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蒼天 | 회계법인
창천

CHEMAX Co.,Ltd.

Valuation Report

January 2023

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010-2984-1082

Valuation Report

To SICHUAN EMT NEW MATERIAL Co.,Ltd.

Chang chun, an accounting firm (hereinafter referred to as "the main corporation"), carries out stock valuation work for the company subject to evaluation as of December 31, 2022 (hereinafter referred to as "the evaluation base date") and reports the results according to the service contract signed with CHEMAX Co., Ltd. (hereinafter referred to as "your company" or "the evaluation target company").

This report is intended to provide references to support your reasonable decision making and shall not be provided in part or in whole to any third party other than your company without the prior consent of this corporation.

The corporation consulted with your company on the specific evaluation approach and method to be applied and the scope of evaluation procedures to be performed by the corporation, and used the profit-based evaluation approach using the estimated financial data and related evidence presented by the company.

The evaluation work carried out by the corporation was carried out according to the scope of service agreed upon based on the data presented by your company, so it may not have covered all important matters necessary to carry out this work.

Please be aware that the corporation does not provide any guarantees or opinions on the financial capabilities of the company or the company under evaluation, and that it cannot make any judgments on the business data or the financial capabilities of the company included in this report, even if it contains legal interpretation.

This report is valid as of the date of submission. Therefore, events or situations may have a significant impact between the time of viewing this report after the date of submission, but the obligation to update this report does not exist for this corporation.

Finally, I would like to thank the people involved for their cooperation during the performance of this corporation.

회 계 법 인 창 천
대표이사 김 현



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Scope of work & Execution procedure

Scope of work

Based on the procedures agreed with your company, the corporation calculated the stock value of the target company based on the following items.

- Determination of appropriate stock valuation method considering target company status and industry
- Review of the adequacy of the business plans and data prepared by the company
- Review of profit and loss items used in business plan estimation
- Review whether the assumptions of business plan and cash flow estimation of the target company are logically reflected
- Review of discount rate and growth rate assumptions to be applied
- Estimating the stock value of the company based on the determined valuation method and the above review
- Sensitivity analysis on the effect of partial changes to the applied assumptions on the outcome of stock value calculation

Other considerations

Unless otherwise stated, the amount of this report is in millions, and the amount or percentages in this report may differ from the report due to differences in singular values

Definition of Terms

Glossary	Full Name
DCF	Discounted Cash Flow
FCF	Free Cash Flow
EIU	Economist Intelligence Unit
M&A	Merger and Acquisition
NOPLAT	Net Operating Profit Less Adjusted Taxes
TV	Terminal Value
WACC	Weighted Average Cost of Capital
CAPEX	Capital Expense
Dep	Depreciation
Amor	Amortization

I. A Review of the Valuation Method

I.1 Overview of theoretical valuation methods

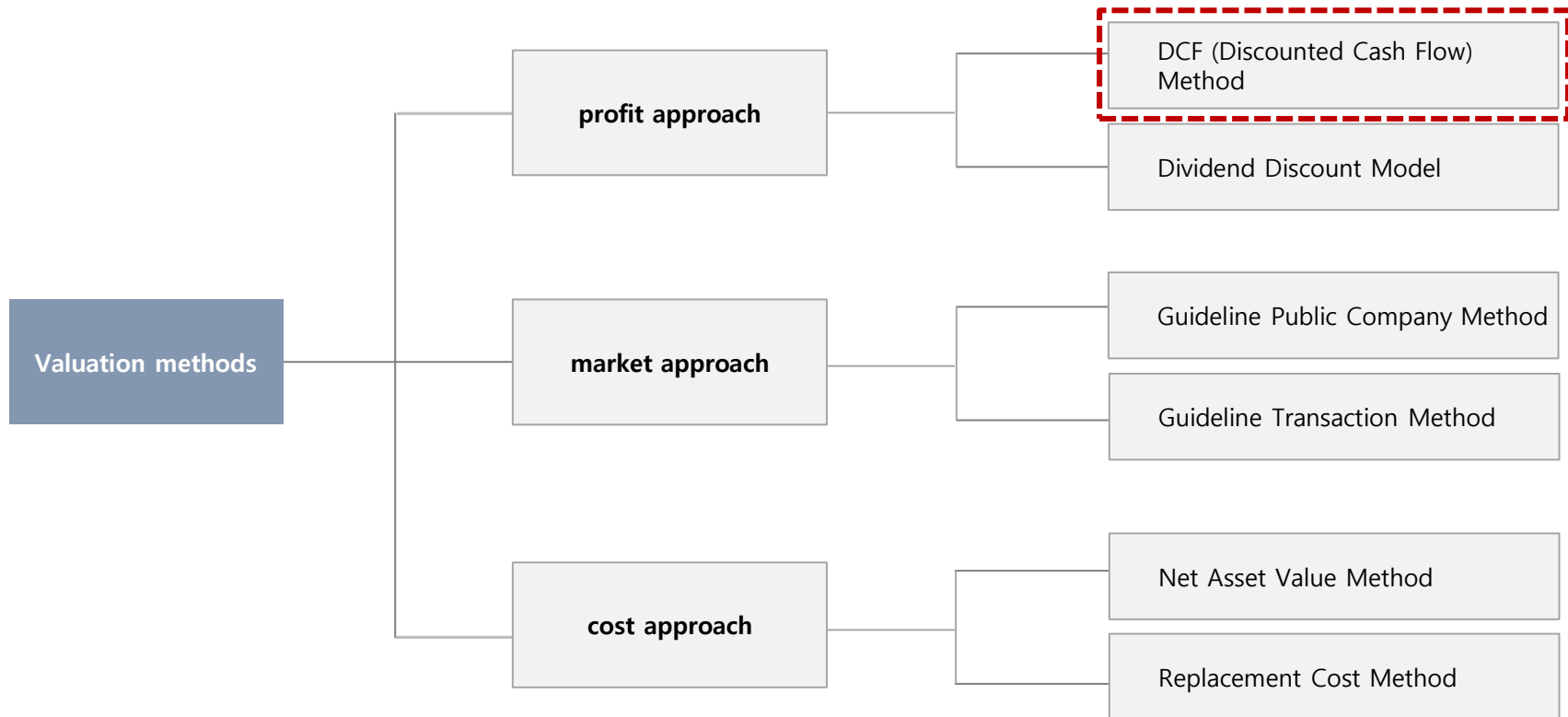
I.2 How to apply this assessment

I.3 Company general status

I.1 Overview of theoretical valuation methods(1/2)

The theoretical valuation methodology for calculating stock value is largely divided into profit approach, market approach and cost approach.

