

January 10, 2024

Yonghyun Choi
Media / Advertisers
+82-2-6114-2915
yonghyun.choi@kbf.com

Maintain BUY but lower target price from KRW60,000 to KRW59,000

We maintain BUY but lower our TP from KRW60,000 to KRW59,000 on Studio Dragon. We revise down 2024E NP (to control. int.) by 19% based on a change in estimated no. of aired episodes (320→280). The stock currently trades at 28.9x 2024E P/E. Domestic content investment is unlikely to improve in the near term given TV/OTT market conditions, thus the company is expected to search for new growth drivers overseas.

4Q23 preview: Low earnings contribution from high-budget shows

We forecast 4Q23 revenue/OP at KRW154.5bn (-18.9% YoY)/-KRW1.2bn (turn to red YoY). Performance should be largely dragged down by a drop in no. of aired episodes to 69 (-32 YoY, -6 QoQ). Programming revenue is estimated at KRW30.8bn, as no. of TV episodes fell 10 QoQ to 40 (26 simultaneously aired on OTT). Distribution revenue should fall 33.6% YoY to KRW121.2bn. High-budget shows were aired (e.g., *Gyeongseong Creature*, *Sweet Home Season 2*, *A Bloody Lucky Day*) but their earnings contributions were low because of joint production. Studio Dragon should post an operating loss largely on amortization for *Arthdal Chronicles: The Sword of Aramun*, which began airing in 3Q23.

2024 forecast: Potential inclusion of global lineup would raise earnings

We forecast 2024 revenue/OP at KRW747.7bn (+0.2% YoY)/KRW72.2bn (+23.4% YoY; 9.7% OPM). The company should find it challenging to achieve growth solely from domestic content production amid the sluggish market. We anticipate 2023-level revenue. Despite a decline in no. of episodes produced following the removal of the Wed-Thurs drama time slot, production scale should expand. We note that 2024E revenue does not factor in U.S.-produced shows, thus potential inclusion of a global lineup (mentioned during 4Q23 earnings call) would raise 2024E earnings. OP should improve YoY on the back of profits from original content following contract renewal with Netflix.

Buy Maintain

Target Price (Lowered)	KRW59,000
Dividend yield*	0.0%
Total return	17.5%
Current price (Jan 10)	KRW50,200
Consensus target price	KRW76,833
Market capitalization	USD1.1bn

* 12-month forward

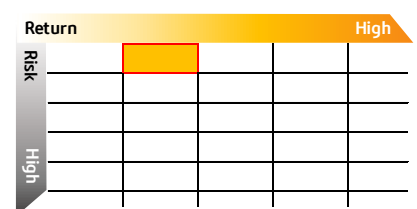
Trading Data

Free float	45.2%
Avg. T/O val. (3m, KRWbn)	5.3
Foreign ownership	8.1%
Major shareholders	
CJ ENM and 3 others	54.8%
Naver	6.3%

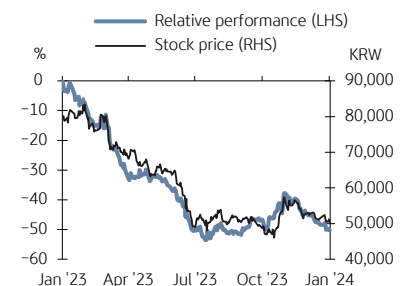
Stock Price Performance (total return)

(%)	1M	3M	6M	12M
Absolute	-4.7	3.1	2.4	-37.1
Relative	-10.1	-6.9	0.2	-50.2

Risk & Total Return (annualized over three years)



