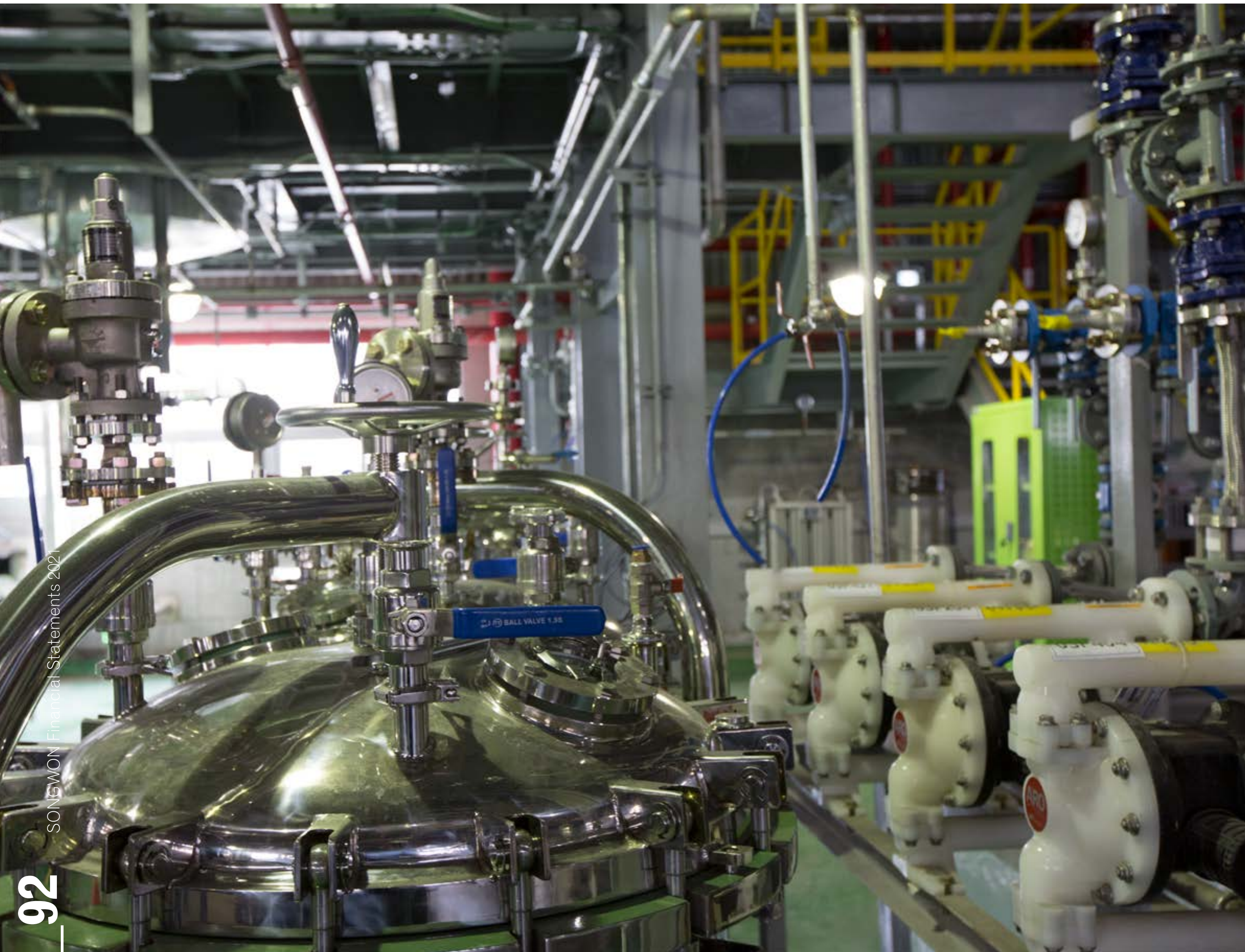
	Recognized deferred tax assets	
2020 December 31	**Tax loss carry forwards** Million KRW	**Tax credit carry forwards** Million KRW
less 1 year	–	–
1-5 years	–	–
5 years and later	–	971
Total	–	971

30. EARNINGS PER SHARE

Basic earnings per share are calculated by dividing net profit for the year attributable to ordinary equity holders of the parent company by the average number of ordinary shares outstanding during the year. There is no difference between basic and diluted earnings per share in 2021 and 2020, as no securities with dilutive features have been issued as of the end of the reporting periods.