Valuation methods (Overview)



I.1 Overview of theoretical valuation methods (2/2)

Specific characteristics of each valuation method are as follows

Valuation methods (the characteristics of each method)

profit approach	DCF (Discounted Cash Flow) Method	<ul style="list-style-type: none"> The cash flow discount method is a method of measuring the expected future cash inflow from the valuation company and then evaluating the present value calculated by applying an appropriate discount rate to the value of the company's stock. We use surplus cash flows that belong to our shareholders.
	Dividend Discount Model	<ul style="list-style-type: none"> Dividend Discount is a method of evaluating the present value of a company's stock value by applying an appropriate discount rate to dividends expected to be attributed to the investor in the future, assuming that the investee's future earnings or future cash flows are realized through dividends paid to the investor.
market approach	Guideline Public Company Method	<ul style="list-style-type: none"> It is a method of calculating the multiple of stock value compared to various financial indicators (sales, operating profit, after-tax net profit, net asset value, etc.) of similar companies traded in the stock market and applying it to the company subject to evaluation.
	Guideline Transaction Method	<ul style="list-style-type: none"> It is a method of calculating multiple by comparing the transaction amount of a similar company in the past M&A process with various financial indicators (net profit, net asset value, etc.) of the company and applying it equally to the company subject to evaluation to calculate the stock value.
cost approach	Net Asset Value Method	<ul style="list-style-type: none"> All assets and liabilities held by the valued company are assessed at the appropriate Fair Value as of the valuation date, and then the net asset value minus the total liabilities is assessed at the company's stock value.
	Replacement Cost Method	<ul style="list-style-type: none"> An alternative cost method estimates the cost of re-creating or replacing an asset held by an assessor, assuming that a reasonable investor would determine the amount of the investment at a level not exceeding the current market price or replacement cost of another asset with the same nature and function.

I.2 How to apply this assessment

In this assessment, considering various aspects of the company and market situation, the DCF Method was determined as the most appropriate way to assess the company's corporate value and evaluated the value of the stocks using this method..

■ How to apply this assessment

How to apply this assessment

- **In this assessment, the Company's stock value was assessed in accordance with the DCF Method, and the main reasons are as follows:**
 - 1) There are accumulated data, research data from their industries and business plans based on which the company can properly estimate the excess cash flows required to apply the cash discount method.
 - 2) As the Company has no dividend payment history in recent years, there is no comparable object to apply the dividend discount method and apply the market approach (comparison method of comparable listed companies, comparative case comparison method). Since the criteria for fair value assessment of liabilities are unclear, it is limited to apply other valuation methods except cash flow discount method

I.3 Company general status

The general status of the target company is as follows.

General status

Section	
Target company	CHEMAX Co., Ltd.
CEO	KIM Sung-Ju
Date of establishment	October 18, 2002
business information	Photoresist monomer
Major products	ArF PR monomer(MAMA, GBLMA etc) KrF PR monomer(ACS, TBS etc)
Headquarters location	2 Floor,28-5,Sandan-ro,15beon-gil,Pyeongteak-si, Gyeonggi-do, KOREA

History

Date	
October 2002	Established CHEMAX Co., Ltd.
June 2006	Selected as Small and Medium Business
October 2006	ISO9001 certification
May, 2007	Approval of research facility from government
April, 2008	INNOBIS certification
Oct, 2019	Certified as a company specializing in materials, parts, and equipment

CEO Main Record

Record	
•	R&D of KrF/ArF resist
•	R&D of over-coating material for immersion lithography
•	R&D of photosensitive monomer for lithography
•	Commercialization of ArF resist
•	Commercialization of semiconductor/display materials
•	About 200 patents related photoresist

Historical Financial Statements(summary)

Summary Balance Sheet	2020	2021	2022
	Performance	Performance	Performance
Unit: MKRW			
Cash and cash equivalents	287	791	1,391
Trade receivables and other receivables	230	446	1,924
Inventory assets	1,079	1,357	5,692
Investment assets	8	8	306
tangible and intangible assets	231	199	225
Other Assets	16	1,157	1,553
Total assets	1,851	3,959	11,092
Trade payables and other liabilities	333	1,620	6,725
Borrowing debt	1,512	1,846	1,572
Lease liabilities	47	25	2
Other liabilities	703	675	1,903
Total debt	2,595	4,167	10,202
Total Capital	(744)	(208)	890

Summary Income Statement	2020	2021	2022
	Performance	Performance	Performance
Unit: MKRW			
Revenue	5,201	6,984	12,566
Cost of sales	4,534	5,931	10,390
Gross margin	668	1,053	2,176
Sales management expenses	270	551	602
operating profit	398	502	1,574
Net income	284	536	1,098

II. Executive Summary

II.1 Summary of Valuation Results

II.2 Estimated cash flow by period

II.3 Key assumptions applied

II.1 Summary of Valuation Results

According to the DCF method, the target company's share price ranged from 56,071 MKRW to 66,468 MKRW based on the sensitivity of the discount rate and perpetual growth rate. The value per share ranged from KRW 934,510 to KRW 1,107,800

DCF Value Result		(Unit: MKRW)
A. The value of the estimated period		9,011
B. The value of the permanent cash period		52,685
C. Operating Value(=A + B)		61,695
D. Value of non-business assets*		786
E. Interest debt**		1,601
F. Share value(=C + D - E)		60,880
G. Total number of distribution shares		60,000
H. Value per share(=F / G) (Unit: KRW)		1,014,667

* Value of non-business assets ^(note1)		(Unit: MKRW)
Non-operating cash and cash equivalents ^(note1)		479
Financial instruments		306
Total		786

(note 1) The amount equivalent to one month of cashable operating expenses (sales cost + sales management cost - depreciation cost) is assumed to be business cash, and the excess is classified as non-business use.