Stock Price & Relative Performance



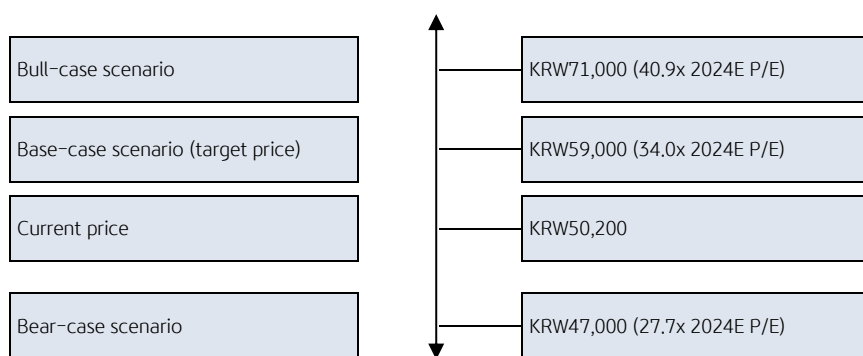
Source(s): Company data, KB Securities

Earnings Forecast & Valuation

Fiscal year-end	2023E	2024E	2025E	2026E
Revenue (KRWbn)	747	748	822	897
OP (KRWbn)	59	72	93	117
NP to control. int. (KRWbn)	40	52	70	90
EPS (KRW)	1,332	1,735	2,326	2,984
EPS growth (%)	-20.9	30.3	34.1	28.3
P/E (x)	38.7	28.9	21.6	16.8
EV/EBITDA (x)	6.6	5.8	4.9	4.2
P/B (x)	2.2	2.0	1.8	1.6
ROE (%)	5.8	7.1	8.7	10.2
Div. yield (%)	0.0	0.0	0.0	0.0

This report was prepared by KB Securities, Co., Ltd., a broker-dealer registered in the Republic of Korea and a member of the Korea Exchange. For analyst certifications and other important information, please see Disclosures at the end of the report.

Investment Opinion & Risks



Base-case scenario: Catalysts

- 1) 2024E TV content at 184 episodes
- 2) 2024E OTT-bound original content at 96 episodes

Bull-case scenario: Upside risks

- 1) 2024E TV content at over 200 episodes
- 2) 2024E OTT-bound original content at over 120 episodes

Bear-case scenario: Downside risks

- 1) 2024E TV content at under 160 episodes
- 2) 2024E OTT-bound original content at under 70 episodes

Revised Earnings Estimates

(KRWbn, %)	Previous		Revised		Change	
	2023E	2024E	2023E	2024E	2023E	2024E
Revenue	755.1	798.8	746.5	747.7	-1.1	-6.4
OP	65.9	84.7	58.5	72.2	-11.2	-14.7
NP (to control. int.)	48.4	64.4	40.0	52.1	-17.3	-19.0

Source(s): KB Securities estimates

KB Estimates vs. Consensus

(KRWbn, %)	KB Estimates		Consensus		Difference	
	2023E	2024E	2023E	2024E	2023E	2024E
Revenue	746.5	747.7	774.7	834.8	-3.6	-10.4
OP	58.5	72.2	73.3	86.0	-20.1	-16.0
NP (to control. int.)	40.0	52.1	57.2	66.4	-30.0	-21.4

Source(s): Quantwise, KB Securities estimates

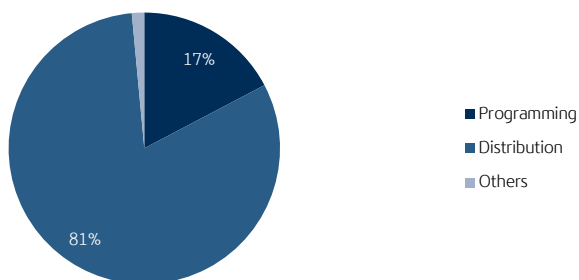
Valuation & Target Price Calculation

- 1) Valuation method:
Discounted cash flow model
- 2) Target price calculation:
9.3% WACC
- 3) Target price range:
KRW478,000 – KRW71,000
- 4) Valuation at target price:
2024E P/E 34.0x

Earnings Sensitivity Analysis

(%)	EPS Change	
	2023E	2024E
+1% in KRW/USD	+1.1	+1.1
	+0.5	+4.9

Revenue Composition (2024E)



Source(s): Company data, KB Securities estimates

Peer Group Comparison

(KRWbn, X, %)	Market Cap	P/E		P/B		EV/EBIT		ROE		Dividend Yield	
		2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E
Studio Dragon	1.5	26.5	22.5	2.12	1.95	21.2	17.6	8.2	8.9	0.0	0.0
CJ ENM	1.5	N/A	37.8	0.44	0.43	N/A	22.9	-6.8	0.8	1.6	1.8
Warner Bros.	35.4	N/A	N/A	0.60	0.60	N/A	28.1	-0.5	0.5	0.0	0.0
Netflix	277.9	39.4	30.1	9.46	8.05	32.7	25.2	25.2	28.1	0.0	0.0