The following reflects the income and share data used in the basic per share computations:

Description	**2021** KRW	2020 KRW
Net profit attributable to ordinary equity holders of the parent	72,272,884,671	27,453,027,290
Weighted average number of ordinary shares	24,000,000	24,000,000
Earnings per share (basic / diluted)	3,011	1,144



31. CASH FLOW STATEMENT

Cash and cash equivalents in the consolidated statements of cash flows are equal to those in the consolidated statements of financial position.

The Group's consolidated statement of cash flow is prepared using the indirect method. The adjustments to the net profit for the period of the non-cash and non-operating items and changes in operating assets and liabilities for the years ended December 31, 2021 and 2020, are as follows:

Description	Notes	2021 Million KRW	2020 Million KRW
Adjustments			
Depreciation of property, plant and equipment	7	30,354	31,046
Depreciation of right-of-use assets	8	2,676	2,939
Depreciation of investment properties	9	15	15
Amortization of intangible assets	10	614	690
Impairment of tangible assets	7	1,042	55
Impairment of right-of-use assets	8	1,454	–
Impairment of intangible assets	10	–	6,912
Impairment of non-current financial assets		9	5
Impairment of other non-current assets		48	–
Impairment of inventories	14	749	–
Losses on disposals of property, plant and equipment, net	7	1,788	1,816
Gain on disposal of intangible assets, net	28.3	-2,196	–
Share of result from investments accounted using the equity method	12	-1,103	-1,064
Share-based compensation expenses		1,255	355
Pension costs	22.3	7,879	9,553
Other long-term employee benefits expenses	21.3	635	1,749
Finance income	22.1, 22.2	-7,270	-12,069
Finance expenses		13,441	19,274
Income tax expenses	29.1	29,975	22,792
Total		81,365	84,068

Description	2021 Million KRW	2020 Million KRW
Changes in operating assets and liabilities		
Trade receivables	-52,508	-12,268
Other receivables	147	3,493
Other current assets	-4,309	-2,023
Other current financial assets	10	28
Inventories	-141,262	3,546
Trade payables	43,597	21,787
Other payables	9,406	-5,964
Other current financial liabilities	-178	275
Other current liabilities	1,371	946
Pension liabilities	-10,617	-13,366
Other long-term employee benefits	-942	-310
Total	-155,285	-3,856

Changes in liabilities arising from financing activities for the years ended December 31, 2021 and 2020, are as follows:

	Current interest-bearing loans and borrowings	**Non-current interest-bearing loans and borrowings**	**Other financial liabilities**
	Million KRW	Million KRW	Million KRW
As of January 1, 2020	171,200	73,094	4,870
Cash flows	-20,710	-4,133	-1,589
Foreign exchange movement	-330	-534	-393
Net losses on valuation of financial liabilities	–	–	573
Reclassification	8,780	-8,780	–
As of December 31, 2020	158,940	59,647	3,461
Cash flows	79,579	-2,121	-1,242
Foreign exchange movement	-906	674	-1,468
Net losses on valuation of financial liabilities	–	–	-61
Reclassification	-2,302	2,302	–
As of December 31, 2021	235,311	60,502	690

32. RELATED PARTY DISCLOSURES

The companies listed below have been identified as related parties:

Company name	Location	Relation with the Group	Remarks
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	China	Joint Venture	Jointly controlled by Songwon Group Holding AG
Songwon Moolsan Co., Ltd.	Korea	Other (refer to note 32.5)	A company that has significant influence on the Group
Kyungshin Industrial Co., Ltd.	Korea	Other (refer to note 32.5)	A subsidiary of Songwon Moolsan Co., Ltd.