** Interest debt		(Unit: MKRW)
Short-term borrowings		1,072
Lease liabilities		29
Long-term borrowings		500
Total		1,601

* Sensitivity analysis-Share value (Unit: MKRW)

Unit: MKRW	13.9%	14.4%	14.9%
0.5%	62,122	58,980	56,071
1.0%	64,211	60,880	57,804
1.5%	66,468	62,928	59,667

* Sensitivity analysis- Value per share (Unit: KRW)

Unit: KRW	13.9%	14.4%	14.9%
0.5%	1,035,367	982,999	934,510
1.0%	1,070,176	1,014,667	963,400
1.5%	1,107,800	1,048,795	994,451

II.2 Estimate cash flow by period

Estimated cash flows and permanent cash flows from 1 January 2023 to 31 December 2027 are as follows:

Unit: MKRW, %	2020	2021	2022	2023	2024	2025	2026	2027	TV
	Performance	Performance	Performance	Prospect	Prospect	Prospect	Prospect	Prospect	Prospect
Revenue	5,201	6,984	12,566	11,832	19,673	27,462	49,695	67,108	67,779
Cost of sales	4,534	5,931	10,390	9,558	15,005	21,477	36,517	48,133	48,614
Gross margin	668	1,053	2,176	2,274	4,668	5,985	13,178	18,975	19,165
SG & A expenses	270	551	602	808	1,075	1,516	2,199	2,733	2,761
Operating profit	398	502	1,574	1,466	3,593	4,469	10,978	16,242	16,404
Operating profit ratio%	7.6%	7.2%	12.5%	12.4%	18.3%	16.3%	22.1%	24.2%	24.2%
Corporate tax				286	733	917	2,283	3,389	3,423
NOPLAT				1,180	2,861	3,553	8,695	12,853	12,982
Depreciation cost				267	548	660	768	838	
Changes in net working capital				(837)	(1,191)	(1,134)	(3,395)	(2,666)	(101)
Investment expenditure				(4,408)	(548)	(577)	(578)	(93)	
FCF				(3,798)	1,669	2,503	5,490	10,932	12,880
Period				0.5	1.5	2.5	3.5	4.5	4.5
present worth factor				0.9351	0.8176	0.7149	0.6252	0.5466	0.5466
The value of the estimated period				(3,551)	1,365	1,789	3,432	5,976	52,685
* Key Rate Assumption									
Weighted average cost of capital	14.4%								
Permanent growth rate	1.0%								

II.3 Key assumptions applied ① : General Information

Key assumptions applied to this valuation work are as follows.

주요 가정

1. Evaluation date and Estimated period

- **Evaluation method:** DCF method
- **Evaluation base date :** 2022/ 12/ 31
- **Estimated period :** 2023/ 1/ 1 ~ 2027/ 12/ 31 (5 years)
- **Permanent growth rate :** 1.0%
- Assuming that cash flows occur uniformly in each fiscal year

2. Tax Rate

- Applying corporate tax rate by taxable income section to reflect tax law. (Including local taxes, 11%/21%/23.2%/26.5%)
- The accounting profit that occurred during the estimation period is assumed to be the same as the taxable income

3. Macroeconomic variables

Period	2023	2024	2025	2026	2027
Expected consumer price inflation	2.1%	0.6%	1.0%	1.2%	1.3%
Expected wage increase rate	3.6%	1.9%	2.3%	3.2%	3.4%

Source: EIU South Korea Report, December 2022

II.3 Key assumptions applied② : the rate of discount

Key assumptions applied to this valuation work are as follows

Key assumptions

Beta Calculation

Homogeneous enterprise	State	Tax-rate	Observed Beta ¹⁾	Market capitalization(S)	Interest debt(B)	B/(S+B)	Unlevered Beta	Re-Levered Beta
LAM Technology	Korea	21.00%	1.112	75,130	19,174	21.6%	0.913	1.163
Dongjin semichem	Korea	23.20%	0.978	1,539,864	487,199	24.0%	0.787	1.002
DNF	Korea	21.00%	1.326	152,749	19,502	10.9%	1.209	1.539
Chemtronics	Korea	23.20%	1.185	191,187	282,200	58.9%	0.564	0.717
ENF	Korea	23.20%	1.088	288,614	178,047	37.1%	0.750	0.954
SNS Tech	Korea	21.00%	1.175	548,878	9,043	1.6%	1.160	1.476
Average			1.144			25.7%	0.897	1.142

Calculating the cost of equity capital

Risk-free interest rate ²⁾	+	Beta	×	Equity Risk Premium ³⁾	+	Size Risk Premium ⁴⁾	=	Cost of equity
3.7%		1.142		8.0%		3.4%		16.2%

Calculating the cost of debt capital

pre-tax interest rate ⁵⁾	×	(1-Tax Rate)	=	after-tax interest rate
11.4%		79.0%		9.0%

Calculating the weighted cost of capital

	importance(A)	Capital cost(B)	A x B
Capital	74.3%	16.2%	12.1%
debt	25.7%	9.0%	2.3%
Weighted average cost of capital			14.4%

Footnote

- 1) Average weekly adjusted beta application for the past two years as of the evaluation date (Source: Bloomberg)
- 2) 10-year Korean government bond interest rate applied as of valuation date (Source: Bloomberg)
- 3) 8% applied according to ERP guidance in Korea CPA Association (Source: Korea Certified Public Accountants Association)
- 4) 3.35% applied according to Size Premium guidance in Korea CPA Association (Source: Korea Certified Public Accountants Association)
- 5) BBB with a 5-year maturity as of the evaluation base date - Application of the interest rate on unguaranteed corporate bonds (Source: Inquiry of the bond rate based on the average of the public evaluation on the website of the Korea Financial Investment Association)

III. Details of estimated profit and loss account

III.1 Estimate of Sales

III.2 Estimate of Cost of sales

III.3 Estimate of SG & A expenses

III.1 Estimate of Sales (Overview)

Revenue from the target company is estimated based on Product sales and merchandise sales. Estimated Revenue for the period are as follows.

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
Product/Merchandise sales	11,832	19,673	27,462	49,695	67,108
ArF PR monomer	2,034	2,634	5,082	8,084	14,166
KrF PR monomer	8,600	15,000	17,900	35,000	44,200
BARC monomer	235	335	435	435	435
E material	486	906	1,116	1,116	1,116
PAG intermediate	249	597	2,728	4,859	6,990
Flame retardant	126	136	136	136	136
Display Materials	102	65	65	65	65
Technical Service sales	-	-	-	-	-
facility sales	-	-	-	-	-
Total	11,832	19,673	27,462	49,695	67,108
Sales portion					
Product/Merchandise sales	100.0%	100.0%	100.0%	100.0%	100.0%
Technical Service sales	-	-	-	-	-
Equipment sales	-	-	-	-	-

■ Estimate of Sales

- Sales are estimated by applying the sales volume and unit price of products and Merchandise by the company subject to evaluation. From July to December 2022, sales decreased significantly as the main client stopped operating the plant for about four months due to the expansion of the plant, but it will recover to the past level from 2023.
- Service sales are generated by technical service, and facility sales are generated by providing a system including technical support. It is assumed that the subsequent estimation period does not occur due to difficulty in reasonable estimation by applying the business plan.
- Chemax are planning to invest in a new plant in 2023 and complete it within a year, and we expect that production will be possible with the facility from the beginning of 2024, so we believe that the capacity will be sufficient.

III.1 Estimate of Sales (①ArF PR monomer)

As of the valuation date, the Product sales (ArF monomer) estimates are as follows.