Source(s): Bloomberg consensus, KB Securities estimates

Table 1. Earnings Forecast

(KRWbn, %)	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23E	2021	2022	2023E	2024E
TV Episode	53	87	99	76	73	64	50	40	-	315	227	184
OTT Episode	21	20	61	25	39	19	25	29	-	127	112	96
Revenue	121.1	157.5	228.9	190.5	211.1	163.5	217.4	154.5	487.1	697.9	746.5	747.7
Media	35.4	43.8	59.4	54.0	43.2	42.5	35.0	30.8	161.3	192.5	151.5	129.4
Commerce	77.7	103.9	165.8	132.8	165.7	118.9	180.0	121.2	275.5	480.2	585.8	607.3
Pictures	8.0	9.8	3.8	3.7	2.3	2.1	2.3	2.4	50.3	25.2	9.2	11.1
YoY %	3.4	48.5	97.2	28.8	74.4	3.8	-5.0	-18.9	-7.3	43.3	7.0	0.2
Media	-19.1	55.4	64.0	1.5	21.9	-3.1	-41.0	-42.9	-18.1	19.4	-21.3	-14.6
Commerce	23.0	53.8	155.2	66.4	113.1	14.4	8.6	-8.8	-1.5	74.3	22.0	3.7
Pictures	-21.5	-5.1	-74.8	-75.3	-71.0	-78.4	-38.3	-33.6	2.6	-49.9	-63.5	20.3
QoQ %	-18.1	30.0	45.3	-16.8	10.8	-22.6	33.0	-28.9				
Media	-33.4	23.7	35.5	-9.1	-20.0	-1.7	-17.5	-12.0				
Commerce	-2.6	33.7	59.5	-19.9	24.7	-28.2	51.4	-32.7				
Pictures	-46.6	22.8	-61.4	-2.4	-37.2	-8.5	10.0	5.0				
OP	18.1	27.0	18.9	1.2	21.6	16.3	21.9	-1.2	52.6	65.2	58.5	72.2
(YoY %)	1.4	95.7	29.9	-81.4	19.3	-39.8	15.4	TTR	7.0	24.0	-10.3	23.4
(QoQ %)	185.4	49.1	-29.9	-93.8	1732.1	-24.8	34.4	TTR				
OPM (%)	15.0	17.1	8.3	0.6	10.2	9.9	10.1	-0.8	10.8	9.3	7.8	9.7
NP to control. int.	15.6	25.6	17.8	-8.5	18.4	10.2	18.2	-6.7	39.0	50.6	40.0	52.1
(YoY %)	0.4	170.2	20.5	RR	17.8	-60.1	1.9	RR	31.8	29.5	-20.8	30.2
(QoQ %)	TTB	63.8	-30.3	TTR	TTB	-44.6	78.3	TTR				
NPM (%)	12.9	16.2	7.8	-4.4	8.7	6.2	8.4	-4.4	8.0	7.2	5.4	7.0

Source(s): Company data, KB Securities estimates

Note: RR=remain in red, TTB=turn to black, TTR=turn to red

Table 2. Key Valuation Measures

(KRWbn, x, '000 shares, KRW)	2017	2018	2019	2020	2021	2022	2023E	2024E
EV/Sales	5.7x	6.4x	4.6x	5.1x	5.5x	3.8x	2.2x	2.1x
Revenue	287	380	469	526	487	698	747	748
% YoY	85.7	32.4	23.5	12.2	(7.3)	43.3	7.0	0.2
EV/EBITDA	22.1x	21.1x	14.9x	16.2x	17.6x	12.1x	6.6x	5.8x
EBITDA	74	115	146	165	152	219	247	276
% YoY	91.4	55.1	26.4	13.6	(8.3)	44.1	12.9	12.0
P/E	61.9x	72.3x	85.9x	88.7x	69.9x	51.1x	38.7x	28.9x
EPS	1,050	1,278	941	1,044	1,301	1,684	1,332	1,735
% YoY	84.5	21.7	(26.3)	10.9	24.6	29.4	(20.9)	30.2
P/B	4.95x	6.46x	5.31x	4.56x	3.99x	3.91x	2.17x	1.97x
BVPS	13,141	14,305	15,242	20,309	22,785	21,982	23,744	25,479
% YoY	112.8	8.9	6.5	33.2	12.2	(3.5)	8.0	7.3
Share price	65,000	92,400	80,900	92,600	91,000	86,000	51,500	50,200
No. of shares	22,711	28,038	28,068	28,369	30,008	30,020	30,058	30,058
Market cap	1,822	2,592	2,273	2,778	2,731	2,585	1,548	1,509