The following table provides the total amount of transactions that have been entered into with related parties for the relevant financial years and balances as per year-end:

Related party	Description	2021 Million KRW	2020 Million KRW
Songwon Moolsan Co., Ltd.	Selling and administration costs	-79	-66
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	Sales	–	264
	Cost of sales	-16,728	-13,045
Total	Sales	–	264
	Cost of sales	-16,728	-13,045
	Selling and administration costs	-79	-66

Related party	Description	2021 December 31 Million KRW	2020 December 31 Million KRW
Songwon Moolsan Co., Ltd.	Other non-current financial assets	33	24
	Trade and other payables	7	6
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	Trade and other receivables	–	49
	Trade and other payables	1,145	917
Total	Other non-current financial assets	33	24
	Trade and other receivables	–	49
	Trade and other payables	1,152	923

32.1 THE ULTIMATE PARENT

Songwon Industrial Co., Ltd. is the ultimate parent based and listed in Korea.

32.2 TERMS AND CONDITIONS OF TRANSACTIONS WITH RELATED PARTIES

The sales to and purchases from related parties are made at terms equivalent to those that prevail in arm's length transactions. Outstanding balances at the year-end are unsecured, interest free and settlement occurs in cash. There have been no guarantees provided or received for any related party receivables or payables. For the year ended December 31, 2021, the Group has not recorded any impairment of receivables relating to amounts owed by related parties (December 31, 2020: none). This assessment is undertaken periodically by examining the financial position of the related party and the market in which the related party operates.

32.3 TRANSACTIONS WITH KEY MANAGEMENT PERSONNEL

During the financial year 2021, no other transactions with key management personnel than those disclosed in note 27 and 32.4 took place.

32.4 COMPENSATION OF KEY MANAGEMENT PERSONNEL OF THE GROUP

	2021	2020
Description	Million KRW	Million KRW
Short-term employee benefits	9,934	12,862
Post-employment benefits	777	692
Other long-term benefits	540	672
Share based payments	297	92
Termination benefits	528	–
Total compensation paid to key management personnel	12,076	14,318

The amounts disclosed in the table are the amounts recognized as an expense during the reporting period related to key management personnel. Key management personnel are those persons with authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including any director (whether executive or otherwise) of that entity.

32.5 OTHER RELATED PARTIES

Other related parties are Songwon Moolsan Co., Ltd. (Korea) which has significant influence on the Group due to the interest held in the share capital of the parent company of 23.88%. Further, the subsidiary of Songwon Moolsan Co., Ltd., Kyungshin Industrial Co., Ltd., which holds interest in the share capital of the parent company of 9.15%, is identified as a related party of the Group.

33. IMPACT OF GLOBAL ECONOMIC SITUATION ON CONSOLIDATED FINANCIAL STATEMENTS

During the financial year 2021, the global economy was greatly impacted by the COVID-19 pandemic: the countries imposed travel bans, people have been placed with quarantine measures and global supply chains were disrupted due to factory shutdowns. The Group closely monitors the global situation and assesses the future impact of the COVID-19 pandemic on the consolidated financial statements on a regular basis. For the financial year 2021, the following assessments were performed, amongst others:

INDICATION OF IMPAIRMENT ON PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

The Group assessed whether there were any internal and external indicators of impairment of property, plant and equipment and intangible assets. For the year ended December 31, 2021, no indications of impairment have been identified and accordingly, no impairment has been recognized on property, plant and equipment and intangible assets due to the COVID-19 outbreak.

EXPECTED CREDIT LOSS (ECL) OF TRADE RECEIVABLES AND FINANCIAL ASSETS

In order to determine the impact of the global economic situation on the ECL model in accordance with K-IFRS 1109, the Group reassessed past events, current conditions and forecasts of future economic conditions. For the financial year 2021, the Group identified the changes in risk indicators considering the nature of risk such as geographical location of debtors which has been reflected in the ECL model for the recognition of allowance on expected credit risks. Such parameter adjustments resulted in an increase in the allowance on ECL by 43 Million KRW in the consolidated financial statements for the twelve months ended December 31, 2021.

34. EVENTS AFTER THE REPORTING PERIOD

The consolidated financial statements for the year ended December 31, 2021, were approved by the Board of Directors of the parent company on January 28, 2022.

Otherwise, no significant events occurred during the period from the statement of financial position date, up to the date upon which the annual consolidated financial statements were issued.

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