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
MAA	14	14	14	14	14
Sales volume(Unit: Kg)	20	20	20	20	20
Unit Price(Unit: KRW)	680,000	680,000	680,000	680,000	680,000
MAMA	272	408	680	1,360	2,040
Sales volume(Unit: Kg)	400	600	1,000	2,000	3,000
Unit Price(Unit: KRW)	680,000	680,000	680,000	680,000	680,000
MCPA	14	57	57	57	57
Sales volume(Unit: Kg)	20	80	80	80	80
Unit Price(Unit: KRW)	710,000	710,000	710,000	710,000	710,000
MCPMA	71	71	284	426	852
Sales volume(Unit: Kg)	100	100	400	600	1,200
Unit Price(Unit: KRW)	710,000	710,000	710,000	710,000	710,000
GBLMA	136	248	372	744	1,116
Sales volume(Unit: Kg)	220	400	600	1,200	1,800
Unit Price(Unit: KRW)	620,000	620,000	620,000	620,000	620,000
TFAAM	70	70	70	70	70
Sales volume(Unit: Kg)	20	20	20	20	20
Unit Price(Unit: KRW)	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
EtCHA	68	68	68	68	68
Sales volume(Unit: Kg)	100	100	100	100	100
Unit Price(Unit: KRW)	680,000	680,000	680,000	680,000	680,000
EtCHMA	272	272	680	680	1,020
Sales volume(Unit: Kg)	400	400	1,000	1,000	1,500
Unit Price(Unit: KRW)	680,000	680,000	680,000	680,000	680,000
EAMA	272	272	408	816	2,040
Sales volume(Unit: Kg)	400	400	600	1,200	3,000
Unit Price(Unit: KRW)	680,000	680,000	680,000	680,000	680,000

III.1 Estimate of Sales (①ArF PR monomer)

As of the valuation date, the Product sales (ArF monomer) estimates are as follows.

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
ECPA	50	100	200	200	200
<i>Sales volume(Unit: Kg)</i>	50	100	200	200	200
<i>Unit Price(Unit: KRW)</i>	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
ECPMA	100	200	400	800	1,200
<i>Sales volume(Unit: Kg)</i>	100	200	400	800	1,200
<i>Unit Price(Unit: KRW)</i>	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
EGMEM	80	80	200	200	300
<i>Sales volume(Unit: Kg)</i>	800	800	2,000	2,000	3,000
<i>Unit Price(Unit: KRW)</i>	100,000	100,000	100,000	100,000	100,000
HAMA	160	320	480	960	1,440
<i>Sales volume(Unit: Kg)</i>	200	400	600	1,200	1,800
<i>Unit Price(Unit: KRW)</i>	800,000	800,000	800,000	800,000	800,000
IPAA	75	75	150	150	150
<i>Sales volume(Unit: Kg)</i>	10	10	20	20	20
<i>Unit Price(Unit: KRW)</i>	7,500,000	7,500,000	7,500,000	7,500,000	7,500,000
IPAMA	130	130	520	1,040	2,600
<i>Sales volume(Unit: Kg)</i>	100	100	400	800	2,000
<i>Unit Price(Unit: KRW)</i>	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
IPCPMA	125	125	250	250	500
<i>Sales volume(Unit: Kg)</i>	50	50	100	100	200
<i>Unit Price(Unit: KRW)</i>	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
IPCHMA	125	125	250	250	500
<i>Sales volume(Unit: Kg)</i>	50	50	100	100	200
<i>Unit Price(Unit: KRW)</i>	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Total	2,034	2,634	5,082	8,084	14,166

III.1 Estimate of Sales (②KrF PR monomer)

As of the valuation date, the Product sales (KrF monomer) estimates are as follows.

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
ACS	8,000	12,000	14,400	16,000	19,200
<i>Sales volume(Unit: Kg)</i>	<i>100,000</i>	<i>150,000</i>	<i>180,000</i>	<i>200,000</i>	<i>240,000</i>
<i>Unit Price(Unit: KRW)</i>	<i>80,000</i>	<i>80,000</i>	<i>80,000</i>	<i>80,000</i>	<i>80,000</i>
PEES	300	1,500	2,000	4,000	10,000
<i>Sales volume(Unit: Kg)</i>	<i>1,000</i>	<i>5,000</i>	<i>10,000</i>	<i>20,000</i>	<i>50,000</i>
<i>Unit Price(Unit: KRW)</i>	<i>300,000</i>	<i>300,000</i>	<i>200,000</i>	<i>200,000</i>	<i>200,000</i>
TBS	300	1,500	1,500	15,000	15,000
<i>Sales volume(Unit: Kg)</i>	<i>1,000</i>	<i>5,000</i>	<i>10,000</i>	<i>100,000</i>	<i>100,000</i>
<i>Unit Price(Unit: KRW)</i>	<i>300,000</i>	<i>300,000</i>	<i>150,000</i>	<i>150,000</i>	<i>150,000</i>
Total	8,600	15,000	17,900	35,000	44,200

III.1 Estimate of Sales (③BARC monomer)

As of the valuation date, the Product sales (BARC monomer) estimates are as follows

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
AMMA	200	300	400	400	400
<i>Sales volume(Unit: Kg)</i>	100	150	200	200	200
<i>Unit Price(Unit: KRW)</i>	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
9-AM	35	35	35	35	35
<i>Sales volume(Unit: Kg)</i>	50	50	50	50	50
<i>Unit Price(Unit: KRW)</i>	700,000	700,000	700,000	700,000	700,000
Total	235	335	435	435	435

III.1 Estimate of Sales (㉔E material)

As of the valuation date, the Product sales (E material) estimates are as follows

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
TM35	420	840	1,050	1,050	1,050
<i>Sales volume(Unit: Kg)</i>	<i>200</i>	<i>400</i>	<i>500</i>	<i>500</i>	<i>500</i>
<i>Unit Price(Unit: KRW)</i>	<i>2,100,000</i>	<i>2,100,000</i>	<i>2,100,000</i>	<i>2,100,000</i>	<i>2,100,000</i>
HPMA	66	66	66	66	66
<i>Sales volume(Unit: Kg)</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
<i>Unit Price(Unit: KRW)</i>	<i>660,000</i>	<i>660,000</i>	<i>660,000</i>	<i>660,000</i>	<i>660,000</i>
Total	486	906	1,116	1,116	1,116

III.1 Estimate of Sales (⑤PAG intermediate)

As of the valuation date, the Product sales (PAG intermediate) estimates are as follows