Source(s): Company data, KB Securities estimates

Table 3. Valuation: Discounted Cash Flow Model

(KRWbn, %, k shares, KRW)	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	Terminal
NOPLAT	26.6	30.1	22.1	37.2	39.6	57.2	49.0	61.4	73.7	91.8	111.4	131.1	
Operating profit	33.0	39.9	28.7	49.1	52.6	65.2	58.5	72.2	93.4	117.1	142.9	168.9	
Taxes	(6.4)	(9.8)	(6.6)	(11.9)	(13.0)	(8.1)	(9.5)	(10.8)	(19.7)	(25.3)	(31.5)	(37.8)	
D&A	41.3	75.3	116.8	116.2	99.1	153.3	188.3	204.3	216.4	225.1	231.6	236.6	
Depreciation	0.3	0.3	1.8	2.9	3.8	3.3	3.0	3.2	3.3	3.4	3.4	3.5	
Amortization	41.0	75.0	115.0	113.3	95.3	150.0	185.3	201.1	213.1	221.7	228.2	233.2	
(-)Change in working capital	(72.9)	(139.4)	(142.9)	(144.1)	(154.9)	(279.6)	(147.5)	(26.0)	38.1	(10.2)	(9.9)	(8.0)	
Decrease/increase in accounts receivable	(13.7)	(27.2)	(21.8)	(31.4)	2.2	(35.2)	25.5	(27.7)	38.0	(11.0)	(10.7)	(8.7)	
Decrease/increase in inventories	(2.1)	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Decrease/increase in account payables	9.0	25.9	8.6	(11.5)	18.7	11.7	0.7	1.7	0.1	0.9	0.8	0.7	
Other	(66.1)	(138.4)	(130.2)	(101.2)	(175.8)	(256.0)	(173.7)	0.0	0.0	0.0	0.0	(0.0)	
(-) Tangible capital expenditures	(0.0)	(0.2)	(0.5)	(7.2)	(1.8)	(3.9)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	
(-) Intangible capital expenditures	(0.2)	(0.1)	(0.3)	(1.2)	(0.8)	(2.5)	(84.2)	(229.1)	(231.4)	(233.7)	(236.1)	(238.4)	
(-) Other	(2.1)	5.0	(8.2)	(4.1)	7.9	6.2	(11.5)	(9.2)	(3.8)	(2.1)	0.1	3.1	
Free cash flow	(7.5)	(29.4)	(13.0)	(3.1)	(11.0)	(69.3)	(9.5)	(2.3)	89.4	67.3	93.7	120.8	2,420.2

(KRWbn, %, k shares, KRW)	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	Terminal
Operating cash flow	(7.2)	(29.1)	(12.2)	5.2	(8.4)	(62.9)	78.3	230.4	324.4	304.6	333.3	362.8	
(-) Tangible capital expenditures	(0.0)	(0.2)	(0.5)	(7.2)	(1.8)	(3.9)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	
(-) Intangible capital expenditures	(0.2)	(0.1)	(0.3)	(1.2)	(0.8)	(2.5)	(84.2)	(229.1)	(231.4)	(233.7)	(236.1)	(238.4)	
Free cash flow	(7.5)	(29.4)	(13.0)	(3.1)	(11.0)	(69.3)	(9.5)	(2.3)	89.4	67.3	93.7	120.8	2,420.2

Source(s): Company data, KB Securities estimates

Note: Studio Dragon's content investments reflected as intangible capital expenditures (cash flow from investing activities)

Table 4. Valuation: Discounted Cash Flow Model

(KRWbn, %, k shares, KRW)	Valuation
Total PV of 2023-2028 cash flow	279.8
PV of terminal value (1% TGR)	1,550.9
Enterprise value	1,830.8
(-) Net debt	71.1
(-) Non-controlling interests	0.0
(+) Investments in non-consolidated affiliates	12.3
Equity value	1,771.9
(÷) No. of shares	30,058.5
Target price	59,000
Current price	50,200
Upside	17.5