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
bis(4-fluorophenyl) sulfoxide	99	297	528	759	990
<i>Sales volume(Unit: Kg)</i>	10	30	53	77	100
<i>Unit Price(Unit: KRW)</i>	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000
A(no name)	50	100	733	1,367	2,000
<i>Sales volume(Unit: Kg)</i>	5	10	73	137	200
<i>Unit Price(Unit: KRW)</i>	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
B(no name)	100	200	1,467	2,733	4,000
<i>Sales volume(Unit: Kg)</i>	5	10	73	137	200
<i>Unit Price(Unit: KRW)</i>	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000
Total	249	597	2,728	4,859	6,990

III.1 Estimate of Sales (⑥Flame retardant)

As of the valuation date, the Product sales (Flame retardant) estimates are as follows

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
MPP	25	25	25	25	25
<i>Sales volume(Unit: Kg)</i>	5,000	5,000	5,000	5,000	5,000
<i>Unit Price(Unit: KRW)</i>	4,924	4,924	4,924	4,924	4,924
Elionflam CP	76	76	76	76	76
<i>Sales volume(Unit: Kg)</i>	10,000	10,000	10,000	10,000	10,000
<i>Unit Price(Unit: KRW)</i>	7,600	7,600	7,600	7,600	7,600
TBC	25	35	35	35	35
<i>Sales volume(Unit: Kg)</i>	5,000	7,000	7,000	7,000	7,000
<i>Unit Price(Unit: KRW)</i>	5,000	5,000	5,000	5,000	5,000
Total	126	136	136	136	136

III.1 Estimate of Sales (⑦Display Materials)

As of the valuation date, the Product sales (Display Materials) estimates are as follows

	2023	2024	2025	2026	2027
(Unit: MKRW), %	Prospect	Prospect	Prospect	Prospect	Prospect
BENZIMIDAZOLE	6	6	6	6	6
<i>Sales volume(Unit: Kg)</i>	150	150	150	150	150
<i>Unit Price(Unit: KRW)</i>	39,000	39,000	39,000	39,000	39,000
MALONIC ACID	4	4	4	4	4
<i>Sales volume(Unit: Kg)</i>	200	200	200	200	200
<i>Unit Price(Unit: KRW)</i>	18,500	18,500	18,500	18,500	18,500
N-Benzylmaleimide	93	56	56	56	56
<i>Sales volume(Unit: Kg)</i>	250	150	150	150	150
<i>Unit Price(Unit: KRW)</i>	370,000	370,000	370,000	370,000	370,000
Total	102	65	65	65	65

III.2 Estimate of Cost of sales (Overview)

Sales cost was estimated by dividing it into product/merchandise sales cost and facility sales cost, and the details of sales cost estimation during the estimation period are as follows.

(Unit: MKRW), %	2023 Prospect	2024 Prospect	2025 Prospect	2026 Prospect	2027 Prospect
Product/merchandise Cost of sales	9,558	15,005	21,477	36,517	48,133
Material cost (Merchandise purchase cost included)	8,942	14,164	20,365	35,082	46,356
Labor cost	283	288	401	454	577
Manufacturing expense	333	553	711	981	1,200
Facility sales cost	-	-	-	-	-
Total	9,558	15,005	21,477	36,517	48,133

Percentage of Product sales

% Cost of product	80.8%	76.3%	78.2%	73.5%	71.7%
% Material cost (Merchandise purchase cost included)	75.6%	72.0%	74.2%	70.6%	69.1%
% Labor cost	2.4%	1.5%	1.5%	0.9%	0.9%
% Manufacturing expense	2.8%	2.8%	2.6%	2.0%	1.8%
% Facility sales cost	na	na	na	na	na

■ Estimation of Cost of Sales

Product/merchandise sales cost: Estimated by dividing it into material cost (Merchandise purchase cost included), labor cost, and manufacturing cost

✓ Material cost (Merchandise purchase cost included): Assume that the ratio of material cost to product sales is maintained during the estimated period, and that the ratio of Merchandise purchase to Merchandise sales is maintained during the estimated period.

✓ Labor costs: Estimated by dividing them into salary, retirement benefits, and welfare expenses.

✓ Manufacturing cost: Estimated by dividing it into variable cost manufacturing cost, fixed cost manufacturing cost, and depreciation cost.

Facility sales cost: 90% of the cost rate was applied according to the target company's business plan, and it is assumed that no sales are generated during the subsequent estimation period, so it is assumed that no related sales cost is generated.

III.2 Estimate of Cost of sales (① Material cost Overview)

The material cost during the estimated period is as follows.

(Unit: MKRW), %	2023 Prospect	2024 Prospect	2025 Prospect	2026 Prospect	2027 Prospect
ArF PR monomer	1,138	1,472	2,839	4,504	7,967
KrF PR monomer	7,020	11,300	14,440	26,000	32,320
BARC monomer	75	108	140	140	140
E material	390	730	900	900	900
PAG intermediate	174	418	1,910	3,401	4,893
Flame retardant	97	105	105	105	105
Display Materials	48	31	31	31	31
Total	8,942	14,164	20,365	35,082	46,356
Percentage of Product sales					
% ArF PR monomer	55.9%	55.9%	55.9%	55.7%	56.2%
% KrF PR monomer	81.6%	75.3%	80.7%	74.3%	73.1%
% BARC monomer	31.9%	32.1%	32.2%	32.2%	32.2%
% E material	80.2%	80.6%	80.6%	80.6%	80.6%
% PAG intermediate	70.0%	70.0%	70.0%	70.0%	70.0%
% Flame retardant	77.2%	77.4%	77.4%	77.4%	77.4%
% Display Materials	47.0%	48.0%	48.0%	48.0%	48.0%
% Total	75.6%	72.0%	74.2%	70.6%	69.1%

■ Estimation of material cost

- Assume that the ratio of material cost to sales is maintained during the estimated period
- However, in the case of some products such as PEES and TBS, the cost rate has been adjusted according to the decline in the market price since 2025.

III.2 Estimate of Cost of sales (①Material cost - ArF PR monomer)

The estimate of the material cost (ArF PR monomer) as of the evaluation date is as follows.

		2023	2024	2025	2026	2027
(Unit: MKRW), %		Prospect	Prospect	Prospect	Prospect	Prospect
ArF PR monomer	BP Cost rate	1,138	1,472	2,839	4,504	7,967
MAA	47.8%	7	7	7	7	7
MAMA	47.8%	130	195	325	650	975
MCPA	62.4%	9	35	35	35	35
MCPMA	62.4%	44	44	177	266	532
GBLMA	40.8%	56	101	152	304	455
TFAAM	18.6%	13	13	13	13	13
EtCHA	58.8%	40	40	40	40	40
EtCHMA	58.8%	160	160	400	400	600
EAMA	73.5%	200	200	300	600	1,500
ECPA	65.0%	33	65	130	130	130
ECPMA	65.0%	65	130	260	520	780
EGMEM	40.0%	32	32	80	80	120
HAMA	62.5%	100	200	300	600	900
IPAA	53.3%	40	40	80	80	80
IPAMA	46.2%	60	60	240	480	1,200
IPCPMA	60.0%	75	75	150	150	300
IPCHMA	60.0%	75	75	150	150	300
Cost rate for product groups		55.9%	55.9%	55.9%	55.7%	56.2%

III.2 Estimate of Cost of sales (① Material cost - KrF PR monomer)

The estimate of the material cost (KrF PR monomer) as of the evaluation date is as follows.

			2023	2024	2025	2026	2027
(Unit: MKRW), %			Prospect	Prospect	Prospect	Prospect	Prospect
KrF PR monomer	BP Cost rate	Applied from 25 years	7,020	11,300	14,440	26,000	32,320
ACS	85.0%		6,800	10,200	12,240	13,600	16,320
PEES	40.0%	60.0%	120	600	1,200	2,400	6,000
TBS	33.3%	66.7%	100	500	1,000	10,000	10,000
Cost rate for product groups			81.6%	75.3%	80.7%	74.3%	73.1%

III.2 Estimate of Cost of sales (① Material cost - BARC monomer)

The estimate of the material cost (BARC monomer) as of the evaluation date is as follows.

		2023	2024	2025	2026	2027
(Unit: MKRW), %		Prospect	Prospect	Prospect	Prospect	Prospect
BARC monomer	BP Cost rate	75	108	140	140	140
AMMA	32.5%	65	98	130	130	130
9-AM	28.6%	10	10	10	10	10
<i>Cost rate for product groups</i>		31.9%	32.1%	32.2%	32.2%	32.2%

III.2 Estimate of Cost of sales (① Material cost - E material)

The estimate of the material cost (E material) as of the evaluation date is as follows.

		2023	2024	2025	2026	2027
(Unit: MKRW), %		Prospect	Prospect	Prospect	Prospect	Prospect
E material	BP Cost rate	390	730	900	900	900
TM35	81.0%	340	680	850	850	850
HPMA	75.8%	50	50	50	50	50
Cost rate for product groups		80.2%	80.6%	80.6%	80.6%	80.6%

III.2 Estimate of Cost of sales (① Material cost - PAG intermediate)

The estimate of the material cost (PAG intermediate) as of the evaluation date is as follows

		2023	2024	2025	2026	2027
(Unit: MKRW), %		Prospect	Prospect	Prospect	Prospect	Prospect
PAG intermediate	BP Cost rate	174	418	1,910	3,401	4,893
bis(4-fluorophenyl) sulfoxide	70.0%	69	208	370	531	693
A	70.0%	35	70	513	957	1,400
B	70.0%	70	140	1,027	1,913	2,800
Cost rate for product groups		70.0%	70.0%	70.0%	70.0%	70.0%

III.2 Estimate of Cost of sales (① Material cost - Flame retardant)

The estimate of the material cost (Flame retardant) as of the evaluation date is as follows.

		2023	2024	2025	2026	2027
(Unit: MKRW), %		Prospect	Prospect	Prospect	Prospect	Prospect
Flame retardant	BP Cost rate	97	105	105	105	105
MPP	81.2%	20	20	20	20	20
Elionflam CP	75.0%	57	57	57	57	57
TBC	80.0%	20	28	28	28	28
<i>Cost rate for product groups</i>		<i>77.2%</i>	<i>77.4%</i>	<i>77.4%</i>	<i>77.4%</i>	<i>77.4%</i>

III.2 Estimate of Cost of sales (① Material cost - Display Materials)

The estimate of the material cost (Display materials) as of the evaluation date is as follows.

		2023	2024	2025	2026	2027
(Unit: MKRW), %		Prospect	Prospect	Prospect	Prospect	Prospect
Display Materials	BP Cost rate	48	31	31	31	31
BENZIMIDAZOLE	61.5%	4	4	4	4	4
MALONIC ACID	70.3%	3	3	3	3	3
N-Benzylmaleimide	45.1%	42	25	25	25	25
<i>Cost rate for product groups</i>		<i>47.0%</i>	<i>48.0%</i>	<i>48.0%</i>	<i>48.0%</i>	<i>48.0%</i>

III.2 Estimate of Cost of sales(②Labor cost)

The labor cost is estimated by dividing the salary, retirement benefits and welfare benefits

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
Salary	212	216	301	340	432
Number of employees(person)	6	6	8	9	11
Retirement benefits	18	18	25	28	36
Welfare benefits	53	54	76	86	109
Total	283	288	401	454	577
Ratio to Salary					
Retirement benefits	8.3%	8.3%	8.3%	8.3%	8.3%
Welfare benefits	25.2%	25.2%	25.2%	25.2%	25.2%

Estimate of Labor Cost

- **Salary:** The manpower plan presented by the company to be evaluated was applied mutatis mutandis, and it is assumed that the average salary during the estimated period increases by the domestic nominal wage increase rate predicted by the market research institute (EIU).
- **Retirement benefits :** Assume that one month of salary is incurred
- **Welfare benefits:** Assume that the ratio to past pay remains constant during the estimated period

III.2 Estimate of Cost of sales(③Manufacturing expense)

Manufacturing expenses were estimated by dividing them into variable cost manufacturing expenses, fixed cost manufacturing expenses, and depreciation expenses, and the estimated amount is as follows.

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
Variable cost manufacturing expenses	102	169	236	427	577
Electricity cost	19	32	44	80	108
freight cost	18	31	43	77	104
consumable cost	41	68	95	172	232
Fees cost	24	39	55	99	134
Fixable cost manufacturing expenses	89	89	120	137	169
Rental cost	26	26	35	40	49
Repairing cost	17	17	23	27	33
An insurance fee	19	19	26	29	36
Vehicle maintenance cost	24	24	33	37	46
Other cost	2	2	3	3	4
Depreciation cost	143	294	355	417	454
Total	333	553	711	981	1,200
Proportion to product sales					
Electricity cost	0.2%	0.2%	0.2%	0.2%	0.2%
freight cost	0.2%	0.2%	0.2%	0.2%	0.2%
consumable cost	0.3%	0.3%	0.3%	0.3%	0.3%
Fees cost	0.2%	0.2%	0.2%	0.2%	0.2%

■ Estimate of Manufacturing expense

- **Variable cost manufacturing expenses:** Assume that the ratio of product/merchandise to sales is maintained for the estimated period
- **Fixable cost manufacturing expenses:** It is assumed that the domestic consumer price growth rate predicted by the market research institution (EIU) during the estimated period is increased, and the number of people is considered.
- **Depreciation cost:** For depreciation expenses, refer to IV.2 Estimation of Investment Expenditure.