Source(s): KB Securities estimates

Table 5. WACC Calculation

(KRWbn, %)	Revised	Notes
COE (A) = a + b x c	9.62	
Risk-free rate (a)	3.64	Avg. 1y MSB yield (last three months)
Adj. beta (b)	0.98	Adj. beta
Risk premium (c = d - e)	6.11	
Market (d)	9.41	2001-2023 annual avg. WMI500 total return
Risk-free rate (e)	3.30	2001-2023 annual avg. 1y MSB total return
COD (B)	4.27	Avg. yield of Studio Dragon's short-term debt
Fair equity value	2,797	Value of outstanding shares implied by TP
Debt	182	
Weight of equity value (f)	0.94	
Weight of debt (g)	0.06	
WACC (C) = (A x f) + (B x g)	9.30	

Source(s): KB Securities estimates

Income Statement

(KRWbn)	2022A	2023E	2024E	2025E	2026E
(Reporting standard)	(IFRS-C)	(IFRS-C)	(IFRS-C)	(IFRS-C)	(IFRS-C)
Revenue	698	747	748	822	897
Cost of revenue	598	635	554	597	637
Gross profit	100	112	194	226	260
SG&A expenses	35	53	122	152	142
Operating profit	65	59	72	93	117
EBITDA	219	247	277	310	342
Non-operating accounts	-7	-9	-9	-4	-2
Interest income	2	1	4	6	8
Interest expenses	5	2	8	8	8
Profit on equity method	0	0	0	0	0
Net other non-operating income	-4	-8	-5	-2	-2
Profit before tax	59	50	63	90	115
Income tax expense	8	10	11	20	25
Net profit	51	40	52	70	90
NP attributable to controlling interests	51	40	52	70	90
Adj. net profit	51	40	52	70	90

Operating Statistics & Ratios

(%)	2022A	2023E	2024E	2025E	2026E
Revenue growth	43.3	7.0	0.2	10.0	9.0
OP growth	24.0	-10.3	23.4	29.4	25.3
EBITDA growth	44.1	12.9	12.0	12.1	10.4
NP growth of parent	29.5	-20.8	30.2	34.1	28.3
GP margin	14.3	15.0	26.0	27.5	29.0
OP margin	9.3	7.8	9.7	11.4	13.1
EBITDA margin	31.3	33.1	37.0	37.7	38.2
EBT margin	8.4	6.6	8.4	10.9	12.8
NP margin of parent	7.3	5.4	7.0	8.5	10.0

Statement of Cash Flows

(KRWbn)	2022A	2023E	2024E	2025E	2026E
Cash flow from operating activities	-63	78	230	324	305
Net profit	51	40	52	70	90
Depreciation & amortization	153	188	204	216	225
Other non-cash adjustments	23	9	11	20	25
Investments in working capital	-280	-147	-26	38	-10
Decrease(Increase) in receivables	-35	26	-28	38	-11
Decrease(Increase) in inventory	0	0	0	0	0
Increase(Decrease) in payables	12	1	2	0	1
Investments in other working capital	-256	-174	0	0	0
Other operating cash flow	-10	-12	-11	-20	-25
Cash flow from investing activities	-43	-96	-238	-235	-237
Capital expenditure	-4	-4	-4	-4	-4
Investments in intangibles	-3	-84	-229	-231	-234
Changes in investment assets	-12	-5	0	0	0
Other investment cash flow	-25	-2	-6	0	0
Cash flow from financing activities	165	-6	-7	0	0
Proceeds from (repayment of) debt	168	-1	0	0	0
Changes in equity	3	0	0	0	0
Dividends paid	0	0	0	0	0
Other financing cash flow	-5	-6	-7	0	0
Other cash flow	0	3	0	0	0
Increase/decrease in cash	59	-21	-14	90	68
Cash and cash equivalents at FYE	124	103	88	178	246
Free cash flow	-69	-9	-2	89	67
Net cash flow	-114	-20	-14	90	68
Net cash (net debt)	-51	-71	-86	4	72