III.3 Estimation of sales management expenses (Overview)

Sales management expenses were estimated by dividing them into labor cost expense, variable cost expense, fixed cost expense, and depreciation expense, and the estimated amount is as follows.

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
Labor cost expenses	410	418	637	867	1,047
Variable cost expense	195	324	452	819	1,106
Fixed cost expense	79	80	121	163	196
Depreciation expense etc	124	253	305	351	384
Total	808	1,075	1,516	2,199	2,733

Ratio to sales

Labor cost expenses	3.5%	2.1%	2.3%	1.7%	1.6%
Variable cost expense	1.6%	1.6%	1.6%	1.6%	1.6%
Fixed cost expense	0.7%	0.4%	0.4%	0.3%	0.3%
Depreciation expense etc	1.0%	1.3%	1.1%	0.7%	0.6%

■ Composition details of sales management expenses

- Labor cost expense: Consists of salary, current R&D expenses, retirement benefits, and benefits
- Variable cost expense: Consists of advisory fees, consumables, fees, export borrowing, and entertainment expenses
- Fixed cost expense: consists of travel expenses, communication expenses, tax and utility, rent, insurance, vehicle maintenance expenses, and other expenses.
- Depreciation expense etc : For depreciation expenses, refer to IV.2 Estimation of Investment Expenditure.

III.3 Estimation of sales management expenses (Labor cost expenses)

Labor cost expenses were estimated by dividing them into salary, current R&D expenses, retirement benefits, and welfare expenses, and the estimated amount is as follows.

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
Salary	302	308	345	386	449
Number of employees(person)	4	4	5	6	7
Current R&D expenses	50	51	202	359	451
Number of employees(person)	4	4	7	10	12
Retirement benefits	29	30	46	62	75
Welfare benefits	28	29	44	60	72
Total	410	418	637	867	1,047

Ratio of "Salary+Current R&D expenses "

Retirement benefits	8.3%	8.3%	8.3%	8.3%	8.3%
Welfare benefits	8.0%	8.0%	8.0%	8.0%	8.0%

■ Estimation of Labor Cost Expense

- **Salary, Current R&D expenses** : The manpower plan presented by the company subject to evaluation was applied mutatis mutandis, and it is assumed that the average salary during the estimation period increases by the domestic nominal wage increase rate predicted by the market research institution (EIU). In the case of current R&D expenses, most of the R&D-related payroll costs are estimated to be the same logic as salaries.
- **Retirement benefits** : Assume that "salary + current R&D expenses" are incurred for one month.
- **Welfare benefits** : It is assumed that the ratio to the past "salary + current R&D expenses" remains constant during the estimation period.

III.2 Estimation of sales management expenses (Other sales management expenses)

Estimates such as variable cost expense, fixed cost expense, and depreciation are as follows..

(Unit: MKRW), %	2023 Prospect	2024 Prospect	2025 Prospect	2026 Prospect	2027 Prospect
Variable cost expense	195	324	452	819	1,106
Commission fee	60	99	139	251	339
Consumable cost	13	22	31	56	76
Fees cost	72	120	167	302	408
Export cost	19	31	44	79	107
Entertainment expenses	31	52	72	130	176
Fixed cost expense	79	80	121	163	196
Travel cost	19	19	29	39	47
Communication cost	5	5	8	11	13
Tax and utility charges	15	15	23	31	37
Rental cost	28	28	43	58	70
An insurance fee	9	9	13	18	21
Vehicle Maintenance cost	3	3	4	6	7
Other cost	0	0	1	1	1
Depreciation etc	124	253	305	351	384
Depreciation	122	251	302	356	387
Amortization of intangible assets	2	2	3	(5)	(3)
Total	200	745	893	968	1,041

Ratio to sales

Commission fee	0.5%	0.5%	0.5%	0.5%	0.5%
Consumable cost	0.1%	0.1%	0.1%	0.1%	0.1%
Fees cost	0.6%	0.6%	0.6%	0.6%	0.6%
Export cost	0.2%	0.2%	0.2%	0.2%	0.2%
Entertainment expenses	0.3%	0.3%	0.3%	0.3%	0.3%

■ Estimation of variable cost expense, fixed cost expense, and depreciation

- **Variable cost expense:** Assume that the ratio to sales is maintained during the estimated period
- **Fixed cost expense :** It is assumed that the domestic consumer price growth rate predicted by the market research institution (EIU) during the estimated period is increased, and the number of people is considered.
- **Depreciation etc:** For depreciation expenses, refer to IV.2 Estimation of Investment Expenditure"

IV. Estimate of non-profit components

IV.1 Estimate of Net working capital

IV.2 Estimate of investment expenditure

IV.3 Estimate of Number of people

IV.4 Macroeconomic variable

IV.1 Estimate of Net working capital

Operating assets and operating liabilities during the estimated period were estimated in conjunction with the relevant profit and loss account amount. The amount of change in net driver capital during the estimated period is as follows:

(Unit: MKRW), day	2022	2023	2024	2025	2026	2027	TV
	Performance	Prospect	Prospect	Prospect	Prospect	Prospect	Prospect
Operating assets	7,616	5,880	9,432	13,373	23,289	30,991	31,301
Accounts receivable	1,924	2,169	3,606	5,034	9,110	12,302	12,425
Inventory assets	5,692	3,711	5,826	8,339	14,179	18,689	18,876
Operating liabilities	6,720	4,147	6,508	9,316	15,836	20,872	21,080
Purchase liabilities	6,716	4,140	6,499	9,302	15,817	20,847	21,056
Outstanding expenses	4	7	10	13	19	24	24
Net working capital	896	1,733	2,924	4,058	7,453	10,119	10,220
Net working capital Variable amount	na	837	1,191	1,134	3,395	2,666	101

Working capital rotation date

Accounts receivable	66.9	66.9	66.9	66.9	66.9	66.9
Inventory assets	141.7	141.7	141.7	141.7	141.7	141.7
Purchase liabilities	158.1	158.1	158.1	158.1	158.1	158.1
Outstanding expenses	3.2	3.2	3.2	3.2	3.2	3.2

■ Estimate of Net working capital

- **Operating assets** : In the case of Accounts receivable, it is assumed that the rotation date is analyzed in conjunction with sales and in the case of inventory assets, it is maintained during the estimation period.
- **Purchase liabilities/Outstanding expenses**: In the case of Purchase liabilities, it is assumed that the rotation date is analyzed in conjunction with the cost of sales, and in the case of unpaid expenses, the rotation date is maintained during the estimation period.

IV.2 Estimate of investment expenditure

The company is planning a massive investment in 2023 and plans to complete it within a year. In the case of existing tangible assets, it is assumed that maintenance is reinvested.

(Unit: MKRW), %	2023	2024	2025	2026	2027
	Prospect	Prospect	Prospect	Prospect	Prospect
CapEx	4,408	548	577	578	93
Tangible assets	4,406	546	574	582	96
Intangible asset	2	2	3	(4)	(2)
Dep & Amor	267	548	660	768	838
Tangible Assets_Manufacturing Cost	143	294	355	417	454
Tangible Assets_Sales Management Expenses	122	251	302	356	387
Intangible assets_Sales management expenses	2	2	3	(5)	(3)

■ Estimate of CapEx

- In the case of existing tangible assets held, it is assumed that the maintenance and remuneration of the existing assets will continue in the future, and the reinvestment assumption is applied as much as the amortization cost of assets.
- It is planning to invest 5.5 billion won in early 2023 for new investment, of which about 1.1 billion reflected as prepaid expenses are not considered in cash flow. Reflecting 300 million won in mechanical equipment and 200 million won in facility equipment every year to increase production from 2024 to 2026.

(Unit: MKRW)	industrial land	Building	Machine	Facilities and equipment	Total
CapEx	1,214	1,241	1,200	700	4,355

■ Dep & Amor

- Existing asset amortization costs were estimated in consideration of the residual book value and useful life of each asset at the evaluation base date, and new asset amortization costs are estimated in consideration of the useful life of each asset. The distribution ratio of manufacturing cost to sales management cost assumes that the distribution ratio remains constant during the estimation period.

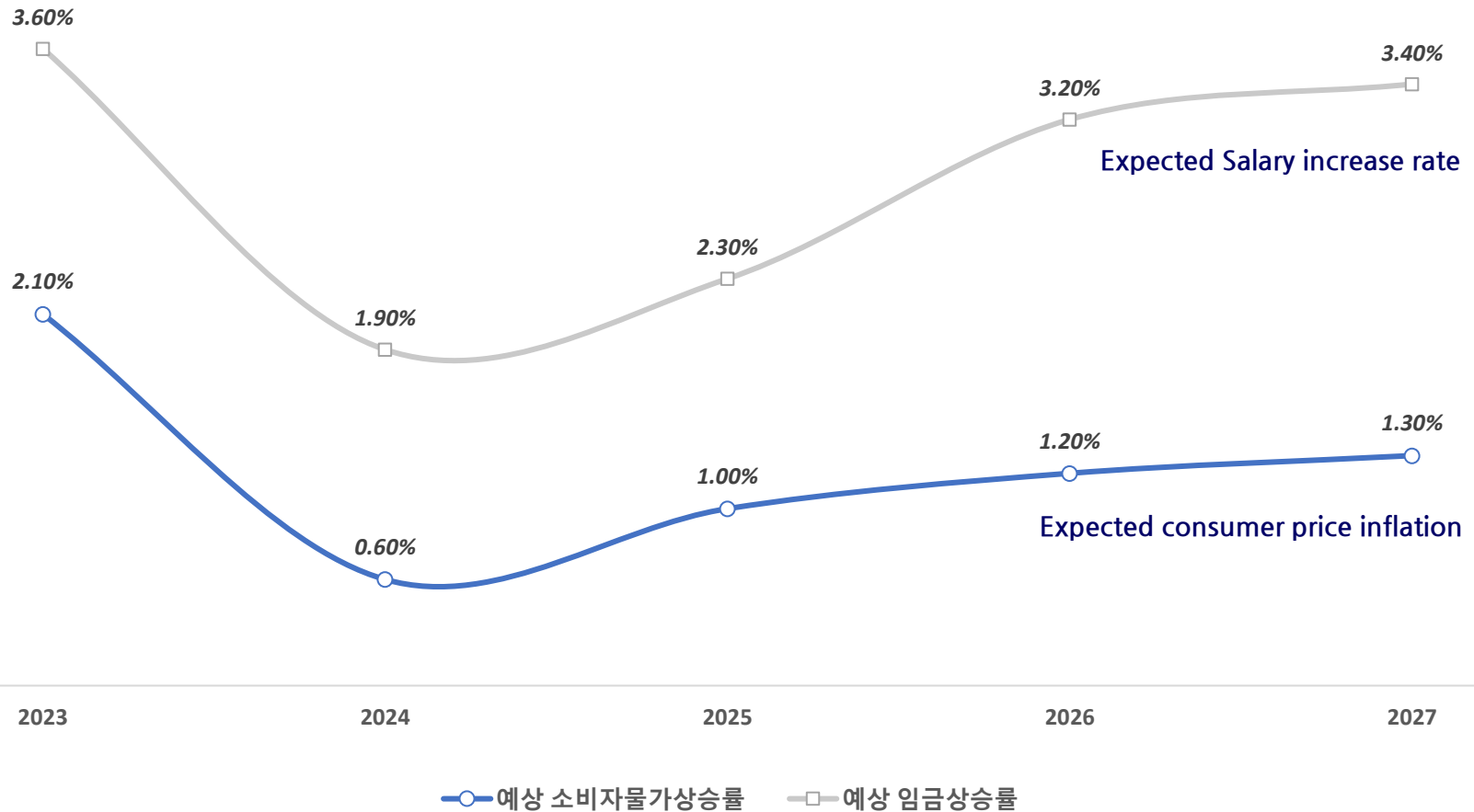
IV.3 Estimate of Number of people

The personnel plan that the company plans is as follows.

(Unit: MKRW), % (person)	By position	2023	2024	2025	2026	2027
	Average salary	Prospect	Prospect	Prospect	Prospect	Prospect
Manufacturing cost		6.0	6.0	8.0	9.0	11.0
General manager level	70	1.0	1.0	1.0	1.0	1.0
manager level	50	2.0	2.0	3.0	3.0	4.0
Asst Manager level	30	3.0	3.0	4.0	5.0	6.0
sales management expenses		4.0	4.0	5.0	6.0	7.0
General manager level	70	1.0	1.0	1.0	1.0	1.0
manager level	50	2.0	2.0	2.0	2.0	3.0
Asst Manager level	30	1.0	1.0	2.0	3.0	3.0
R & D expenses		4.0	4.0	7.0	10.0	12.0
General manager level	70	1.0	1.0	2.0	3.0	3.0
manager level	50	2.0	2.0	3.0	4.0	5.0
Asst Manager level	30	1.0	1.0	2.0	3.0	4.0
Total person		14.0	14.0	20.0	25.0	30.0

IV.4 Macroeconomic variable

The estimated consumer price growth and wage growth rates for the next five years of EIU's evaluation date are as follows.



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