Statement of Financial Position

(KRWbn)	2022A	2023E	2024E	2025E	2026E
(Reporting standard)	(IFRS-C)	(IFRS-C)	(IFRS-C)	(IFRS-C)	(IFRS-C)
Total assets	1,091	1,131	1,185	1,255	1,346
Current assets	400	374	387	438	517
Cash and cash equivalents	124	103	88	178	246
Current financial assets	5	8	8	8	8
Trade receivables	142	133	161	123	134
Inventory	0	0	0	0	0
Other current assets	130	130	130	130	130
Non-current assets	691	758	798	817	829
Investment assets	150	156	163	163	163
Property, plant and equipment	11	13	13	13	14
Intangible assets	378	417	445	464	476
Other non-current assets	152	172	177	177	177
Total liabilities	430	418	419	420	421
Current liabilities	416	404	406	406	407
Trade payables	16	8	10	10	11
Short-term financial liabilities	170	172	172	172	172
Other current liabilities	230	224	224	224	224
Non-current liabilities	14	14	14	14	14
Non-current financial liabilities	9	9	9	9	9
Other non-current liabilities	4	4	4	5	5
Total equity	661	714	766	836	925
Issued capital	15	15	15	15	15
Share premium	473	473	473	473	473
Other equity interest	0	0	0	0	0
Accumulated other comprehensive income	-40	-27	-27	-27	-27
Retained earnings	213	253	305	375	464
Controlling interests	661	714	766	836	925
Non-controlling interests	0	0	0	0	0

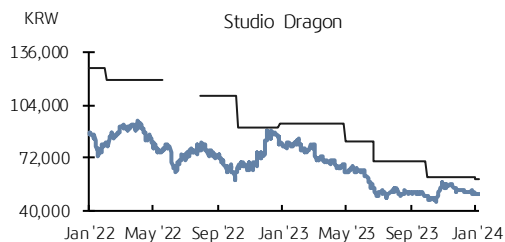
Key Ratios

(x, %, KRW)	2022A	2023E	2024E	2025E	2026E
Multiples					
P/E	51.1	38.7	28.9	21.6	16.8
P/B	3.9	2.2	2.0	1.8	1.6
P/S	3.7	2.1	2.0	1.8	1.7
EV/EBITDA	12.1	6.6	5.8	4.9	4.2
EV/EBIT	40.4	27.7	22.1	16.1	12.3
Dividend yield, ordinary (%)	0.0	0.0	0.0	0.0	0.0
EPS	1,684	1,332	1,735	2,326	2,984
BVPS	21,982	23,744	25,479	27,805	30,789
SPS	23,250	24,836	24,875	27,363	29,825
DPS (annual, ordinary)	0	0	0	0	0
Cash dividends payout ratio (%)	0.0	0.0	0.0	0.0	0.0
Operating performance					
ROE	7.5	5.8	7.1	8.7	10.2
ROA	5.1	3.6	4.5	5.7	6.9
ROIC	7.3	4.8	6.6	8.0	9.2
Financial structure (%)					
Total liab./equity	65.1	58.5	54.8	50.2	45.5
Net debt/equity	7.7	10.0	11.2	Net Cash	Net Cash
Current ratio	1.0	0.9	1.0	1.1	1.3
Interest coverage (x)	13.2	30.6	8.7	11.2	14.0
Activity ratios					
Asset turnover (x)	0.7	0.7	0.7	0.7	0.7
Receivables turnover (x)	5.3	5.4	5.1	5.8	7.0
Payables turnover (x)	42.1	61.9	85.3	85.5	88.9
Inventory turnover (x)	0.0	0.0	0.0	0.0	0.0

Source(s): Company data, KB Securities estimates

Disclosures

Rating & Target Price Changes (Share price —, Target price —)



Studio Dragon (253450)

Date	Rating	Analyst	TP Differential (%)		
			(KRW)	Avg.	Max/Min
Dec-30-2021	Buy	Danny Lee	127,000	-34.15	
Feb-11-2022	Buy	Danny Lee	120,000	-32.34	-21.17
Aug-05-2022	담당자변경	Yonghyun Choi		-	
Aug-08-2022	Buy	Yonghyun Choi	110,000	-35.02	-25.91
Oct-17-2022	Buy	Yonghyun Choi	90,000	-17.07	-1.22
Jan-04-2023	Buy	Yonghyun Choi	93,000	-19.32	-10.32
May-08-2023	Buy	Yonghyun Choi	82,000	-23.81	-18.78
Jul-05-2023	Buy	Yonghyun Choi	70,000	-27.11	-23.00
Oct-10-2023	Buy	Yonghyun Choi	60,000	-13.15	-4.50
Jan-10-2024	Buy	Yonghyun Choi	59,000		

Classification of Investment Ratings

Stock Ratings (based on expected 12m performance)

Buy: +15% or beyond Hold: Between 15% and -15% Sell: -15% or beyond

Note: Classification revised from four ratings (Strong BUY, BUY, Marketperform, Underperform) to three (Buy, Hold, Sell) as of Feb 23, 2017; Basis for ratings revised from expected 6m return to expected 12m return as of Feb 10, 2020

Ratings Distribution (as of December 31, 2023)

Buy	Hold	Sell
89.0	11.0	-

Note: Based on recommendations in the last 12 months

Sector Ratings (based on expected 12m performance)

Positive: Neutral: Negative:

To outperform market To perform in line with market To underperform market

Note: Classification revised from Overweight/Neutral/Underweight to Positive/Neutral/Negative as of Jun 28, 2017; Basis for ratings revised from expected 6m return to expected 12m return as of Feb 10, 2020

Notices & Disclaimers

This report has not been distributed to institutional investors or other third parties prior to its publication. This material has been prepared without any undue external influence or interference, and accurately reflects the views of the analyst(s) covering the security/securities or issuer(s) herein.

The research analyst(s) responsible for the preparation of this report (or, if applicable, his/her spouse) does not have any beneficial interest in any security or issuer covered.

This report is provided for information only and is not an offer or solicitation to trade in any security. Opinions in this report reflect the professional judgment of the research analyst(s) as of the date hereof and are based on information and data obtained from sources that KB Securities Co., Ltd. considers reliable. KB Securities Co., Ltd. makes no representation that the information and data are accurate or complete and the views presented in this report are subject to change without prior notification. Clients should independently consider their own particular circumstances and objectives and are solely responsible for their investment decisions. KB Securities Co., Ltd. shall not have liability for investments or results thereof.

These materials are the copyright of KB Securities Co., Ltd. and may not be reproduced, redistributed or modified without the prior written consent of KB Securities Co., Ltd. Comments and views in this report are of a general nature and intended for reference only and not authorized for use for any other purpose.

Analyst Certification

The research analyst(s) who prepared this report are registered with the Korea Financial Investment Association and are subject to Korean securities regulations. They are neither registered as research analyst(s) in any other jurisdiction nor subject to the laws or regulations thereof. The research analyst(s) responsible for the preparation of this research report certifies that all views expressed in this report accurately reflect the personal views of the analyst(s) and no part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the specific recommendations or views contained in this report.

Distribution

United States: This report is distributed in the U.S. by KBFG Securities America Inc., a member of FINRA/SIPC, to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6(a)(2) under the U.S. Securities Exchange Act of 1934, as amended. All U.S. persons that receive this document by their acceptance hereof represent and warrant that they are a major U.S. institutional investor and have not received this report under any express or implied understanding that they will direct commission income to KB Securities Co., Ltd. or its affiliates. In compliance with SEC Rule 15a-6(a)(3), any U.S. recipient of this document wishing to effect a transaction in any securities discussed herein should contact and place orders with KBFG Securities America Inc., which accepts responsibility for the contents of this report in the U.S., subject to the terms hereof, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor. Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through KB Securities Co., Ltd. The securities described in this report may not have been registered under the U.S. Securities Act of 1933, as amended, and, in such case, may not be offered or sold in the U.S. or to U.S. persons absent registration or an applicable exemption from the registration requirements.

Hong Kong: This report is distributed in Hong Kong by KB Securities Hong Kong Limited, regulated by the Securities and Futures Commission license with Type 1, 4, and 6. The contents of this report have not been reviewed by any regulatory authority in Hong Kong. This report is for distribution only to professional investors within the meaning of part I of Schedule 1 to the Securities and Futures Ordinance of Hong Kong (Cap. 571, Laws of Hong Kong) and any rules made thereunder and may not be redistributed in whole or in part in Hong Kong to any person. Information contained herein is for informative purposes only and does not constitute investment advice or solicitation to trade in any investment product(s). Investments are subject to risks, including possible loss of principal. KB Securities Hong Kong Limited does not bear responsibility for any loss occasioned by reliance placed upon the contents hereof. The recipient of this report should seek the advice of a financial adviser regarding the suitability or otherwise of the particular investment.

All other jurisdictions: Customers in all other countries who wish to effect a transaction in any securities referenced in this report should contact KB securities Co., Ltd. or its affiliates only if distribution to or use by such customer of this report would not violate applicable laws and regulations and not subject KB Securities Co., Ltd. and its affiliates to any registration or licensing requirement within such jurisdiction.